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Nuclear Computerized Library for Assessing Reactor Reliability (NUCLARR)

Data Manual

Part 2: Human Error Probability (HEP) Data

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Prepared for
U.S. Nuclear Regulatory Commission

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ABSTRACT

The Nuclear Computerized Library for Assessing Reactor Reliability (NUCLARR) is an automated data base management system for processing and storing human error probability and hardware component failure data. The NUCLARR system software resides on an IBM (or compatible) personal computer. NUCLARR can furnish the end user with data inputs for both human and hardware reliability analysis in support of a variety of risk assessment activities.

The NUCLARR system is documented in a five-volume series of reports. Volume V: Data Manual provides a hard-copy representation of all data and related information available within the NUCLARR system software. This document is organized in three sections. Part 1 is the summary description, which presents an overview of the NUCLARR system and data processing procedures. Part 2 contains all data and information relevant to the human error probability (HEP) data side of NUCLARR. Data and information for the hardware component failure data (HCFD) side are presented in Part 3.

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ACRONYMS

HCFD	hardware component failure data
HEP	human error probability
HHRAG	Human and Hardware Reliability Analysis Group
HRA	human reliability data
INEL	Idaho National Engineering Laboratory
IRRAS	Integrated Reliability and Risk Analysis System
LCB	lower confidence bound
LOCA	loss-of-coolant accident
NRC	U.S. Nuclear Regulatory Commission
NSSS	Nuclear Steam System Supplier
NUCLARR	Nuclear Computerized Library for Assessing Reactor Reliability
OJT	on-the-job training
PC	personal computer
PRA	probabilistic risk assessment
PSF	performance shaping factors
SARA	Systems Analysis and Risk Assessment System
UCB	upper confidence bound

SUMMARY

The Nuclear Computerized Library for Assessing Reactor Reliability (NUCLARR) is documented in a series of five volumes. Volume I: Summary Description is a general overview of the NUCLARR system. Volume I provides the background of the NUCLARR program, including a description of methods for data collection, system specification, data structures, and taxonomies. Volume II: Programmer's Guide provides information for maintaining the software for the NUCLARR system. Volume III: Guide to Data Processing and Revision contains the procedures for processing human error probability and hardware component failure data, and entering the data values into the NUCLARR system. Volume IV: User's Guide instructs the user in operating the NUCLARR software. Volume V: Data Manual is a hard-copy report of the data and related information residing in the NUCLARR system.

NUCLEAR COMPUTERIZED LIBRARY FOR ASSESSING REACTOR RELIABILITY (NUCLARR)

VOLUME V: DATA MANUAL

PART 2: HUMAN ERROR PROBABILITY (HEP) DATA

1. INTRODUCTION

The Nuclear Computerized Library for Assessing Reactor Reliability (NUCLARR) is an automated data management system used to process, store, and retrieve human and hardware reliability data in a ready-to-use format. The NUCLARR system was developed by the U.S. Nuclear Regulatory Commission (NRC) to provide the risk analysis community a repository of reliability data that can be used to support a variety of risk assessment activities. The system maintains a broad range of data base management functions for input and retrieval of data, including computational algorithms for aggregating the source data and routines for report generation. The system software, designed for operation on an IBM^a or compatible personal computer (PC), is readily transportable to a wide range of users.

The equipment taxonomies and data structures for NUCLARR were designed specifically to support probabilistic risk assessment (PRA) techniques currently used by the nuclear power industry. The NUCLARR system aids the risk analysis process by providing the analyst with accurate and relevant data from an on-line data base. All data and related information available from the PC-based system are also accessible in hard-copy format with this document, Volume V: Data Manual from the NUCLARR series (NUREG/CR-4639, EGG-2458).¹⁻⁴

a. Mention of specific products and/or manufacturers in this document implies neither endorsement nor preference nor disapproval by the U.S. Government, any of its agencies, or EG&G Idaho, Inc., of the use of a specific product for any purpose.

The Data Manual is arranged in three parts. Part 1: Summary Description provides an overview of the NUCLARR system and data processing procedures. Part 2: Human Error Probability (HEP) Data contains all HEP data records and related information as available from the NUCLARR software program. This hard-copy presentation of data is organized in a series of reference tables, allowing the reader to scan a number of data records at one time. The hardware component failure data (HCFD) side of NUCLARR is presented in similar format in Part 3 of this volume.

The Data Manual is the fifth in a series of five reports. Descriptions of the other volumes of this series are presented below.

- Volume I: Summary and Description¹ presents a general introduction to the NUCLARR program. In this document, the background and history of the program are described. Information regarding the organization, structural taxonomy, and key features of the NUCLARR system are also summarized. This report is intended to serve as a top-level overview of NUCLARR's functions and capabilities.
- Volume II: Programmer's Guide² provides information necessary to maintain the software programming for the NUCLARR system. Descriptions of the data base structure, system taxonomy, support libraries, main menus, programs, computer environment, and structural rebuild instructions are provided. This report is primarily used by the NUCLARR software engineers as a reference for maintaining and modifying the system.
- Volume III: Guide to Data Processing and Revision³ provides the input procedures used by NUCLARR Clearinghouse personnel for extracting suitable data from candidate source documents and entering this information into the NUCLARR system. This report also serves as a resource for data entry clerks who are responsible for entering data items and document information into the data base.

- Volume IV: User's Guide⁴ presents a detailed description of the NUCLARR data base, including definitions of data attributes and the computations performed by NUCLARR. Step-by-step examples for locating, reviewing, and combining data using the NUCLARR software are also provided in this three part document.

2. SYSTEM SUPPORT

Support services for software maintenance, documentation, and data base management functions reside at the Idaho National Engineering Laboratory (INEL). Personnel responsible for these various NUCLARR support services have been assigned to one or more functional organizations. All data input and software management functions for NUCLARR are performed by NUCLARR data Clearinghouse personnel. A detailed list of proceduralized steps are followed in processing the data sources from initial screening to data entry. These steps are presented in NUREG/CR-4639, Volume III: Guide to Data Processing and Revision.³ The Clearinghouse is also the primary interface and point of contact for data suppliers and end users of the NUCLARR system. Clearinghouse personnel have been charged with the responsibility of soliciting data for entry into NUCLARR and distributing the NUCLARR software to requesters. Personnel also act as a resource to answer questions, provide supplemental advice and material regarding the uses of certain source data, and consult with users on an as-needed basis.

Clearinghouse personnel are assisted by the Human and Hardware Reliability Analysis Group (HHRAG), a panel of experts external to the NUCLARR program, who review data sources for suitability. The personnel who make up the HHRAG are experienced in one or more of the following disciplines: nuclear power plant operations, human reliability analysis (HRA), probabilistic risk assessment (PRA), system reliability, and generic safety issues. This core group of individuals is supported by statisticians, software engineers, and data entry technicians. The HHRAG is also responsible for helping improve data processing procedures, and for ensuring valid treatment of data.

Any questions regarding data collection, data submission, use of the NUCLARR system, and/or requests for software diskettes should be directed to the following address or phone numbers:

David I. Gertman/Wendy J. Reece
NUCLARR Data Clearinghouse
Idaho National Engineering Laboratory
P. O. Box 1625, MS 2405
Idaho Falls, ID 83415
Phone: (208) 526-0652 or FTS 583-0652/583-9933

Additional questions may also be directed to the NRC program managers at the following location:

Erasmia Lois/Thomas G. Ryan
U.S. Nuclear Regulatory Commission - RES
Reliability and Human Factors Branch
5650 Nicholson Lane, NL/N-316
Rockville, MD 20852 USA
Phone: (301) 492-3557/(301) 492-3550

Users are encouraged to submit any sources of human error and/or hardware failure data that could potentially be entered into NUCLARR. A mission of the NUCLARR project is to pursue all possible sources and recommendations for data; any assistance received from the end users toward meeting this objective is greatly appreciated.

3. HUMAN ERROR PROBABILITY DATA TREATMENT

3.1 HEP Taxonomy Structure

The HEP data collected for the NUCLARR system are organized and classified in a three-level hierarchy, consisting of sixteen matrices, as follows:

- Level 1: The task associated with the HEP involves one or more sets of related actions that change or determine the state of a plant system or subsystem. The actions are classified by duty areas that summarize the objective of the human interaction with the system. Level 1 contains 12 matrices identifying different combinations of Nuclear Steam System Supplier (NSSS) vendors and personnel duty areas.
- Level 2: The task involves one or more actions that change or determine the state of a plant component. The task describes the effects of the human actions on the component. Level 2 contains three matrices for identification by duty area (independent of vendor).
- Level 3: The task is a single action directed at a specific control, instrument, or display device used to operate or maintain equipment in the plant or to communicate with other plant personnel. The task describes the human action when interacting with the control or display device. There is one matrix for Level 3, representing displays, instruments, and controls (independent of vendor and duty area).

The taxonomy permits a hierarchical approach to the data so that the human reliability analyst, like the equipment reliability analyst, can choose the appropriate level of detail for the analysis. Appendix D, Table 3, outlines the level/matrix organization.

3.2 HEP Data Calculations

In some instances, the HEP data point information received for inclusion into the NUCLARR system will consist of a report of the number of errors (E) and number of opportunities for error (N). In these cases, confidence bounds are calculated by the NUCLARR system. In other instances, an estimate of the HEP and confidence bounds will be provided by the data source and an estimated number of errors and opportunities for error that would give rise to these values must be computed. In addition, the NUCLARR system will use a median HEP and confidence bounds to calculate a mean HEP if it is not provided. The NUCLARR system will typically perform calculations of this type to provide for data values missing from the original data source. The equations used by the NUCLARR system for performing these calculations are further explained in Volume IV: User's Guide (NUREG/CR-4639).⁴

In summary, the types of data combinations performed by the NUCLARR system for HEPs are:

- Functional Group Summary HEP -- An estimate of the HEP with recovery considered or with recovery not considered, for commission or omission errors, in performing all tasks with a common human action verb on any equipment in a functional group. The NUCLARR data records at this level are presented in Appendix A.

- Cell HEP -- An estimate of the HEP with recovery considered or with recovery not considered, for commission or omission errors, in performing all tasks identified in a cell. The NUCLARR data records at this level are presented in Appendix B.
- Task Statement HEP -- An estimate of the HEP with recovery considered or with recovery not considered, for commission or omission errors, in performing a task described by a task statement. The NUCLARR data records at this level are presented in Appendix C.

3.3 Data Aggregations

The NUCLARR system makes use of various algorithms for taking a selected set of data records and combining them to produce a single aggregated data value. Aggregations of task statement HEPs are also performed. The output obtained from an aggregation consists of a single data point estimate and distribution limits. In the case of aggregated HEP values, the limits are displayed as upper and lower confidence bounds. The aggregated value can be beneficial during the course of a risk analysis when (a) no original source data points are available that fit a particular application, (b) only a top level or screening value is needed for the particular analysis, and/or (c) many source data points apply to the situation being modeled.

The following types of automated data aggregations currently reside in the NUCLARR system:

- Functional group summary HEP (human actions associated with general equipment groups)
- Cell HEP (human actions associated with more specific equipment)

- Task statement HEP (similar situations for a human action and associated equipment).

In each of these cases, as many as four aggregated or average HEPs are computed, depending on the data present. Specifically, HEPs are computed separately for omissions and commissions, and HEPs that reflect the consideration of recovery actions are never combined with HEPs for which recovery was not considered.

In summary, data points that share a common task statement are combined to formulate an aggregation for the task (see Appendix C). All task HEPs for that equipment and human action combination are then aggregated together to form an HEP for the entire cell (see Appendix B). Finally, all cell HEPs with equipment characteristics assigned to the same functional group and with the same human action are aggregated to form functional group summary HEPs (see Appendix A). Data on commission errors are never combined with data on omission errors (failure mode), and data with recovery considered are never combined with recovery-not-considered errors (data type).

4. ORGANIZATION OF THIS REPORT

The NUCLARR human error probability data records have been assembled in this report in a series of appendices. Each appendix contains an introduction followed by data pages. The introductory sections provide an outline of the information presented on the data pages, including definitions for each data field. All codes found in this report are identified in Appendix D, along with a listing of the data reference documents.

This release of the Data Manual contains 1,212 HEP records.

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APPENDIX A

FUNCTIONAL GROUP SUMMARY CELL LEVEL AGGREGATIONS

APPENDIX A

INTRODUCTION

Appendix A presents data at the functional group summary level. This is the top level roll-up of the HEP data in NUCLARR. Each data field represented in Appendix A is described below.

CELL NUMBER

Cells are organized in the data structure by taxonomy level, equipment characteristic, and human action. Each cell is identified by a unique number which is composed of seven digits representing three categories (i.e., XXYYYZZ), where

- XX = matrix number (e.g., 01 through 16)
- YYY = equipment characteristic identification number (e.g., 000 through 999). (If the last digit of the three-digit number is zero, the data represents a functional group summary cell.)
- ZZ = human action identification number (e.g., 00 - 99)

For example, cell page number 1603363 signifies

- 16 = "Matrix 16"
- 033 = "Push-button (Other)" (equipment associated with HEP)
- 63 = "Select" (human action that was omitted or executed incorrectly).

TAX LEVEL (Taxonomy Level)

Data are classified at one of three levels. Level 1 represents systems, identified with NSSS vendor and duty area combinations. Level 2 represents components, and identifies duty areas. Level 3 represents displays/instruments/controls.

VEND EQLV (Vendor / Equipment Level)

For Level 1 data, NSSS vendor is identified for the source plant. For Levels 2 and 3, "Component," and "Display/Instr/Control" are stated, respectively.

JOB TTL (Job Title)

One of three possible personnel types involved in the HEP:

- CRO = Control Room Operator
- EO = Equipment Operator
- MT = Maintenance Technician.

EQUIPMENT SUMMARY GROUP

The component or equipment system involved in the probability estimate.

HUMAN ACTION VERB

The action involved in the probability estimate. See Appendix D for a complete listing of human action verbs.

FAILURE MODE

The HEP failure mode refers to either errors of omission, or errors of commission. An omission error is defined as either a failure to perform the task (or step), or a failure to perform a task within a stated time period. A commission error occurs when a task is attempted but not successfully accomplished for any reason.

RECOVERY CONSIDERED

Within the context of the NUCLARR system, recovery considered errors account for actions taken by personnel in the performance of the task to mitigate the error. That is, the HEP reflects the probability of the error occurring in spite of such actions. Recovery considered errors are often observed in situations where some type of corrective action was taken. This data type also includes cases where, even though recovery actions were attempted, it was never feasible to do so after the error was committed.

RECOVERY NOT CONSIDERED

Recovery not considered errors are HEP estimates that have no documented or foreseen evidence that actions were taken to mitigate the consequences of the error. That is, the error simply happened with no attempt at recovery for operator or crew.

The following data fields are presented for both recovery considered and recovery not considered:

HEP (Human Error Probability)

The calculated error probability estimate for a particular combination of operator, equipment, and human action. The value is presented in scientific notation.

UCB (Upper Confidence Bound)

The statistically determined upper limit of a 90% confidence interval for an HEP estimate. The value is presented in scientific notation.

LCB (Lower Confidence Bound)

The statistically determined lower limit of a 90% confidence interval for an HEP estimate. The value is presented in scientific notation.

APPENDIX A. FUNCTIONAL GROUP SUMMARY CELL LEVEL AGGREGATIONS

Cell Number	Tax Level	Vend EqLv	Job Ttl	Equipment Summary Group	Runn Action Verb	Failure Mode	Recovery Considered			Recovery Not Considered		
							HEP	UCB	LCB	HEP	UCB	LCB
0100001	1	GE	CRO	AIR SYSTEMS	OPERATES	OMISSION				9.2E-2	2.9E-1	2.9E-2
0100002	1	GE	CRO	AIR SYSTEMS	MONITORS	OMISSION				6.0E-2	3.6E-1	1.0E-2
0100003	1	GE	CRO	AIR SYSTEMS	DIAGNOSES	OMISSION				1.6E-2	1.3E-1	1.9E-3
0102001	1	GE	CRO	COMMUNICATION SYSTEMS	OPERATES	OMISSION				2.6E-2	2.0E-1	3.3E-3
0104001	1	GE	CRO	CONDENSATE SYSTEMS	OPERATES	OMISSION	7.5E-4	7.5E-3	7.5E-5			
0105001	1	GE	CRO	CONTAINMENT SYSTEMS	OPERATES	OMISSION	2.3E-2	3.0E-2	1.8E-2	2.9E-3	2.0E-2	4.2E-4
0105002	1	GE	CRO	CONTAINMENT SYSTEMS	MONITORS	OMISSION				1.9E-2	1.5E-1	2.3E-3
0105003	1	GE	CRO	CONTAINMENT SYSTEMS	DIAGNOSES	OMISSION				3.9E-2	1.7E-1	8.9E-3
0107001	1	GE	CRO	CONTROL ROD DRIVE SYSTEMS	OPERATES	OMISSION	3.7E-2	6.0E-2	2.3E-2			
0107003	1	GE	CRO	CONTROL ROD DRIVE SYSTEMS	DIAGNOSES	OMISSION				5.7E-3	3.2E-2	1.0E-3
0108001	1	GE	CRO	ELECTRICAL DISTRIBUTION SYSTEMS	OPERATES	OMISSION	6.7E-2	9.0E-2	5.0E-2	6.0E-2	6.0E-1	6.0E-3
0109001	1	GE	CRO	EMERGENCY CORE COOLING SYSTEMS	OPERATES	OMISSION	2.2E-2	3.4E-2	1.5E-2	1.3E-1	1.0E+0	1.7E-2
0109002	1	GE	CRO	EMERGENCY CORE COOLING SYSTEMS	MONITORS	OMISSION	7.2E-3	2.9E-2	1.8E-3	1.9E-2	8.7E-2	4.1E-3
0109003	1	GE	CRO	EMERGENCY CORE COOLING SYSTEMS	DIAGNOSES	OMISSION				3.1E-2	8.8E-2	1.1E-2
0113001	1	GE	CRO	GENERATOR SYSTEMS	OPERATES	OMISSION				6.5E-3	2.5E-2	1.7E-3
0114001	1	GE	CRO	HEATING, VENTILATION & AIR COND SYST	OPERATES	OMISSION	3.5E-2	1.8E-1	6.8E-3			
0115001	1	GE	CRO	INSTRUMENTATION AND CONTROL SYSTEMS	OPERATES	OMISSION	2.9E-3	5.4E-3	1.5E-3			
0122003	1	GE	CRO	TURBINE SYSTEMS	DIAGNOSES	OMISSION	1.0E-4	1.0E-3				
0123001	1	GE	CRO	WATER SYSTEMS	OPERATES	OMISSION	5.0E-3	1.3E-2	1.9E-3			
0123003	1	GE	CRO	WATER SYSTEMS	DIAGNOSES	OMISSION	1.4E-3	1.1E-2	1.8E-4			
0125001	1	GE	CRO	REACTOR COOLANT SYSTEM/CONNECTED SYSTEM	OPERATES	OMISSION	4.9E-2	6.6E-2	3.6E-2	2.8E-2	2.8E-1	2.8E-3
0126001	1	GE	CRO	STANDRY DIESEL GENERATOR SYSTEMS	OPERATES	OMISSION	4.7E-2	8.4E-2	2.7E-2			
0127001	1	GE	CRO	STEAM SYSTEMS	OPERATES	OMISSION	1.8E-2	3.4E-2	9.2E-3			
0200011	1	GE	EO	AIR SYSTEMS	OPERATES	OMISSION	7.5E-4	7.5E-3	7.5E-5			

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APPENDIX A. FUNCTIONAL GROUP SUMMARY CELL LEVEL AGGREGATIONS

Cell Number	Tax Level	V and /,ql,v	Job Ttl	Equipment Summary Group	Human Action Verb	Failure Mode	HEP	UCB	LCB	HEP	UCB	LCB
0204013	1	GE	EO	CONDENSATE SYSTEMS	MAINTAINS	OMISSION	6.7E-5	6.7E-4	6.6E-6			
0205011		GE	EO	CONTAINMENT SYSTEMS	OPERATES	OMISSION	3.7E-2	4.8E-2	2.8E-2			
0207011	1	GE	EO	CONTROL ROD DRIVE SYSTEMS	OPERATES	OMISSION	1.1E-1	1.8E-1	6.8E-2			
0208011	1	GE	EO	ELECTRICAL DISTRIBUTION SYSTEMS	OPERATES	OMISSION	1.0E-1	1.4E-1	7.9E-2	5.0E-3	9.4E-3	2.7E-3
0208013	1	GE	EO	ELECTRICAL DISTRIBUTION SYSTEMS	MAINTAINS	OMISSION	3.0E-3	1.5E-2	5.9E-4	4.4E-3	6.5E-3	3.0E-3
0208014	1	GE	EO	ELECTRICAL DISTRIBUTION SYSTEMS	INSPECTS	OMISSION	6.8E-2	1.3E-1	3.6E-2			
0209011	1	GE	EO	EMERGENCY CORE COOLING SYSTEMS	OPERATES	OMISSION	4.5E-2	6.4E-2	3.2E-2	3.0E-3	6.5E-3	1.4E-3
0215011	1	GE	EO	INSTRUMENTATION AND CONTROL SYSTEMS	OPERATES	OMISSION				3.0E-2	3.9E-1	2.3E-3
0215013	1	GE	EO	INSTRUMENTATION AND CONTROL SYSTEMS	OPERATES	OMISSION				5.9E-2	1.2E-1	2.9E-2
0225011	1	GE	EO	REACTOR COOLANT SYSTEM/CONNECTED SYSTEM	OPERATES	OMISSION				8.7E-3	4.7E-2	1.6E-3
0226011	1	GE	EO	STANDBY DIESEL GENERATOR SYSTEMS	OPERATES	OMISSION						
0227011	1	GE	EO	STEAM SYSTEMS	OPERATES	OMISSION	1.0E-4	1.0E-3	1.0E-5			
0227013	1	GE	EO	STEAM SYSTEMS	OPERATES	OMISSION	5.6E-2	7.7E-2	4.1E-2			
0231014	1	GE	EO	PROCESS SAMPLING SYSTEMS	MAINTAINS	OMISSION	4.7E-2	8.4E-2	2.7E-2			
0304023	1	GE	MT	CONDENSATE SYSTEMS	OPERATES	OMISSION	1.8E-2	3.4E-2	9.2E-3	1.2E-2	1.2E-1	1.2E-3
0305020	1	GE	MT	CONTAINMENT SYSTEMS	MAINTAINS	OMISSION	1.3E-2	3.4E-2	5.3E-3			
0305023	1	GE	MT	CONTAINMENT SYSTEMS	TESTS	OMISSION	2.5E-5	2.5E-4	2.5E-6			
0307020	1	GE	MT	CONTROL ROD DRIVE SYSTEMS	TESTS	OMISSION	3.0E-3	3.0E-2	3.0E-4			
0308020	1	GE	MT	ELECTRICAL DISTRIBUTION SYSTEMS	MAINTAINS	OMISSION	2.5E-5	2.5E-4	2.5E-6			
0308023	1	GE	MT	ELECTRICAL DISTRIBUTION SYSTEMS	TESTS	OMISSION	3.0E-3	3.0E-2	3.0E-4	3.4E-3	5.0E-3	2.3E-3
0309023	1	GE	MT	EMERGENCY CORE COOLING SYSTEMS	MAINTAINS	OMISSION	4.8E-2	1.5E-1	1.6E-2			
0315020	1	GE	MT	INSTRUMENTATION AND CONTROL SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5	3.4E-3	5.0E-3	2.3E-3
0315023	1	GE	MT	INSTRUMENTATION AND CONTROL SYSTEMS	TESTS	OMISSION	3.0E-4	3.0E-3	3.0E-5			
0323023	1	GE	MT	WATER SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5	1.0E-3	1.0E-2	1.0E-4

APPENDIX A. FUNCTIONAL GROUP SUMMARY CELL LEVEL AGGREGAT:ONS

Cell Number	Tax Level	Vend Eqlv	Job Ttl	Equipment Summary Group	Human Action Verb	Failure Mode	Recovery REP	Recovery UCB	Recovery Considered LCB	Recovery REP	Recovery Not Considered UCB	Recovery Not Considered LCB
0325020	1	GE	MT	REACTOR COOLANT SYSTEM/CONNECTED SYSTEM	TESTS	OMISSION	2.2E-3	7.0E-3	7.2E-4			
0325023	1	GE	MT	REACTOR COOLANT SYSTEM/CONNECTED SYSTEM	MAINTAINS	COMMISSION						
0400001	1	ME	CRO	AIR SYSTEMS	OPERATES	OMISSION	2.5E-5	2.5E-4	2.5E-6			
0400002	1	ME	CRO	AIR SYSTEMS	MONITORS	COMMISSION	2.2E-3	9.9E-3	4.9E-4			
0400003	1	ME	CRO	AIR SYSTEMS	DIAGNOSES	OMISSION						
0402001	1	ME	CRO	COMMUNICATION SYSTEMS	OPERATES	COMMISSION						
0404001	1	ME	CRO	CONDENSATE SYSTEMS	OPERATES	COMMISSION	3.0E-2	7.4E-2	1.2E-2			
0404002	1	ME	CRO	CONDENSATE SYSTEMS	MONITORS	OMISSION	4.3E-3	4.3E-2	4.3E-4			
0405000	1	ME	CRO	CONTAINMENT SYSTEMS	TESTS	COMMISSION						
0405001	1	ME	CRO	CONTAINMENT SYSTEMS	OPERATES	OMISSION						
0405002	1	ME	CRO	CONTAINMENT SYSTEMS	MONITORS	COMMISSION	7.0E-4	2.6E-3	1.0E-4			
0405003	1	ME	CRO	CONTAINMENT SYSTEMS	DIAGNOSES	OMISSION						
0407001	1	ME	CRO	CONTROL ROD DRIVE SYSTEMS	OPERATES	COMMISSION	1.0E-4	1.0E-3	1.0E-5			
0407003	1	ME	CRO	CONTROL ROD DRIVE SYSTEMS	DIAGNOSES	OMISSION						
0408001	1	ME	CRO	ELECTRICAL DISTRIBUTION SYSTEMS	OPERATES	COMMISSION	1.2E-4	6.2E-4	2.4E-5			
0408002	1	ME	CRO	ELECTRICAL DISTRIBUTION SYSTEMS	MONITORS	OMISSION	8.0E-3	2.1E-2	3.0E-3			
0409000	1	ME	CRO	EMERGENCY CORE COOLING SYSTEMS	TESTS	COMMISSION						
0409001	1	ME	CRO	EMERGENCY CORE COOLING SYSTEMS	OPERATES	OMISSION	1.4E-3	2.2E-3	9.3E-4			
0409002	1	ME	CRO	EMERGENCY CORE COOLING SYSTEMS	MONITORS	COMMISSION	2.0E-3	1.4E-2	5.5E-4			
0409003	1	ME	CRO	EMERGENCY CORE COOLING SYSTEMS	DIAGNOSES	OMISSION	1.0E-2	4.0E-2	2.5E-3			
0411001	1	ME	CRO	FEEDWATER SYSTEMS	OPERATES	COMMISSION	8.4E-3	2.8E-2	2.5E-3			
0411002	1	ME	CRO	FEEDWATER SYSTEMS	MONITORS	OMISSION	3.1E-3	5.3E-3	1.8E-3			
0411003	1	ME	CRO	FEEDWATER SYSTEMS	DIAGNOSES	COMMISSION	3.5E-3	1.3E-2	9.4E-4			
0414003	1	ME	CRO	HEATING, VENTILATION & AIR COND SYST	DIAGNOSES	COMMISSION	5.0E-2	5.0E-1	5.0E-3			

APPENDIX A. FUNCTIONAL GROUP SUMMARY CELL LEVEL AGGREGATIONS

Cell Number	Tax Level	Vend Eqlv	Job Ttl	Equipment Summary Group	Human Action Verb	Failure Mode	HEP	UCB	LCB	Recovery HEP	UCB	LCB	Recovery Not Considered UCB	LCB
0415001	1	WE	CRD	INSTRUMENTATION AND CONTROL SYSTEMS	OPERATES	OMISSION	7.9E-3	1.2E-2	5.2E-3					
0415002	1	WE	CRD	INSTRUMENTATION AND CONTROL SYSTEMS	MONITORS	OMISSION	4.6E-3	8.6E-3	2.4E-3					
0415003	1	WE	CRD	INSTRUMENTATION AND CONTROL SYSTEMS	DIAGNOSES	OMISSION	2.7E-3	5.5E-3	1.3E-3					
0420001	1	WE	CRD	REACTOR COOLANT SYSTEMS	OPERATES	OMISSION	9.3E-3	1.6E-2	5.5E-3					
0420002	1	WE	CRD	REACTOR COOLANT SYSTEMS	MONITORS	OMISSION	2.1E-3	5.1E-3	8.7E-4					
0420003	1	WE	CRD	REACTOR COOLANT SYSTEMS	DIAGNOSES	OMISSION	8.7E-3	3.0E-2	2.5E-3					
0421001	1	WE	CRD	REFUELLING SYSTEMS	OPERATES	OMISSION	1.9E-4	1.9E-3	1.9E-5					
0422001	1	WE	CRD	TURBINE SYSTEMS	OPERATES	OMISSION	3.8E-4	3.8E-3	3.8E-5					
0422002	1	WE	CRD	TURBINE SYSTEMS	MONITORS	OMISSION							1.5E-1	2.3E-3
0422003	1	WE	CRD	TURBINE SYSTEMS	DIAGNOSES	OMISSION	1.0E-3	1.0E-2	1.0E-4	1.9E-2	1.5E-1	1.0E-4		
0423001	1	WE	CRD	WATER SYSTEMS	OPERATES	OMISSION	4.8E-3	1.5E-2	1.5E-3					
0429001	1	WE	CRD	MAIN STEAM SYSTEMS	OPERATES	OMISSION	2.8E-3	8.0E-3	1.0E-3					
0504013	1	WE	EO	CONDENSATE SYSTEMS	MAINTAINS	OMISSION	1.5E-3	7.6E-3	2.9E-4					
0505013	1	WE	EO	CONTAINMENT SYSTEMS	MAINTAINS	OMISSION	6.7E-5	6.7E-4	6.6E-6					
0508011	1	WE	EO	ELECTRICAL DISTRIBUTION SYSTEMS	OPERATES	OMISSION	1.0E-4	1.0E-3	1.0E-5					
0508013	1	WE	EO	ELECTRICAL DISTRIBUTION SYSTEMS	MAINTAINS	OMISSION	3.0E-3	1.5E-2	5.9E-4	5.0E-3	1.1E-2	2.3E-3		
0508014	1	WE	EO	ELECTRICAL DISTRIBUTION SYSTEMS	INSPECTS	OMISSION	1.0E-1	3.0E-1	3.3E-2	4.2E-3	6.6E-3	2.7E-3		
0509011	1	WE	EO	EMERGENCY CORE COOLING SYSTEMS	OPERATES	OMISSION				3.0E-3	6.5E-3	1.4E-3		
0509013	1	WE	EO	EMERGENCY CORE COOLING SYSTEMS	MAINTAINS	OMISSION				5.9E-2	1.2E-1	2.9E-2		
0511013	1	WE	EO	FEEDWATER SYSTEMS	MAINTAINS	OMISSION								
0520011	1	WE	EO	REACTOR COOLANT SYSTEMS	OPERATES	OMISSION	2.5E-5	2.5E-4	2.5E-6					
0531014	1	WE	EO	PROCESS SAMPLING SYSTEMS	INSPECTS	OMISSION	2.5E-5	2.5E-4	2.5E-6					
0604023	1	WE	MT	CONDENSATE SYSTEMS	MAINTAINS	OMISSION							8.7E-3	4.7E-2
0605020	1	WE	MT	CONTAINMENT SYSTEMS	TESTS	OMISSION	1.0E-3	2.5E-4	2.5E-6	1.2E-2	1.2E-1	1.2E-3		

APPENDIX A. FUNCTIONAL GROUP SUMMARY CELL LEVEL AGGREGATIONS

Cell Number	Tax Level	Vend Equiv	Job Ttl	Equipment Summary Group	Human Action Verb	Failure Mode	REP	UCB	LCB	REP	UCB	LCB
0605023	1	ME	MT	CONTAINMENT SYSTEMS	MAINTAINS	OMISSION COMMISSION	1.0E-4	1.0E-3	1.0E-5	1.0E-3	1.0E-2	1.0E-4
0608020	1	ME	MT	ELECTRICAL DISTRIBUTION SYSTEMS	TESTS	OMISSION COMMISSION				3.4E-3	5.0E-3	2.3E-3
0608021	1	ME	MT	ELECTRICAL DISTRIBUTION SYSTEMS	CHECKS	OMISSION COMMISSION				5.0E-3	1.1E-2	2.3E-3
0608023	1	ME	MT	ELECTRICAL DISTRIBUTION SYSTEMS	MAINTAINS	OMISSION COMMISSION				3.7E-3	5.2E-3	2.6E-3
0609020	1	ME	MT	EMERGENCY CORE COOLING SYSTEMS	TESTS	OMISSION COMMISSION	1.1E-5	1.1E-4	1.1E-6			
0609023	1	ME	MT	EMERGENCY CORE COOLING SYSTEMS	MAINTAINS	OMISSION COMMISSION	1.9E-5	1.0E-4	3.7E-6			
0611023	1	ME	MT	FEEDWATER SYSTEMS	MAINTAINS	OMISSION COMMISSION	1.0E-4	1.0E-3	1.0E-5			
0615023	1	ME	MT	INSTRUMENTATION AND CONTROL SYSTEMS	MAINTAINS	OMISSION COMMISSION	4.9E-5	4.9E-4	4.9E-6			
0623020	1	ME	MT	WATER SYSTEMS	TESTS	OMISSION COMMISSION	1.2E-3	1.2E-2	1.2E-4			
0700001	1	CE	CR0	AIR SYSTEMS	OPERATES	OMISSION COMMISSION	5.0E-5	1.9E-4	1.3E-5			
0700002	1	CE	CR0	AIR SYSTEMS	MONITORS	OMISSION COMMISSION				9.2E-2	2.9E-1	2.9E-2
0700003	1	CE	CR0	AIR SYSTEMS	DIAGNOSES	OMISSION COMMISSION				6.0E-2	3.6E-1	1.0E-2
0702001	1	CE	CR0	COMMUNICATION SYSTEMS	OPERATES	OMISSION COMMISSION				1.6E-2	1.3E-1	1.9E-3
0704001	1	CE	CR0	CONDENSATE SYSTEMS	OPERATES	OMISSION COMMISSION	4.3E-3	4.3E-2	4.3E-4			
0704002	1	CE	CR0	CONDENSATE SYSTEMS	MONITORS	OMISSION COMMISSION	4.3E-3	4.3E-2	4.3E-4			
0705001	1	CE	CR0	CONTAINMENT SYSTEMS	OPERATES	OMISSION COMMISSION				2.9E-3	2.0E-2	4.2E-4
0705003	1	CE	CR0	CONTAINMENT SYSTEMS	DIAGNOSES	OMISSION COMMISSION				3.9E-2	1.7E-1	8.9E-3
0708001	1	CE	CR0	ELECTRICAL DISTRIBUTION SYSTEMS	OPERATES	OMISSION COMMISSION	1.5E-3	1.5E-2	1.5E-4			
0709000	1	CE	CR0	EMERGENCY CORE COOLING SYSTEMS	TESTS	OMISSION COMMISSION				3.0E-3	3.0E-2	3.0E-4
0709001	1	CE	CR0	EMERGENCY CORE COOLING SYSTEMS	OPERATES	OMISSION COMMISSION	4.2E-3	1.6E-2	1.1E-3	3.0E-3	3.0E-2	3.0E-4
0709002	1	CE	CR0	EMERGENCY CORE COOLING SYSTEMS	MONITORS	OMISSION COMMISSION				1.9E-2	8.7E-2	4.1E-3
0709003	1	CE	CR0	EMERGENCY CORE COOLING SYSTEMS	DIAGNOSES	OMISSION COMMISSION				3.0E-3	3.0E-2	3.0E-4
0711001	1	CE	CR0	FEEDWATER SYSTEMS	OPERATES	OMISSION COMMISSION	1.4E-2	3.6E-2	5.5E-3			
0711002	1	CE	CR0	FEEDWATER SYSTEMS	MONITORS	OMISSION COMMISSION	4.3E-3	2.2E-2	8.4E-4			

APPENDIX A. FUNCTIONAL GROUP SUMMARY CELL LEVEL AGGREGATIONS

Cell Number	Tax Level	Vend Eqlv	Job Ttl	Equipment Summary Group	Human Action Verb	Failure Mode	HEP	UCB	LCB	MEP	UCB	LCB
0720001	1	CE	CRD	REACTOR COOLANT SYSTEMS	OPERATES	OMISSION	5.0E-2	5.0E-1	5.0E-3	1.9E-2	1.5E-1	2.3E-3
0722002	1	CE	CRD	TURBINE SYSTEMS	MONITORS	OMISSION	1.0E-1	1.0E+0	1.0E-2			
0723001	1	CE	CRD	WATER SYSTEMS	OPERATES	OMISSION	2.5E-5	2.5E-4	2.5E-6			
0804-013	1	CE	E0	CONDENSATE SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5			
0805-013	1	CE	E0	CONTAINMENT SYSTEMS	MAINTAINS	OMISSION	3.2E-2	1.1E-1	8.0E-3			
0808011	1	CE	E0	ELECTRICAL DISTRIBUTION SYSTEMS	OPERATES	OMISSION	3.0E-3	1.5E-2	5.9E-4	5.0E-3	1.1E-2	2.3E-3
0808013	1	CE	E0	ELECTRICAL DISTRIBUTION SYSTEMS	MAINTAINS	OMISSION	1.0E-1	3.0E-1	3.5E-2	4.2E-3	6.6E-3	2.7E-3
0808014	1	CE	E0	ELECTRICAL DISTRIBUTION SYSTEMS	INSPECTS	OMISSION	2.5E-5	2.5E-4	2.5E-6	3.0E-3	6.5E-3	1.4E-3
0809011	1	CE	E0	EMERGENCY CORE COOLING SYSTEMS	OPERATES	OMISSION	1.0E-4	1.0E-3	1.0E-5	5.9E-2	1.2E-1	2.9E-2
0809013	1	CE	E0	EMERGENCY CORE COOLING SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5			
0811013	1	CE	E0	FEEDWATER SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5			
0820011	1	CE	E0	REACTOR COOLANT SYSTEMS	OPERATES	OMISSION	1.0E-4	1.0E-3	1.0E-5	8.7E-3	4.7E-2	1.6E-3
0829013	1	CE	E0	MAIN STEAM SYSTEMS	MAINTAINS	OMISSION	2.5E-5	2.5E-4	2.5E-6	1.2E-2	1.2E-1	1.2E-3
0831014	1	CE	E0	PROCESS SAMPLING SYSTEMS	INSPECTS	OMISSION	1.0E-4	1.0E-3	1.0E-5			
0904-023	1	CE	MT	CONDENSATE SYSTEMS	MAINTAINS	OMISSION	2.5E-5	2.5E-4	2.5E-6			
0905-023	1	CE	MT	CONTAINMENT SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5			
0908020	1	CE	MT	ELECTRICAL DISTRIBUTION SYSTEMS	TESTS	OMISSION	5.0E-4	5.0E-3	5.0E-5	3.4E-3	5.0E-3	2.3E-3
0908021	1	CE	MT	ELECTRICAL DISTRIBUTION SYSTEMS	CHECKS	OMISSION	5.0E-3	5.0E-2	5.0E-4	5.0E-3	1.1E-2	2.3E-3
0908023	1	CE	MT	ELECTRICAL DISTRIBUTION SYSTEMS	MAINTAINS	OMISSION	2.5E-5	2.5E-4	2.5E-6			
0909023	1	CE	MT	EMERGENCY CORE COOLING SYSTEMS	MAINTAINS	OMISSION	2.0E-4	2.0E-3	2.0E-5			
0911020	1	CE	MT	FEEDWATER SYSTEMS	TESTS	OMISSION	2.0E-2	1.0E-1	3.9E-3			
0911023	1	CE	MT	FEEDWATER SYSTEMS	MAINTAINS	OMISSION	2.5E-5	2.5E-4	2.5E-6			
0929023	1	CE	MT	MAIN STEAM SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5			
1000001	1	BW	CRD	AIR SYSTEMS	OPERATES	OMISSION	1.9E-2	9.8E-2	3.8E-3	9.2E-2	2.9E-1	2.9E-2

APPENDIX A. FUNCTIONAL GROUP SUMMARY CELL LEVEL AGGREGATIONS

Cell Number	Tax Level	Vend Eqty	Job Ttl	Equipment Summary Group	Human Action Verb	Failure Mode	REP	UCB	LCB	REP	UCB	LCB
1000002	1	BW	CR0	AIR SYSTEMS	MONITORS	OMISSION	6.0E-2	3.6E-1		6.0E-2	3.6E-1	1.0E-2
1000003	1	DW	CR0	AIR SYSTEMS	DIAGNOSES	OMISSION	1.6E-2	1.3E-1		1.6E-2	1.3E-1	1.9E-3
1002001	1	DW	CR0	COMMUNICATION SYSTEMS	OPERATES	OMISSION	2.6E-2	2.0E-1		2.6E-2	2.0E-1	3.3E-3
1004001	1	BW	CR0	CONDENSATE SYSTEMS	OPERATES	OMISSION	4.3E-3	4.3E-2	4.3E-4	4.3E-3	4.3E-2	4.3E-4
1004002	1	BW	CR0	CONDENSATE SYSTEMS	MONITORS	OMISSION	4.3E-3	4.3E-2	4.3E-4	4.3E-3	4.3E-2	4.3E-4
1005001	1	BW	Cx0	CONTAINMENT SYSTEMS	OPERATES	OMISSION	5.0E-1	5.0E-1	5.0E-1	5.0E-1	5.0E-1	5.0E-1
1005003	1	BW	CR0	CONTAINMENT SYSTEMS	DIAGNOSES	OMISSION						6.0E-5
1007003	1	BW	CR0	CONTROL ROD DRIVE SYSTEMS	DIAGNOSES	OMISSION				3.9E-2	1.7E-1	8.9E-3
1008001	1	BW	CR0	ELECTRICAL DISTRIBUTION SYSTEMS	OPERATES	OMISSION	1.5E-3	1.5E-2	1.5E-4	5.7E-3	3.2E-2	1.0E-3
1009000	1	BW	CR0	EMERGENCY CORE COOLING SYSTEMS	TESTS	OMISSION				3.0E-3	3.0E-2	3.0E-4
1009001	1	BW	CR0	EMERGENCY CORE COOLING SYSTEMS	OPERATES	OMISSION	1.0E-2	3.4E-2	9.5E-3	3.0E-3	3.0E-2	3.0E-4
1009002	1	BW	CR0	EMERGENCY CORE COOLING SYSTEMS	MONITORS	OMISSION	5.0E-2	5.0E-1	5.0E-3	1.9E-2	8.7E-2	4.1E-3
1009003	1	BW	CR0	EMERGENCY CORE COOLING SYSTEMS	DIAGNOSES	OMISSION				3.0E-3	3.0E-2	3.0E-4
1011001	1	BW	CR0	FEEDWATER SYSTEMS	OPERATES	OMISSION	3.7E-3	1.2E-2	1.2E-3	3.2E-2	8.9E-2	1.2E-2
1011002	1	BW	CR0	FEEDWATER SYSTEMS	MONITORS	OMISSION	2.0E-1	3.9E-1	9.2E-2	2.0E-1	3.9E-1	9.2E-2
1023001	1	BW	CR0	WATER SYSTEMS	OPERATES	OMISSION	4.3E-3	2.2E-2	8.4E-4	4.3E-3	2.2E-2	8.4E-4
1104013	1	BW	EO	CONDENSATE SYSTEMS	MAINTAINS	OMISSION	3.6E-3	1.8E-2	7.1E-4	3.6E-3	1.8E-2	7.1E-4
1105013	1	BW	EO	CONTAINMENT SYSTEMS	MAINTAINS	OMISSION	2.5E-5	2.5E-4	2.5E-6	2.5E-5	2.5E-4	2.5E-6
1108011	1	BW	EO	ELECTRICAL DISTRIBUTION SYSTEMS	OPERATES	OMISSION	1.0E-4	1.0E-3	1.0E-5	1.0E-4	1.0E-3	1.0E-5
1108013	1	BW	EO	ELECTRICAL DISTRIBUTION SYSTEMS	MAINTAINS	OMISSION	1.0E-1	3.0E-1	3.3E-2	1.0E-1	3.0E-1	3.3E-2
1108014	1	BW	EO	ELECTRICAL DISTRIBUTION SYSTEMS	INSPECTS	OMISSION	3.0E-3	1.5E-2	5.9E-4	3.0E-3	1.5E-2	5.9E-4
1109011	1	BW	EO	EMERGENCY CORE COOLING SYSTEMS	OPERATES	OMISSION	1.0E-1	3.0E-1	3.3E-2	1.0E-1	3.0E-1	3.3E-2
1109013	1	BW	EO	EMERGENCY CORE COOLING SYSTEMS	MAINTAINS	OMISSION	1.0E-1	3.0E-1	3.3E-2	1.0E-1	3.0E-1	3.3E-2
1111013	1	BW	EO	FEEDWATER SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5	1.0E-4	1.0E-3	1.0E-5
					MAINTAINS	OMISSION	2.5E-5	2.5E-4	2.5E-6	2.5E-5	2.5E-4	2.5E-6

APPENDIX A. FUNCTIONAL GROUP SUMMARY CELL LEVEL AGGREGATIONS

Cell Number	Tax Level	Vend Eqlv	Job Ttl	Equipment Summary Group	Human Action Verb	Failure Mode	REP	UCB	LCB	REP	UCB	LCB
1115013	1	BW	EO	INSTRUMENTATION AND CONTROL SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5	1.0E-3	1.0E-3	1.0E-5
1120011	1	BW	EO	REACTOR COOLANT SYSTEMS	OPERATES	OMISSION					4.7E-2	1.0E-3
1130013	1	BW	EO	STEAM SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5	1.2E-2	1.2E-1	1.2E-3
1131014	1	BW	EO	PROCESS SAMPLING SYSTEMS	INSPECTS	OMISSION						
1204023	1	BW	MT	CONDENSATE SYSTEMS	MAINTAINS	OMISSION	2.5E-5	2.5E-4	2.5E-6			
1205023	1	BW	MT	CONTAINMENT SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5			
1208020	1	BW	MT	ELECTRICAL DISTRIBUTION SYSTEMS	TESTS	OMISSION						
1208021	1	BW	MT	ELECTRICAL DISTRIBUTION SYSTEMS	CHECKS	OMISSION						
1208023	1	BW	MT	ELECTRICAL DISTRIBUTION SYSTEMS	MAINTAINS	OMISSION						
1209023	1	BW	MT	EMERGENCY CORE COOLING SYSTEMS	MAINTAINS	OMISSION	2.5E-5	2.5E-4	2.5E-6	3.4E-3	5.0E-3	2.3E-3
1211023	1	BW	MT	FEEDWATER SYSTEMS	MAINTAINS	OMISSION	2.5E-5	2.5E-4	2.5E-6	5.0E-3	1.1E-2	2.3E-3
1215023	1	BW	MT	INSTRUMENTATION AND CONTROL SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5	3.7E-3	5.2E-3	2.6E-3
1230023	1	BW	MT	STEAM SYSTEMS	MAINTAINS	OMISSION	1.0E-4	1.0E-3	1.0E-5			
1304032	2	COMP	CR0	CIRCUIT CLOSURES/INTERRUPTERS	OPERATES	OMISSION	4.0E-3	1.0E-2	1.3E-3			
1304034	2	COMP	CR0	CIRCUIT CLOSURES/INTERRUPTERS	OPENS/CLOSES	OMISSION	1.1E-2	3.2E-2	4.0E-3	5.0E-3	9.5E-3	2.7E-3
1304031	2	COMP	CR0	CONTROL INSTRUMENTS	MONITORS	OMISSION				1.3E-1	1.0E-1	9.0E-2
1305032	2	COMP	CR0	CONTROL INSTRUMENTS	OPERATES	OMISSION	1.0E-3	5.3E-3	2.1E-4			
1309032	2	COMP	CR0	CONTROL ROD DRIVE MECHANISMS	OPERATES	OMISSION	1.0E-4	1.0E-3	1.0E-5	3.0E-4	2.0E-3	4.5E-5
1313035	2	COMP	CR0	ELECTRICAL EQUIPMENT	STARTS/STOPS	OMISSION	1.1E-3	5.6E-3	2.2E-4			
1322032	2	COMP	CR0	PUMPS	OPERATES	OMISSION	3.8E-2	1.5E-1	1.0E-2			
1322035	2	COMP	CR0	PUMPS	STARTS/STOPS	OMISSION	1.6E-2	8.2E-2	3.2E-3			
1327032	2	COMP	CR0	STEAM GENERATORS	OPERATES	OMISSION	8.8E-4	2.3E-3	3.6E-4			
1328032	2	COMP	CR0	TURBINES	OPERATES	OMISSION	3.6E-3	3.6E-2	3.6E-4			
1329031	2	COMP	CR0	VALVES	OPERATES	OMISSION	6.6E-3	2.6E-2	1.7E-3			
					MONITORS	OMISSION	4.3E-3	4.3E-2	4.3E-4			

APPENDIX A. FUNCTIONAL GROUP SUMMARY CELL LEVEL AGGREGATIONS

Cell Number	Tax Level	Vend Eq. v	J-1b Ttl	Equipment Summary Group	Human Action Verb	Failure Mode	REP	UCB	LCB	REP	UCB	LCB	Recovery Not Considered
1329032	2	COMP	CRD	VALVES	OPERATES	OMISSION	2.7E-3	1.4E-2	5.4E-4	3.1E-3	1.6E-2	6.2E-4	
1329034	2	COMP	CRD	VALVES	OPENS/CLOSES	OMISSION	9.8E-3	2.8E-2	3.5E-3	1.1E-4	5.4E-4	2.2E-5	
1331032	2	COMP	CRD	VALVE OPERATORS	OPERATES	OMISSION	9.4E-3	1.7E-2	5.1E-3	3.0E-4	3.0E-3	3.0E-5	
1404041	2	COMP	EO	CIRCUIT CLOSURES/INTERRUPTERS	INSPECTS	OMISSION	1.5E-3	1.5E-2	1.5E-4				
1404044	2	COMP	EO	CIRCUIT CLOSURES/INTERRUPTERS	OPENS/CLOSES	OMISSION	2.5E-1	1.0E+0	5.0E-2				
1406042	2	COMP	EO	CONTROL INSTRUMENTS	OPERATES	OMISSION	1.0E-2	3.8E-2	2.0E-3	6.1E-3	1.1E-2	3.2E-3	
1413042	2	COMP	EO	CONTROL INSTRUMENTS	OPERATES	OMISSION	5.0E-3	2.0E-2	4.5E-4	6.8E-3	4.4E-2	1.9E-3	
1414042	2	COMP	EO	ELECTRICAL EQUIPMENT	OPERATES	OMISSION	2.3E-1	4.8E-1	1.1E-1				
1414042	2	COMP	EO	ELECTRIC GENERATORS	OPERATES	OMISSION	1.0E-2	1.0E-1	1.0E-3				
1422041	2	COMP	EO	PUMPS	INSPECTS	OMISSION	1.5E-3	1.5E-2	1.5E-4				
1422045	2	COMP	EO	PUMPS	STARTS/STOPS	OMISSION	3.0E-2	1.5E-1	6.0E-3				
1424041	2	COMP	EO	SENSORS	INSPECTS	OMISSION	2.5E-5	2.5E-4	2.5E-6				
1429041	2	COMP	EO	VALVES	INSPECTS	OMISSION	3.0E-3	4.0E-2	2.3E-4				
1429042	2	COMP	EO	VALVES	OPERATES	OMISSION	2.1E-3	4.7E-3	9.0E-4				
1429044	2	COMP	EO	VALVES	OPENS/CLOSES	OMISSION	2.0E-2	4.2E-2	9.3E-3				
1431042	2	COMP	EO	VALVE OPERATORS	OPERATES	OMISSION	2.8E-3	1.4E-2	5.5E-4	3.0E-2	2.7E-1	3.3E-3	
1433041	2	COMP	EO	VESSELS/TANKS	INSPECTS	OMISSION	1.5E-3	1.5E-2	1.5E-4				
1504052	2	COMP	MT	CIRCUIT CLOSURES/INTERRUPTERS	MAINTAINS	OMISSION	2.5E-5	2.5E-4	2.5E-6				
1504053	2	COMP	MT	CIRCUIT CLOSURES/INTERRUPTERS	REPAIRS	OMISSION	7.0E-3	1.8E-2	2.7E-3	4.4E-3	7.7E-3	2.6E-3	
1504054	2	COMP	MT	CIRCUIT CLOSURES/INTERRUPTERS	TESTS	OMISSION	1.0E-4	1.0E-3	1.0E-5	4.4E-3	7.7E-3	2.6E-3	
1506050	2	COMP	MT	CONTROL INSTRUMENTS	CALIBRATES	OMISSION	1.1E-1	1.9E-1	7.0E-2	4.4E-3	7.7E-3	2.6E-3	
1506051	2	COMP	MT	CONTROL INSTRUMENTS	DIAGNOSES	OMISSION	1.5E-1	3.1E-1	7.7E-2	3.0E-2	7.8E-2	1.2E-2	
1513050	2	COMP	MT	ELECTRICAL EQUIPMENT	CALIBRATES	OMISSION	1.8E-1	2.9E-1	1.1E-1				
1513051	2	COMP	MT	ELECTRICAL EQUIPMENT	DIAGNOSES	OMISSION	1.8E-1	2.9E-1	1.1E-1				
1513054	2	COMP	MT	ELECTRICAL EQUIPMENT	TESTS	OMISSION	1.5E-1	2.6E-1	8.4E-2				

APPENDIX A. FUNCTIONAL GROUP SUMMARY CELL LEVEL AGGREGATIONS

Cell Number	Tax Level	Vend EqLv	Job Ttl	Equipment Summary Group	Human Action Verb	Failure Mode	Recovery Considered			Recovery Not Considered		
							HEP	UCB	LCB	HEP	UCB	LCB
1514054	2	COMP	MT	ELECTRIC GENERATORS	TESTS	OMISSION	5.0E-4	5.0E-3	5.0E-5			
1516054	2	COMP	MT	EQUIPMENT - NONSPECIFIC	TESTS	COMMISSION	5.7E-2	8.5E-2	3.9E-2			
1522052	2	COMP	MT	PUMPS	MAINTAINS	COMMISSION	7.2E-2	2.2E-1	2.3E-2			
1524050	2	COMP	MT	SENSORS	CALIBRATES	COMMISSION	7.3E-5	3.7E-4	1.4E-5			
1524054	2	COMP	MT	SENSORS	TESTS	COMMISSION	5.4E-4	1.3E-3	2.2E-4	1.0E-3	1.0E-2	1.0E-4
1529051	2	COMP	MT	VALVES	DIAGNOSES	COMMISSION	1.8E-1	3.6E-1	9.0E-2			
1529052	2	COMP	MT	VALVES	DIAGNOSES	COMMISSION	2.0E-1	3.9E-1	9.8E-2			
1529054	2	COMP	MT	VALVES	MAINTAINS	COMMISSION	5.6E-4	1.8E-3	1.8E-4			
1531054	2	COMP	MT	VALVE OPERATORS	TESTS	COMMISSION	5.1E-3	8.1E-3	3.2E-3			
1600064	3	D/I/C	Subj	QUALITATIVE DISPLAYS	TESTS	OMISSION	5.7E-5	2.9E-4	1.1E-5			
1600066	3	D/I/C	Subj	QUALITATIVE DISPLAYS	IDENTIFIES	COMMISSION	2.8E-3	3.9E-3	2.0E-3			
1600067	3	D/I/C	Subj	QUALITATIVE DISPLAYS	READS	COMMISSION	3.1E-2	5.3E-2	1.8E-2	2.3E-3	4.5E-3	1.2E-3
1600069	3	D/I/C	Subj	QUALITATIVE DISPLAYS	MONITORS	COMMISSION	2.6E-2	4.6E-2	1.5E-2			
1601066	3	D/I/C	Subj	QUANTITATIVE DISPLAYS	DIAGNOSES	COMMISSION	1.2E-3	3.0E-3	4.6E-4			
1601067	3	D/I/C	Subj	QUANTITATIVE DISPLAYS	READS	COMMISSION	2.5E-3	5.9E-3	1.1E-3	1.1E-3	1.9E-3	6.9E-4
1603060	3	D/I/C	Subj	TWO-POSITION SWITCHES	MONITORS	COMMISSION	3.2E-2	5.5E-2	1.9E-2	4.6E-3	7.8E-3	2.7E-3
1603063	3	D/I/C	Subj	TWO-POSITION SWITCHES	POSITIONS	COMMISSION	1.6E-3	4.5E-3	5.6E-4	4.6E-3	1.4E-2	1.6E-3
1605060	3	D/I/C	Subj	MULTIPOSITION SELECTORS	SELECTS	COMMISSION	2.8E-3	1.4E-2	5.5E-4	3.0E-4	3.9E-4	2.3E-4
1606062	3	D/I/C	Subj	CONTINUOUSLY VARIABLE CONTROLS	POSITIONS	COMMISSION	1.2E-3	5.0E-3	3.0E-4	8.4E-3	2.1E-2	3.3E-3
1607070	3	D/I/C	Subj	KEYBOARDS	ADJUSTS	COMMISSION	5.0E-1	1.0E+0	2.5E-1	3.0E-3	9.0E-3	1.0E-3
1615061	3	D/I/C	Subj	PRINTED COMMUNICATIONS	CALCULATES	COMMISSION	7.0E-3	3.0E-2	1.6E-3	1.0E-1	3.0E-1	3.3E-2
1615066	3	D/I/C	Subj	PRINTED COMMUNICATIONS	USES	COMMISSION	5.0E-1	1.0E+0	2.5E-1	2.4E-2	4.7E-2	1.2E-2
1615072	3	D/I/C	Subj	PRINTED COMMUNICATIONS	READS	COMMISSION	7.0E-3	3.0E-2	1.6E-3	5.0E-1	1.0E+0	2.5E-1
1618060	3	D/I/C	Subj	EQUIPMENT - NONSPECIFIC	WRITES	COMMISSION	6.3E-4	1.1E-3	3.6E-4	4.9E-4	8.8E-4	2.8E-4
					POSITIONS	COMMISSION				3.0E-3	5.5E-3	1.6E-3
						COMMISSION				3.0E-3	5.5E-3	1.6E-3
						COMMISSION				6.3E-4	1.1E-3	3.6E-4

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APPENDIX B

EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS
(COMBINED FROM TASK HEPS)

APPENDIX B

INTRODUCTION

Appendix B presents data at the cell level of the matrix taxonomy. Data are combined based on specific equipment and human action verbs. Each data field represented in Appendix B is described below.

CELL NUMBER

Cells are organized in the data structure by taxonomy level, equipment characteristic, and human action. Each cell is identified by a unique number which is composed of seven digits representing three categories (i.e., XXYYZZ), where

- XX = matrix number (e.g., 01 through 16)
- YYY = equipment characteristic identification number (e.g., 000 through 999). (If the last digit of the three-digit number is zero, the data represents a functional group summary cell.)
- ZZ = human action identification number (e.g., 00 - 99)

For example, cell page number 1603363 signifies

- 16 = "Matrix 16"
- 033 = "Push-button (Other)" (equipment associated with HEP)
- 63 = "Select" (human action that was omitted or executed incorrectly).

TAX LEVEL (Taxonomy Level)

Data are classified at one of three levels. Level 1 represents systems, identified with NSSS vendor and duty area combinations. Level 2 represents components, and identifies duty areas. Level 3 represents displays/instruments/controls.

VEND EQLV (Vendor/Equipment Level)

For Level 1 data, NSSS vendor is identified for the source plant. For Levels 2 and 3, "Component," and "Display/Instr/Control" are stated, respectively.

JOB TTL (Job Title)

One of three possible personnel types involved in the HEP:

- CRO = Control Room Operator
- EO = Equipment Operator
- MT = Maintenance Technician.

EQUIPMENT CLASS

The equipment system involved in the HEP. See Appendix D for a complete listing of plant systems.

HUMAN ACTION VERB

The action involved in the probability estimate. See Appendix D for a complete listing of human action verbs.

ERROR TYPE

The HEP failure modes refer to either errors of omission, or errors of commission. An omission error is defined either as a failure to perform the task (or a step within a task), or a failure to perform a task within a stated time period. A commission error occurs when a task is attempted but is not successfully accomplished for any reason.

RECOVERY CONSIDERED

Within the context of the NUCLARR system, recovery considered errors account for actions taken by personnel in the performance of the task to mitigate the error. That is, the HEP reflects the probability of the error occurring in spite of such actions. Recovery considered errors are often observed in situations where some type of corrective action was taken. This data type also includes cases where, even though recovery actions were attempted, it was never feasible to do so after the error was committed.

RECOVERY NOT CONSIDERED

Recovery not considered errors are HEP estimates that have no documented or foreseen evidence that actions were taken to mitigate the consequences of the error. That is, the error simply happened with no attempt at recovery for operator or crew.

The following data fields are presented for both recovery considered and recovery not considered:

MEDIAN

The 50th percentile value of the HEP data distribution, presented in scientific notation.

MEAN

The average probability estimate, presented in scientific notation.

EF (Error Factor)

A value used to assess the characteristics of the data distribution, defined as the UCB divided by the median HEP, presented in scientific notation.

UCB (Upper Confidence Bound)

The statistically determined upper limit of a 90% confidence interval for an HEP estimate. The value is presented in scientific notation.

LCB (Lower Confidence Bound)

The statistically determined lower limit of a 90% confidence interval for an HEP estimate. The value is presented in scientific notation.

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task HEPs)

Cell Number	Tax Level	Vend EqLv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered				
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB
0100201	1	GE	CRO	Instrument Air System	OPERATES	OM COMM						9.2E-2	1.1E-1	3	2.9E-1	2.9E-2
0100202	1	GE	CRO	Instrument Air System	MONITORS	OM COMM						6.0E-2	1.1E-1	6	3.6E-1	1.0E-2
0100203	1	GE	CRO	Instrument Air System	DIAGNOSES	OM COMM						1.6E-2	3.5E-2	8	1.3E-1	1.0E-3
0102101	1	GE	CRO	Communication Systems	OPERATES	OM COMM						2.6E-2	5.7E-2	8	2.0E-1	3.3E-3
0104101	1	GE	CRO	Condensate Systems	OPERATES	OM COMM	7.5E-4	2.0E-3	10	7.5E-3	7.5E-5					
0105101	1	GE	CRO	Containment Systems	OPERATES	OM COMM	4.7E-2	4.7E-2	1	6.4E-2	3.4E-2	3.4E-3	9.0E-3	10	3.2E-2	3.5E-4
0105103	1	GE	CRO	Containment Systems	DIAGNOSES	OM COMM						3.9E-2	5.5E-2	4	1.7E-1	8.9E-3
0105401	1	GE	CRO	Containment Penetration/Isolation System	OPERATES	OM COMM	7.5E-4	2.0E-3	10	7.5E-3	7.5E-5	2.1E-3	2.2E-2	35	7.5E-2	6.0E-5
0105501	1	GE	CRO	Containment Spray (RHR) System	OPERATES	OM COMM	7.5E-4	2.0E-3	10	7.5E-3	7.5E-5					
0105602	1	GE	CRO	Standby Gas Treatment System	MONITORS	OM COMM						1.9E-2	4.1E-2	8	1.5E-1	2.3E-3
0105701	1	GE	CRO	Suppression Pool Support System	OPERATES	OM COMM	8.3E-3	9.1E-3	2	1.4E-2	5.0E-3					
0107101	1	GE	CRO	Control Rod Drive Systems	OPERATES	OM COMM	3.7E-2	4.0E-2	2	6.0E-2	2.3E-2					
0107103	1	GE	CRO	Control Rod Drive Systems	DIAGNOSES	OM COMM						5.7E-3	1.0E-2	6	3.2E-2	1.0E-3
0108101	1	GE	CRO	Electrical Distribution Systems	OPERATES	OM COMM	1.1E-1	1.1E-1	1	1.4E-1	8.1E-2	6.0E-2	1.6E-1	10	6.9E-1	6.0E-3
0108401	1	GE	CRO	Plant AC Distribution System	OPERATES	OM COMM	1.1E-3	1.7E-3	5	5.4E-3	2.1E-4					
0109501	1	GE	CRO	Emergency Core Cooling Systems	OPERATES	OM COMM	8.1E-2	8.8E-2	2	1.3E-1	4.8E-2	1.3E-1	2.9E-1	8	1.0E+0	1.7E-2
0109503	1	GE	CRO	Emergency Core Cooling Systems	DIAGNOSES	OM COMM						1.9E-2	3.0E-2	5	8.7E-2	4.1E-3
0109601	1	GE	CRO	High Pressure Coolant Injection System	OPERATES	OM COMM	6.0E-3	9.7E-3	5	3.0E-2	1.2E-3	3.1E-2	3.9E-2	3	8.8E-2	1.1E-2
0109602	1	GE	CRO	High Pressure Coolant Injection System	MONITORS	OM COMM	7.0E-2	1.0E-1	4	3.1E-1	1.6E-2					
0109701	1	GE	CRO	High Pressure Core Spray System	OPERATES	OM COMM	4.0E-2	8.9E-2	8	3.0E-1	5.3E-3					
0109801	1	GE	CRO	Low Pressure Core Spray System	OPERATES	OM COMM	6.5E-3	7.0E-3	2	1.6E-2	2.6E-3					
0109802	1	GE	CRO	Low Pressure Core Spray System	MONITORS	OM COMM	7.5E-4	2.0E-3	10	7.5E-3	7.5E-5					
0109901	1	GE	CRO	Residual Heat Removal/Low Press Coolant Inject Syst	OPERATES	OM COMM	6.1E-4	8.7E-4	4	2.6E-3	1.4E-4					
0113301	1	GE	CRO	Generator H2 Cooling/CO2 Purge System	OPERATES	OM COMM						6.5E-3	9.3E-3	4	2.5E-2	1.7E-3

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task HEPs)

Cell Number	Tax Level	Vend Eqlv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered				
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB
0114101	1	GE	CRO	Heating, Ventilation & Air Conditioning Systems	OPERATES	OM	3.5E-2	5.6E-2	5	1.8E-1	6.8E-3					
0116101	1	GE	CRO	Reactor Protection System	OPERATES	COMM	2.0E-4	3.2E-4	5	1.0E-3	4.0E-5					
0116901	1	GE	CRO	Neutron Monitoring System	OPERATES	OM	8.0E-4	2.3E-3	11	9.0E-3	7.1E-5					
0117901	1	GE	CRO	Automatic Depressurization System	OPERATES	COMM	9.2E-4	1.3E-3	4	3.6E-3	2.4E-4					
0118201	1	GE	CRO	Feedwater Control System	OPERATES	OM	1.8E-2	2.0E-2	2	3.4E-2	9.2E-3					
0122203	1	GE	CRO	Extraction Steam System	DIAGNOSES	COMM	1.0E-4	2.7E-4	10	1.0E-3						
0123101	1	GE	CRO	Water Systems	OPERATES	OM	7.3E-3	9.1E-3	3	2.0E-2	2.6E-3					
0123203	1	GE	CRO	Circulating Water System	DIAGNOSES	COMM	1.4E-3	3.1E-3	8	1.1E-2	1.8E-4					
0124101	1	GE	CRO	Station Service Water System	OPERATES	OM	7.5E-4	2.0E-3	10	7.5E-3	7.5E-5					
0125101	1	GE	CRO	Reactor Coolant Systems and Connected Systems	OPERATES	COMM	2.6E-3	6.9E-3	10	2.6E-2	2.6E-4					
0125401	1	GE	CRO	Reactor Core Isolation Cooling System	OPERATES	OM	8.1E-2	8.1E-2	1	1.1E-1	6.1E-2					
0125701	1	GE	CRO	Standby Liquid Control System	OPERATES	COMM	1.0E-3	1.6E-3	5	5.0E-3	2.0E-4					
0126101	1	GE	CRO	Standby Diesel Generator Systems	OPERATES	OM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5	2.8E-2	7.5E-2	10	2.8E-1	2.8E-3
0127301	1	GE	CRO	Main Steam System	OPERATES	COMM	4.7E-2	5.2E-2	2	8.4E-2	2.7E-2					
0200211	1	GE	EO	Instrument Air System	OPERATES	OM	1.8E-2	2.0E-2	2	3.4E-2	9.2E-3					
0204113	1	GE	EO	Condensate Systems	OPERATES	COMM	7.5E-4	2.0E-3	10	7.5E-3	7.5E-5					
0205111	1	GE	EO	Containment Systems	MAINTAINS	OM	6.7E-5	1.8E-4	10	6.7E-4	6.6E-6					
0205711	1	GE	EO	Suppression Pool Support System	OPERATES	COMM	4.7E-2	4.7E-2	1	6.4E-2	3.4E-2					
0207111	1	GE	EO	Control Rod Drive Systems	OPERATES	OM	1.8E-2	2.0E-2	2	2.8E-2	1.1E-2					
0208111	1	GE	EO	Electrical Distribution Systems	OPERATES	COMM	1.1E-1	1.2E-1	2	1.8E-1	6.8E-2					
0208113	1	GE	EO	Electrical Distribution Systems	OPERATES	OM	9.0E-2	9.0E-2	1	1.2E-1	6.6E-2					
0208311	1	GE	EO	DC Power System	MAINTAINS	OM	6.3E-2	6.8E-2	2	1.3E-1	3.1E-2					
0208313	1	GE	EO	DC Power System	OPERATES	COMM	2.2E-1	2.5E-1	2	4.8E-1	1.1E-1					
0208314	1	GE	EO	DC Power System	OPERATES	OM	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	5.0E-3	6.2E-3	3	1.5E-2	1.7E-3
					INSPECTS	COMM						4.4E-3	4.8E-3	2	7.7E-3	2.6E-3
						COMM						3.0E-3	3.8E-3	3	9.0E-3	1.0E-3

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task HEPs)

Cell Number	Tax Level	Vend EqLv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered						
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB		
0208411	1	GE	EO	Plant AC Distribution System	OPERATES	OM	1.0E-1	1.3E-1	3	3.0E-1	3.3E-2							
						COMM	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	5.0E-3	5.5E-3	2	1.1E-2	2.3E-3		
0208413	1	GE	EO	Plant AC Distribution System	MAINTAINS	OM	1.0E-1	1.3E-1	3	3.0E-1	3.3E-2							
						COMM						4.4E-3	4.8E-3	2	7.7E-3	2.6E-3		
0208414	1	GE	EO	Plant AC Distribution System	INSPECTS	OM												
						COMM						3.0E-3	3.8E-3	3	9.0E-3	1.0E-3		
0209511	1	GE	EO	Emergency Core Cooling Systems	OPERATES	OM	8.1E-2	8.8E-2	2	1.3E-1	4.8E-2							
						COMM						5.9E-2	6.4E-2	2	1.2E-1	2.9E-2		
0209611	1	GE	EO	High Pressure Coolant Injection System	OPERATES	OM						3.0E-2	1.0E-1	13	3.9E-1	2.3E-3		
						COMM												
0209711	1	GE	EO	High Pressure Core Spray System	OPERATES	OM	1.5E-3	4.0E-3	10	1.5E-2	1.5E-4							
						COMM												
0209811	1	GE	EO	Low Pressure Core Spray System	OPERATES	OM	1.1E-1	1.2E-1	2	2.0E-1	5.5E-2							
						COMM												
0209911	1	GE	EO	Residual Heat Removal/Low Press Coolant Inject Syst	OPERATES	OM	1.1E-2	1.2E-2	2	2.1E-2	5.5E-3							
						COMM												
0218113	1	GE	EO	Containment Atmosphere Monitoring System	MAINTAINS	OM												
						COMM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5							
0218211	1	GE	EO	Feedwater Control System	OPERATES	OM						8.7E-3	1.4E-2	5	4.7E-2	1.6E-3		
						COMM												
0225411	1	GE	EO	Reactor Core Isolation Cooling System	OPERATES	OM	5.6E-2	5.6E-2	1	7.7E-2	4.1E-2							
						COMM												
0226111	1	GE	EO	Standby Diesel Generator Systems	OPERATES	OM	4.7E-2	5.2E-2	2	8.4E-2	2.7E-2							
						COMM												
0227311	1	GE	EO	Main Steam System	OPERATES	OM	1.8E-2	2.0E-2	2	3.4E-2	9.2E-3							
						COMM												
0227313	1	GE	EO	Main Steam System	MAINTAINS	OM	1.3E-2	1.7E-2	3	3.4E-2	5.3E-3							
						COMM												
0231114	1	GE	EO	Process Sampling Systems	INSPECTS	OM						1.2E-2	3.2E-2	10	1.2E-1	1.2E-3		
						COMM												
0304123	1	GE	MT	Condensate Systems	MAINTAINS	OM												
						COMM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6							
0305523	1	GE	MT	Containment Spray (RHR) System	MAINTAINS	OM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6							
						COMM												
0305720	1	GE	MT	Suppression Pool Support System	TESTS	OM	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4							
						COMM												
0307120	1	GE	MT	Control Rod Drive Systems	TESTS	OM	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4							
						COMM												
0308320	1	GE	MT	DC Power System	TESTS	OM						3.4E-3	3.7E-3	2	5.8E-3	2.0E-3		
						COMM												
0308323	1	GE	MT	DC Power System	MAINTAINS	OM						3.4E-3	3.7E-3	2	5.8E-3	2.0E-3		
						COMM												
0308420	1	GE	MT	Plant AC Distribution System	TESTS	OM						3.4E-3	3.7E-3	2	5.8E-3	2.0E-3		
						COMM												
0308423	1	GE	MT	Plant AC Distribution System	MAINTAINS	OM						3.4E-3	3.7E-3	2	5.8E-3	2.0E-3		
						COMM												
0309523	1	GE	MT	Emergency Core Cooling Systems	MAINTAINS	OM												
						COMM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5							

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task NEPs)

Cell Number	Tax Level	Vend EqLv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered					
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB	
0309723	1	GE	MT	High Pressure Core Spray System	MAINTAINS	OH	1.9E-1	2.4E-1	3	6.6E-1	5.7E-2						
0309823	1	GE	MT	Low Pressure Core Spray System	MAINTAINS	OH	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4						
0315120	1	GE	MT	Instrumentation and Control Systems	TESTS	OH											
0315123	1	GE	MT	Instrumentation and Control Systems	MAINTAINS	OH	3.0E-4	8.0E-4	10	3.0E-3	3.0E-5						
0318123	1	GE	MT	Containment Atmosphere Monitoring System	MAINTAINS	OH	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5						
0324123	1	GE	MT	Station Service Water System	MAINTAINS	OH	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5						
0325423	1	GE	MT	Reactor Core Isolation Cooling System	MAINTAINS	OH						1.0E-3	2.7E-3	10	1.0E-2	1.0E-4	
0325720	1	GE	MT	Standby Liquid Control System	TESTS	OH	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6						
0400101	1	WE	CRD	Air Systems	OPERATES	OH	2.2E-3	2.8E-3	3	7.0E-3	7.2E-4						
0400201	1	WE	CRD	Instrument Air System	OPERATES	OH	6.0E-3	1.2E-2	7	4.2E-2	8.6E-4						
0400201	1	WE	CRD	Instrument Air System	OPERATES	OH	8.0E-4	2.1E-3	10	8.0E-3	8.0E-5						
0400202	1	WE	CRD	Instrument Air System	MONITORS	OH						9.2E-2	1.2E-1	3	2.9E-1	2.9E-2	
0400203	1	WE	CRD	Instrument Air System	DIAGNOSES	OH						6.0E-2	1.1E-1	6	3.6E-1	1.0E-2	
0402101	1	WE	CRD	Communication Systems	OPERATES	OH						1.6E-2	3.5E-2	8	1.3E-1	1.9E-3	
0404101	1	WE	CRD	Condensate Systems	OPERATES	OH						2.6E-2	5.7E-2	8	2.0E-1	3.3E-3	
0404102	1	WE	CRD	Condensate Systems	MONITORS	OH	3.0E-2	3.7E-2	3	7.4E-2	1.2E-2						
0405101	1	WE	CRD	Containment Systems	OPERATES	OH	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4						
0405103	1	WE	CRD	Containment Systems	DIAGNOSES	OH	2.7E-3	7.1E-3	10	2.7E-2	2.7E-4						
0406301	1	WE	CRD	Containment Isolation System	OPERATES	OH						2.1E-3	2.2E-2	35	7.5E-2	6.0E-5	
0406400	1	WE	CRD	Containment Spray System	TESTS	OH	2.6E-4	6.9E-4	10	2.6E-3	2.6E-5	3.9E-2	5.5E-2	4	1.7E-1	8.9E-3	
0406401	1	WE	CRD	Containment Spray System	OPERATES	OH						3.1E-5	8.3E-5	10	3.1E-4	3.1E-6	
0406402	1	WE	CRD	Containment Spray System	MONITORS	OH						3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	
0407101	1	WE	CRD	Control Rod Drive Systems	OPERATES	OH	4.9E-4	1.3E-3	10	4.9E-3	4.9E-5	1.5E-3	2.2E-3	4	5.8E-3	4.1E-4	
0407103	1	WE	CRD	Control Rod Drive Systems	DIAGNOSES	OH						3.4E-3	9.0E-3	10	3.2E-2	3.5E-4	
0408101	1	WE	CRD	Electrical Distribution Systems	OPERATES	OH	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	
						OH	1.0E-5	2.7E-5	10	1.0E-4	1.0E-6	5.7E-3	1.0E-2	6	3.2E-2	1.0E-3	

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task HEPs)

Cell Number	Tax Level	Vend EqLv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered					
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB	
0408102	1	WE	CRO	Electrical Distribution Systems	MONITORS	CI	8.0E-3	1.0E-2	3	2.1E-2	3.0E-3						
0408401	1	WE	CRO	Plant AC Distribution System	OPERATES	OM	1.2E-3	4.0E-3	10	1.5E-2	1.5E-4						
0409100	1	WE	CRO	Emergency Core Cooling Systems	TESTS	OM						6.9E-4	1.1E-3	5	3.5E-3	1.4E-4	
0409101	1	WE	CRO	Emergency Core Cooling Systems	OPERATES	OM	2.7E-3	2.9E-3	2	6.1E-3	1.2E-3	3.1E-3	4.4E-3	4	1.2E-2	8.2E-4	
0409102	1	WE	CRO	Emergency Core Cooling Systems	MONITORS	OM	1.0E-2	1.4E-2	4	4.0E-2	2.5E-3	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	
0409103	1	WE	CRO	Emergency Core Cooling Systems	DIAGNOSES	OM	1.0E-2	1.6E-2	5	5.0E-2	2.0E-3						
0409201	1	WE	CRO	High Pressure Safety Injection System	OPERATES	OM	2.1E-3	2.3E-3	2	3.6E-3	1.2E-3	3.5E-3	9.3E-3	10	3.5E-2	3.5E-4	
0409301	1	WE	CRO	Residual Heat Removal/Low Press Safety Inject Syst	OPERATES	OM	2.8E-3	4.5E-3	5	1.4E-2	5.5E-4	3.0E-4	8.0E-4	10	3.0E-3	3.0E-5	
0409303	1	WE	CRO	Residual Heat Removal/Low Press Safety Inject Syst	DIAGNOSES	OM	7.0E-3	1.3E-2	6	4.2E-2	1.0E-3	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	
0411101	1	WE	CRO	Feedwater Systems	OPERATES	OM	7.5E-4	8.2E-4	2	1.8E-3	3.1E-4						
0411102	1	WE	CRO	Feedwater Systems	MONITORS	OM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4						
0411103	1	WE	CRO	Feedwater Systems	DIAGNOSES	OM	5.0E-2	1.3E-1	10	5.0E-1	5.0E-3						
0411201	1	WE	CRO	Auxiliary Feedwater System	OPERATES	OM	8.2E-3	9.0E-3	2	1.8E-2	3.8E-3						
0411202	1	WE	CRO	Auxiliary Feedwater System	MONITORS	OM	2.4E-3	6.4E-3	10	2.4E-2	2.4E-4						
0411203	1	WE	CRO	Auxiliary Feedwater System	DIAGNOSES	OM						1.1E-2	2.9E-2	10	1.1E-1	1.1E-3	
0411301	1	WE	CRO	Main Feedwater System	OPERATES	OM	2.8E-3	4.0E-3	4	1.1E-2	7.5E-4						
0411302	1	WE	CRO	Main Feedwater System	MONITORS	OM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4						
0414103	1	WE	CRO	Heating, Ventilation & Air Conditioning Systems	DIAGNOSES	OM						6.0E-4	1.6E-3	10	6.0E-3	6.0E-5	
0415101	1	WE	CRO	Instrumentation and Control Systems	OPERATES	OM	6.6E-3	7.2E-3	2	1.2E-2	3.5E-3						
0415102	1	WE	CRO	Instrumentation and Control Systems	MONITORS	OM	4.6E-3	5.0E-3	2	9.2E-3	2.3E-3						
0415103	1	WE	CRO	Instrumentation and Control Systems	DIAGNOSES	OM	8.3E-3	9.1E-3	2	1.9E-2	3.7E-3						
0415301	1	WE	CRO	Engineered Safeguards Actuation and Logic System	OPERATES	OM	2.2E-2	2.4E-2	2	4.8E-2	1.0E-2						
0415701	1	WE	CRO	Pressurizer Level Control System	OPERATES	OM	1.2E-2	1.9E-2	5	6.0E-2	2.3E-3						
0415801	1	WE	CRO	Pressurizer Pressure Control System	OPERATES	OM	6.5E-3	8.2E-3	3	1.8E-2	2.3E-3						

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task REPs)

Cell Number	Tax Level	Vend EqLv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered				
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB
0415802	1	WE	CRO	Pressurizer Pressure Control System	MONITORS	OM	2.0E-3	5.3E-3	10	2.0E-2	2.0E-4					
0416101	1	WE	CRO	Reactor Protection System	OPERATES	OM	3.9E-4	6.3E-4	5	2.0E-3	7.7E-5					
0416601	1	WE	CRO	Steam Generator Water Level Control System	OPERATES	OM	4.0E-3	8.9E-3	8	3.2E-2	5.0E-4					
0416602	1	WE	CRO	Steam Generator Water Level Control System	MONITORS	OM	7.0E-3	1.0E-2	4	2.8E-2	1.8E-3					
0416603	1	WE	CRO	Steam Generator Water Level Control System	DIAGNOSES	OM	8.9E-5	1.4E-4	5	4.5E-4	1.7E-5					
0420101	1	WE	CRO	Reactor Coolant Systems	OPERATES	OM	1.4E-2	1.5E-2	2	2.5E-2	7.7E-3					
0420102	1	WE	CRO	Reactor Coolant Systems	MONITORS	OM	2.1E-3	2.3E-3	2	5.1E-3	8.7E-4					
0420103	1	WE	CRO	Reactor Coolant Systems	DIAGNOSES	OM	8.4E-3	1.2E-2	4	3.6E-2	2.0E-3					
0420301	1	WE	CRO	Chemical And Volume Control System	OPERATES	OM	2.8E-3	3.4E-3	3	8.7E-3	8.7E-4					
0420303	1	WE	CRO	Chemical And Volume Control System	DIAGNOSES	OM	9.3E-3	2.5E-2	10	9.3E-2	9.3E-4					
0421301	1	WE	CRO	Spent Fuel Pit Cooling System	OPERATES	OM	1.9E-4	5.1E-4	10	1.9E-3	1.9E-5					
0422101	1	WE	CRO	Turbine Systems	OPERATES	OM	3.8E-4	1.0E-3	10	3.8E-3	3.8E-5					
0422103	1	WE	CRO	Turbine Systems	DIAGNOSES	OM	1.0E-3	2.7E-3	10	1.0E-2	1.0E-4					
0422202	1	WE	CRO	Extraction Steam System	MONITORS	OM						1.9E-2	4.1E-2	8	1.5E-1	2.3E-3
0423301	1	WE	CRO	Component Cooling Water System	OPERATES	OM	2.1E-3	3.0E-3	4	8.1E-3	5.4E-4					
0423501	1	WE	CRO	Nuclear Service Water System	OPERATES	OM	5.9E-2	1.6E-1	10	5.9E-1	5.9E-3					
0427101	1	WE	CRO	Main Steam System	OPERATES	OM	2.8E-3	3.5E-3	3	8.0E-3	1.0E-3					
0504113	1	WE	EO	Condensate Systems	MAINTAINS	OM	1.5E-5	2.4E-3	5	7.6E-3	2.9E-4					
0506113	1	WE	EO	Containment/Reactor Building Penetration System	MAINTAINS	OM	5.7E-5	1.8E-4	10	6.7E-4	6.6E-6					
0508311	1	WE	EO	DC Power System	OPERATES	OM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5					
0508313	1	WE	EO	DC Power System	MAINTAINS	OM	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	5.0E-3	6.2E-3	3	1.5E-2	1.7E-3
0508314	1	WE	EO	DC Power System	INSPECTS	OM						4.2E-3	4.6E-3	2	8.0E-3	2.3E-3
0508411	1	WE	EO	Plant AC Distribution System	OPERATES	OM	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	3.0E-3	3.8E-3	3	9.0E-3	1.0E-3
0506413	1	WE	EO	Plant AC Distribution System	MAINTAINS	OM	1.0E-1	1.3E-1	3	3.0E-1	3.3E-2	5.0E-3	6.2E-3	3	1.5E-2	1.7E-3
						COMM	1.0E-1	1.3E-1	3	3.0E-1	3.3E-2	4.2E-3	4.6E-3	2	8.0E-3	2.3E-3

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task REPs)

Cell Number	Tax Level	Vend EqLV	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered							
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB			
0508414	1	WE	EO	Plant AC Distribution System	INSPECTS	OM													
						COMM													
0509111	1	WE	EO	Emergency Core Cooling Systems	OPERATES	OM													
						COMM													
0509113	1	WE	EO	Emergency Core Cooling Systems	MAINTAINS	OM													
						COMM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6								
0511113	1	WE	EO	Feedwater Systems	MAINTAINS	OM													
						COMM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6								
0520111	1	WE	EO	Reactor Coolant Systems	OPERATES	OM													
						COMM													
0531114	1	WE	EO	Process Sampling Systems	INSPECTS	OM													
						COMM													
0604123	1	WE	MT	Condensate Systems	MAINTAINS	OM													
						COMM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6								
0605123	1	WE	MT	Containment Systems	MAINTAINS	OM													
						COMM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5								
0606420	1	WE	MT	Containment Spray System	TESTS	OM													
						COMM	1.0E-3	2.7E-3	10	1.0E-2	1.0E-4								
0606423	1	WE	MT	Containment Spray System	MAINTAINS	OM													
						COMM													
0608320	1	WE	MT	DC Power System	TESTS	OM													
						COMM													
0608321	1	WE	MT	DC Power System	CHECKS	OM													
						COMM													
0608323	1	WE	MT	DC Power System	MAINTAINS	OM													
						COMM													
0608420	1	WE	MT	Plant AC Distribution System	TESTS	OM													
						COMM													
0608421	1	WE	MT	Plant AC Distribution System	CHECKS	OM													
						COMM													
0608423	1	WE	MT	Plant AC Distribution System	MAINTAINS	OM													
						COMM													
0609123	1	WE	MT	Emergency Core Cooling Systems	MAINTAINS	OM	1.9E-5	3.1E-5	5	1.0E-4	3.7E-6								
						COMM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5								
0609320	1	WE	MT	Residual Heat Removal/Low Press Safety Inject Syst	TESTS	OM	1.1E-5	2.9E-5	10	1.1E-4	1.1E-6								
						COMM													
0611123	1	WE	MT	Feedwater Systems	MAINTAINS	OM													
						COMM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5								
0615323	1	WE	MT	Engineered Safeguards Actuation and Logic System	MAINTAINS	OM	4.9E-5	1.3E-4	10	4.9E-4	4.9E-6								
						COMM	1.2E-3	3.2E-3	10	1.2E-2	1.2E-4								
0623320	1	WE	MT	Component Cooling Water System	TESTS	OM	3.8E-5	1.0E-4	10	3.8E-4	3.8E-6								
						COMM													
0623520	1	WE	MT	Nuclear Service Water System	TESTS	OM	5.7E-5	9.3E-5	5	2.9E-4	1.1E-5								
						COMM													
0700201	1	CE	CRO	Instrument Air System	OPERATES	OM													
						COMM													
0700202	1	CE	CRO	Instrument Air System	MONITORS	OM													
						COMM													

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Table HEPs)

Cell Number	Tax Level	Vend EqLv	Jib Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered				
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB
0700203	1	CE	CRO	Instrument Air System	DIAGNOSES	OM COMM						1.6E-2	3.5E-2	8	1.3E-1	1.9E-3
0702101	1	CE	CRO	Communication Systems	OPERATES	OM COMM						2.6E-2	5.7E-2	8	2.3E-1	3.3E-3
0704101	1	CE	CRO	Condensate Systems	OPERATES	OM COMM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4					
0704102	1	CE	CRO	Condensate Systems	MONITORS	OM COMM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4					
0705101	1	CE	CRO	Containment Systems	OPERATES	OM COMM						2.1E-3	2.2E-2	35	7.5E-2	6.0E-5
0705103	1	CE	CRO	Containment Systems	DIAGNOSES	OM COMM						3.9E-2	5.5E-2	4	1.7E-1	8.9E-3
0706401	1	CE	CRO	Containment Spray System	OPERATES	OM COMM						3.4E-3	9.0E-3	10	3.2E-2	3.5E-4
0708501	1	CE	CRO	Plant AC Power System	OPERATES	OM COMM	1.5E-3	4.0E-3	10	1.5E-2	1.5E-4					
0709100	1	CE	CRO	Emergency Core Cooling Systems	TESTS	OM COMM						3.0E-3	8.0E-3	10	3.0E-2	3.0E-4
0709101	1	CE	CRO	Emergency Core Cooling Systems	OPERATES	OM COMM	1.0E-2	2.7E-2	10	1.0E-1	1.0E-3	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4
0709102	1	CE	CRO	Emergency Core Cooling Systems	MONITORS	OM COMM						1.9E-2	3.0E-2	5	8.7E-2	4.1E-3
0709103	1	CE	CRO	Emergency Core Cooling Systems	DIAGNOSES	OM COMM						3.0E-3	8.0E-3	10	3.0E-2	3.0E-4
0709201	1	CE	CRO	High Pressure Safety Injection System	OPERATES	OM COMM	2.7E-3	4.4E-3	5	1.4E-2	5.4E-4					
0711101	1	CE	CRO	Feedwater Systems	OPERATES	OM COMM	6.6E-3	1.1E-2	5	3.3E-2	1.3E-3					
0711102	1	CE	CRO	Feedwater Systems	MONITORS	OM COMM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4					
0711301	1	CE	CRO	Main Feedwater System	OPERATES	OM COMM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4					
0711302	1	CE	CRO	Main Feedwater System	MONITORS	OM COMM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4					
0711401	1	CE	CRO	Auxiliary/Emergency Feedwater System	OPERATES	OM COMM	3.4E-2	4.9E-2	4	1.3E-1	9.1E-3					
0720301	1	CE	CRO	Chemical And Volume Control System	OPERATES	OM COMM	5.0E-2	1.3E-1	10	5.0E-1	5.0E-3					
0722202	1	CE	CRO	Extraction Steam System	MONITORS	OM COMM						1.9E-2	4.1E-2	8	1.5E-1	2.3E-3
0723101	1	CE	CRO	Water Systems	OPERATES	OM COMM	1.0E-1	2.7E-1	10	1.0E+0	1.0E-2					
0804113	1	CE	EO	Condensate Systems	MAINTAINS	OM COMM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6					
0805113	1	CE	EO	Containment Systems	MAINTAINS	OM COMM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5					
0808311	1	CE	EO	DC Power System	OPERATES	OM COMM	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	5.0E-3	6.2E-2	3	1.5E-2	1.7E-3

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task HEPs)

Cell Number	Tax Level	Vend Eqlv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered				
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB
0808313	1	CE	EO	DC Power System	MAINTAINS	OM						4.2E-3	4.6E-3	2	8.0E-3	2.3E-3
						COMM										
0808314	1	CE	EO	DC Power System	INSPECTS	OM						3.0E-3	3.8E-3	3	9.0E-3	1.0E-3
						COMM										
0808511	1	CE	EO	Plant AC Power System	OPERATES	OM	3.2E-2	4.5E-2	4	1.1E-1	8.8E-3	5.0E-3	6.2E-3	3	1.5E-2	1.7E-3
						COMM	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4					
0808513	1	CE	EO	Plant AC Power System	MAINTAINS	OM	1.0E-1	1.5E-1	3	3.0E-1	3.3E-2	4.2E-3	4.6E-3	2	8.0E-3	2.3E-3
						COMM										
0808514	1	CE	EO	Plant AC Power System	INSPECTS	OM						3.0E-3	3.8E-3	3	9.0E-3	1.0E-3
						COMM										
0809111	1	CE	EO	Emergency Core Cooling Systems	OPERATES	OM						5.9E-2	6.4E-2	2	1.2E-1	2.9E-2
						COMM										
0809113	1	CE	EO	Emergency Core Cooling Systems	MAINTAINS	OM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6					
						COMM										
0811113	1	CE	EO	Feedwater Systems	MAINTAINS	OM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5					
						COMM										
0820111	1	CE	EO	Reactor Coolant Systems	OPERATES	OM						8.7E-3	1.4E-2	5	4.7E-2	1.6E-3
						COMM										
0829113	1	CE	EO	Main Steam System	MAINTAINS	OM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5					
						COMM										
0831114	1	CE	FO	Process Sampling Systems	INSPECTS	OM						1.2E-2	3.2E-2	10	1.2E-1	1.2E-3
						COMM										
0904123	1	CE	MT	Condensate Systems	MAINTAINS	OM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6					
						COMM										
0905123	1	CE	MT	Containment Systems	MAINTAINS	OM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5					
						COMM										
0908320	1	CE	MT	DC Power System	TESTS	OM						3.4E-3	3.7E-3	2	5.8E-3	2.0E-3
						COMM										
0908321	1	CE	MT	DC Power System	CHECKS	OM						5.0E-3	6.2E-3	3	1.5E-2	1.7E-3
						COMM										
0908323	1	CE	MT	DC Power System	MAINTAINS	OM						3.7E-3	4.0E-3	2	6.0E-3	2.2E-3
						COMM										
0908520	1	CE	MT	Plant AC Power System	TESTS	OM	5.0E-4	1.3E-3	10	5.0E-3	5.0E-5	3.4E-3	3.7E-3	2	5.8E-3	2.0E-3
						COMM										
0908521	1	CE	MT	Plant AC Power System	CHECKS	OM						5.0E-3	6.2E-3	3	1.5E-2	1.7E-3
						COMM										
0908523	1	CE	MT	Plant AC Power System	MAINTAINS	OM	5.0E-3	1.3E-2	10	5.0E-2	5.0E-4	3.7E-3	4.0E-3	2	6.0E-3	2.2E-3
						COMM										
0909123	1	CE	MT	Emergency Core Cooling Systems	MAINTAINS	OM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6					
						COMM										
0911123	1	CE	MT	Feedwater Systems	MAINTAINS	OM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6					
						COMM										
0911420	1	CE	MT	Auxiliary/Emergency Feedwater System	TESTS	OM	2.0E-4	5.3E-4	10	2.0E-3	2.0E-5					
						COMM										
0911423	1	CE	MT	Auxiliary/Emergency Feedwater System	MAINTAINS	OM	2.0E-2	3.2E-2	5	1.0E-1	3.9E-3					
						COMM										
0929123	1	CE	MT	Main Steam System	MAINTAINS	OM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5					
						COMM										

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APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task HEPs)

Cell Number	Tax Level	Vend EqLv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered					
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB	
1000101	1	BW	CRO	Air Systems	OPERATES	OM	1.9E-2	3.1E-2	5	9.8E-2	3.8E-3						
1000201	1	BW	CRO	Instrument Air System	OPERATES	COMM											
1000202	1	BW	CRO	Instrument Air System	MONITORS	COMM	4.0E-2	1.1E-1	10	4.0E-1	4.0E-3	9.2E-2	1.1E-1	3	2.9E-1	2.9E-2	
1000203	1	BW	CRO	Instrument Air System	DIAGNOSES	COMM						6.0E-2	1.1E-1	6	3.6E-1	1.0E-2	
1002101	1	BW	CRO	Communication Systems	OPERATES	COMM						1.6E-2	3.5E-2	8	1.3E-1	1.9E-3	
1004101	1	BW	CRO	Condensate Systems	OPERATES	COMM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4	2.6E-2	5.7E-2	8	2.0E-1	3.3E-3	
1004102	1	BW	CRO	Condensate Systems	MONITORS	COMM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4						
1005101	1	BW	CRO	Containment Systems	OPERATES	COMM						2.1E-3	2.2E-2	35	7.5E-2	6.0E-5	
1005103	1	BW	CRO	Containment Systems	DIAGNOSES	COMM						3.9E-2	5.5E-2	4	1.7E-1	8.9E-3	
1006801	1	BW	CRO	Reactor Building Spray System	OPERATES	OP	5.0E-1	5.0E-1	1	5.0E-1	5.0E-1						
1007103	1	BW	CRO	Control Rod Drive Systems	DIAGNOSES	COMM						5.7E-3	1.0E-2	6	3.2E-2	1.0E-3	
1008501	1	BW	CRO	Plant AC Power System	OPERATES	COMM	1.5E-3	4.0E-3	10	1.5E-2	1.5E-4						
1009100	1	BW	CRO	Emergency Core Cooling Systems	TESTS	COMM						3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	
1009101	1	BW	CRO	Emergency Core Cooling Systems	OPERATES	COMM	5.0E-1	5.0E-1	1	5.0E-1	5.0E-1	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	
1009102	1	BW	CRO	Emergency Core Cooling Systems	MONITORS	COMM						1.9E-2	3.0E-2	5	8.7E-2	4.1E-3	
1009103	1	BW	CRO	Emergency Core Cooling Systems	DIAGNOSES	COMM						3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	
1009201	1	BW	CRO	High Pressure Safety Injection System	OPERATES	COMM	1.3E-2	1.4E-2	2	3.1E-2	5.3E-3	3.2E-2	4.0E-2	3	8.9E-2	1.2E-2	
1009301	1	BW	CRO	Decay Heat Removal/Core Flooding System	OPERATES	COMM	5.0E-2	1.3E-1	10	5.0E-1	5.0E-3						
1009401	1	BW	CRO	Decay Heat Removal/Low Press Safety Inject System	OPERATES	COMM	1.0E-1	1.3E-1	3	3.0E-1	3.3E-2						
1011101	1	BW	CRO	Feedwater Systems	OPERATES	COMM	3.9E-3	6.3E-3	5	2.0E-2	7.6E-4						
1011102	1	BW	CRO	Feedwater Systems	OPERATES	COMM	2.1E-3	3.3E-3	5	1.1E-2	4.1E-4						
1011301	1	BW	CRO	Main Feedwater System	MONITORS	COMM	2.5E-1	2.7E-1	2	4.1E-1	1.5E-1						
1011302	1	BW	CRO	Main Feedwater System	MONITORS	COMM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4						
1011401	1	BW	CRO	Emergency Feedwater System	OPERATES	COMM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4						
						COMM	1.0E-2	2.7E-2	10	1.0E-1	1.0E-3						
						COMM	1.0E-1	2.7E-1	10	1.0E+0	1.0E-2						

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APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (Combined from Task HEPs)

Cell Number	Tax Level	Vend Eqlv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered					
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB	
1023101	1	BW	CRO	Water Systems	OPERATES	OM	1.0E-3	2.7E-3	10	1.0E-2	1.0E-4						
						COMM											
1023601	1	BW	CRO	Low Pressure Service Water System	OPERATES	OM	1.3E-2	3.5E-2	10	1.3E-1	1.3E-3						
						COMM											
1104113	1	BW	EO	Condensate Systems	MAINTAINS	OM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6						
						COMM											
1105113	1	BW	EO	Containment Systems	MAINTAINS	OM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5						
						COMM											
1108311	1	BW	EO	DC Power System	OPERATES	OM	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4	5.0E-3	6.2E-3	3	1.5E-2	1.7E-3	
						COMM											
1108313	1	BW	EO	DC Power System	MAINTAINS	OM						4.2E-3	4.6E-3	2	8.0E-3	2.3E-3	
						COMM											
1108314	1	BW	EO	DC Power System	INSPECTS	OM						3.0E-3	3.8E-3	3	9.0E-3	1.0E-3	
						COMM											
1108511	1	BW	EO	Plant AC Power System	OPERATES	OM	1.0E-1	1.3E-1	3	3.0E-1	3.3E-2	5.0E-3	6.2E-3	3	1.5E-2	1.7E-3	
						COMM	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4						
1108513	1	BW	EO	Plant AC Power System	MAINTAINS	OM	1.0E-1	1.3E-1	3	3.0E-1	3.3E-2	4.2E-3	4.6E-3	2	8.0E-3	2.3E-3	
						COMM											
1108514	1	BW	EO	Plant AC Power System	INSPECTS	OM						3.0E-3	3.8E-3	3	9.0E-3	1.0E-3	
						COMM											
1109111	1	BW	EO	Emergency Core Cooling Systems	OPERATES	OM						5.9E-2	6.4E-2	2	1.2E-1	2.9E-2	
						COMM											
1109113	1	BW	EO	Emergency Core Cooling Systems	MAINTAINS	OM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5	3.0E-3	3.8E-3	3	9.0E-3	1.0E-3	
						COMM											
1109411	1	BW	EO	Decay Heat Removal/Low Press Safety Inject System	OPERATES	OM											
						COMM											
1111113	1	BW	EO	Feedwater Systems	MAINTAINS	OM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6						
						COMM											
1118313	1	BW	EO	Safety Features Actuation System	MAINTAINS	OM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5						
						COMM											
1120111	1	BW	EO	Reactor Coolant Systems	OPERATES	OM						8.7E-3	1.4E-2	5	4.7E-2	1.6E-3	
						COMM											
1130113	1	BW	EO	Steam Systems	MAINTAINS	OM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5						
						COMM											
1131114	1	BW	EO	Process Sampling Systems	INSPECTS	OM						1.2E-2	3.2E-2	10	1.2E-1	1.2E-3	
						COMM											
1204123	1	BW	MT	Condensate Systems	MAINTAINS	OM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6						
						COMM											
1205123	1	BW	MT	Containment Systems	MAINTAINS	OM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5						
						COMM											
1208320	1	BW	MT	DC Power System	TESTS	OM						3.4E-3	3.7E-3	2	5.8E-3	2.0E-3	
						COMM											
1208321	1	BW	MT	DC Power System	CHECKS	OM						5.0E-3	6.2E-3	3	1.5E-2	1.7E-3	
						COMM											
1208323	1	BW	MT	DC Power System	MAINTAINS	OM						3.7E-3	4.0E-3	2	6.0E-3	2.2E-3	
						COMM											
1208520	1	BW	MT	Plant AC Power System	TESTS	OM						3.4E-3	3.7E-3	2	5.8E-3	2.0E-3	
						COMM											

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task HEPs)

Cell Number	Tax Level	Vend Eqlv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered				
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB
1208521	1	BW	MT	Plant AC Power System	CHECKS	OM COMM						5.0E-3	6.2E-3	3	1.5E-2	1.7E-3
1208523	1	BW	MT	Plant AC Power System	MAINTAINS	OM COMM						3.7E-3	4.0E-3	2	6.0E-3	2.2E-3
1209123	1	BW	MT	Emergency Core Cooling Systems	MAINTAINS	OM COMM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6					
1211123	1	BW	MT	Feedwater Systems	MAINTAINS	OM COMM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6					
1218323	1	BW	MT	Safety Features Actuation System	MAINTAINS	OM COMM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5					
1230123	1	BW	MT	Steam Systems	MAINTAINS	OM COMM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5					
1304232	2	COMP	CRO	Circuit Breaker	OPERATES	OM COMM	2.4E-3	6.4E-3	10	2.4E-2	2.4E-4					
1304234	2	COMP	CRO	Circuit Breaker	OPENS/CLOSES	OM COMM	2.2E-2	2.8E-2	3	7.0E-2	7.1E-3	5.0E-3	5.5E-3	2	9.5E-3	2.7E-3
1304632	2	COMP	CRO	Switch	OPERATES	OM COMM	6.8E-3	1.1E-2	5	3.5E-2	1.3E-3					
1304734	2	COMP	CRO	Switchgear	OPENS/CLOSES	OM COMM	1.5E-3	4.0E-3	10	1.5E-2	1.5E-4					
1306132	2	COMP	CRO	Control Instruments	OPERATES	OM COMM	1.1E-3	2.9E-3	10	1.1E-2	1.1E-4					
1306231	2	COMP	CRO	Flow Control Instrument	MONITORS	OM COMM						1.3E-1	1.5E-1	2	2.4E-1	7.4E-2
1306331	2	COMP	CRO	Flux Control Instrument	MONITORS	OM COMM						1.3E-1	1.5E-1	2	2.4E-1	7.4E-2
1306332	2	COMP	CRO	Flux Control Instrument	OPERATES	OM COMM	1.0E-3	2.7E-3	10	1.0E-2	1.0E-4					
1306431	2	COMP	CRO	Level Control Instrument	MONITORS	OM COMM						1.3E-1	1.5E-1	2	2.4E-1	7.4E-2
1306631	2	COMP	CRO	Pressure Control Instrument	MONITORS	OM COMM						1.3E-1	1.5E-1	2	2.4E-1	7.4E-2
1309132	2	COMP	CRO	Control Rod Drive Mechanisms	OPERATES	OM COMM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5	3.0E-4	4.1E-4	7	2.0E-3	4.5E-5
1313135	2	COMP	CRO	Electrical Equipment	STARTS/STOPS	OM COMM	1.1E-3	1.8E-3	5	5.6E-3	2.2E-4					
1322132	2	COMP	CRO	Pumps	OPERATES	OM COMM	3.8E-2	5.5E-2	4	1.5E-1	1.0E-2					
1322135	2	COMP	CRO	Pumps	STARTS/STOPS	OM COMM	1.6E-2	2.6E-2	5	8.2E-2	3.2E-3					
1322235	2	COMP	CRO	Centrifugal Pump	STARTS/STOPS	OM COMM	6.3E-4	1.0E-3	5	3.2E-3	1.2E-4					
1327132	2	COMP	CRO	Steam Generators	STARTS/STOPS	OM COMM	1.0E-3	1.3E-3	3	3.3E-3	3.3E-4					
1328132	2	COMP	CRO	Turbines	OPERATES	OM COMM	3.4E-3	9.1E-3	10	3.4E-2	3.4E-4					
1328132	2	COMP	CRO	Turbines	OPERATES	OM COMM	6.4E-3	9.2E-3	4	2.4E-2	1.7E-3					
1329131	2	COMP	CRO	Valves	MONITORS	OM COMM	4.3E-3	1.1E-2	10	4.3E-2	4.3E-4					

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task NEPs)

Cell Number	Tax Level	Vend EqLv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered				
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB
1329132	2	COMP	CRO	Valves	OPERATES	OM	2.7E-3	4.4E-3	6	1.4E-2	5.4E-4	3.1E-3	5.1E-3	5	1.6E-2	6.2E-4
1329134	2	COMP	CRO	Valves	OPENS/CLOSES	OM	9.8E-2	1.2E-1	3	3.1E-1	3.1E-2	1.1E-4	1.8E-4	5	5.8E-4	2.2E-5
1330234	2	COMP	CRO	Relief Valve	OPENS/CLOSES	OM	1.0E-5	2.7E-5	10	1.0E-4	1.0E-6	3.0E-4	8.0E-4	10	3.0E-3	3.0E-5
1331132	2	COMP	CRO	Valve Operators	OPERATES	OM	5.9E-2	1.6E-1	10	5.9E-1	5.9E-3					
1331232	2	COMP	CRO	Electric Motor-AC	OPERATES	OM	8.0E-3	8.7E-3	2	1.5E-2	4.3E-3					
1404241	2	COMP	EO	Circuit Breaker	INSPECTS	OM	1.5E-3	4.0E-3	10	1.5E-2	1.5E-4					
1404241	2	COMP	EO	Circuit Breaker	INSPECTS	OM	2.5E-1	3.6E-1	4	1.0E+0	5.0E-2					
1404244	2	COMP	EO	Circuit Breaker	OPENS/CLOSES	OM	1.0E-2	1.5E-2	4	3.8E-2	2.9E-3					
1404444	2	COMP	EO	Disconnect	OPENS/CLOSES	OM	3.0E-3	6.0E-3	7	2.0E-2	4.5E-4	8.7E-3	9.5E-3	2	1.9E-2	4.0E-3
1406242	2	COMP	EO	Flow Control Instrument	OPERATES	OM						3.0E-3	3.8E-3	3	9.0E-3	1.0E-3
1406442	2	COMP	EO	Level Control Instrument	OPERATES	OM						6.8E-3	2.1E-2	12	8.3E-2	5.5E-4
1406642	2	COMP	EO	Pressure Control Instrument	OPERATES	OM						6.8E-3	2.1E-2	12	8.3E-2	5.5E-4
1406842	2	COMP	EO	Temperature Control Instrument	OPERATES	OM						6.8E-3	2.1E-2	12	8.3E-2	5.5E-4
1413142	2	COMP	EO	Electrical Equipment	OPERATES	OM	2.3E-1	2.5E-1	2	4.8E-1	1.1E-1					
1414442	2	COMP	EO	Generator	OPERATES	OM	1.0E-2	2.7E-2	10	1.0E-1	1.0E-3					
1422241	2	COMP	EO	Centrifugal Pump	INSPECTS	OM	1.5E-3	4.0E-3	10	1.5E-2	1.5E-4					
1422245	2	COMP	EO	Centrifugal Pump	STARTS/STOPS	OM	3.0E-2	4.8E-2	5	1.5E-1	6.0E-3					
1424841	2	COMP	EO	Level Sensor	INSPECTS	OM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6					
1429141	2	COMP	EO	Valves	INSPECTS	OM	3.0E-3	1.0E-2	13	4.0E-2	2.3E-4					
1429142	2	COMP	EO	Valves	OPERATES	OM	3.0E-2	1.0E-1	13	3.9E-1	2.3E-3					
1429144	2	COMP	EO	Valves	OPENS/CLOSES	OM	1.0E-1	1.3E-1	3	3.0E-1	3.3E-2					
1429742	2	COMP	EO	Gate Valve	OPERATES	OM	2.8E-3	4.6E-3	5	1.4E-2	5.5E-4					
1429744	2	COMP	EO	Gate Valve	OPERATES	OM	1.3E-3	1.4E-3	2	3.1E-3	5.6E-4					
1431242	2	COMP	EO	Electric Motor-AC	OPENS/CLOSES	OM	1.1E-2	1.4E-2	3	2.9E-2	4.5E-3					
1431642	2	COMP	EO	Pneumatic	OPERATES	OM	1.5E-3	4.0E-3	10	1.5E-2	1.5E-4					
					OPERATES	OM						3.0E-2	7.3E-2	9	2.7E-1	3.3E-3

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APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task HEPs)

Cell Number	Tax Level	Vend EqLV	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered						
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB		
1433141	2	COMP	EO	Vessels/Tanks	INSPECTS	OM												
1504252	2	COMP	MT	Circuit Breaker	MAINTAINS	COMM	2.5E-5	6.7E-5	10	2.5E-4	2.5E-6							
1504253	2	COMP	MT	Circuit Breaker	REPAIRS	COMM						5.0E-3	5.5E-3	2	9.5E-3	2.7E-3		
1504254	2	COMP	MT	Circuit Breaker	TESTS	COMM	7.5E-4	2.0E-3	10	7.5E-3	7.5E-5	5.0E-3	5.5E-3	2	9.5E-3	2.7E-3		
1504452	2	COMP	MT	Disconnect	MAINTAINS	COMM						5.0E-3	5.5E-3	2	9.5E-3	2.7E-3		
1504453	2	COMP	MT	Disconnect	REPAIRS	COMM						3.0E-3	3.8E-3	3	9.0E-3	1.0E-3		
1504454	2	COMP	MT	Disconnect	TESTS	COMM						3.0E-3	3.8E-3	3	9.0E-3	1.0E-3		
1504654	2	COMP	MT	Switch	TESTS	COMM	1.5E-2	1.8E-2	3	4.0E-2	5.4E-3	3.0E-3	3.8E-3	3	9.0E-3	1.0E-3		
1506250	2	COMP	MT	Flow Control Instrument	CALIBRATES	COMM						3.0E-2	6.1E-2	7	2.0E-1	4.6E-3		
1506251	2	COMP	MT	Flow Control Instrument	DIAGNOSES	COMM	7.6E-2	8.3E-2	2	1.5E-1	3.8E-2							
1506450	2	COMP	MT	Level Control Instrument	CALIBRATES	COMM						3.0E-2	6.1E-2	7	2.0E-1	4.6E-3		
1506650	2	COMP	MT	Pressure Control Instrument	CALIBRATES	COMM	1.0E-4	2.7E-4	10	1.0E-3	1.0E-5	3.0E-2	6.1E-2	7	2.0E-1	4.6E-3		
1506850	2	COMP	MT	Temperature Control Instrument	CALIBRATES	COMM						3.0E-2	6.1E-2	7	2.0E-1	4.6E-3		
1506951	2	COMP	MT	Voltage Control Instrument	DIAGNOSES	COMM	1.7E-1	1.9E-1	2	3.4E-1	8.5E-2							
1513150	2	COMP	MT	Electrical Equipment	CALIBRATES	COMM	1.5E-1	1.7E-1	2	3.1E-1	7.7E-2							
1513151	2	COMP	MT	Electrical Equipment	DIAGNOSES	COMM	1.8E-1	1.9E-1	2	2.9E-1	1.1E-1							
1513154	2	COMP	MT	Electrical Equipment	TESTS	COMM	1.5E-1	1.6E-1	2	2.6E-1	8.4E-2							
1514454	2	COMP	MT	Generator	TESTS	COMM	5.0E-4	1.3E-3	10	5.0E-3	5.0E-5							
1516154	2	COMP	MT	Equipment - Nonspecific	TESTS	COMM	5.7E-2	5.7E-2	1	8.5E-2	3.9E-2							
1522152	2	COMP	MT	Pumps	MAINTAINS	COMM	7.2E-2	9.0E-2	3	2.2E-1	2.3E-2							
1524150	2	COMP	MT	Sensors	CALIBRATES	COMM						1.0E-3	2.7E-3	10	1.0E-2	1.0E-4		
1524154	2	COMP	MT	Sensors	TESTS	COMM	1.8E-1	2.0E-1	2	3.6E-1	9.0E-2							
1524850	2	COMP	MT	Level Sensor	CALIBRATES	COMM	1.1E-4	2.9E-4	10	1.1E-3	1.1E-5							
1525150	2	COMP	MT	Pressure Sensor	CALIBRATES	COMM	8.7E-5	1.4E-4	5	4.4E-4	1.7E-5							
						COMM	4.9E-5	1.3E-4	10	4.9E-4	4.9E-6							
						COMM	1.3E-3	1.7E-3	3	3.9E-3	4.6E-4							

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APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task HEPs)

Cell Number	Tax Level	Vend EqLv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered					
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB	
1529151	2	COMP	MT	Valves	DIAGNOSES	OH	2.0E-1	2.1E-1	2	3.9E-1	9.8E-2						
						COMM											
1529152	2	COMP	MT	Valves	MAINTAINS	OH	5.6E-4	7.0E-4	3	1.8E-3	1.8E-4						
						COMM											
1529154	2	COMP	MT	Valves	TESTS	OH	5.1E-3	5.6E-3	2	8.1E-3	3.2E-3						
						COMM											
1531654	2	COMP	MT	Pneumatic	TESTS	OH	5.7E-5	9.3E-5	5	2.9E-4	1.1E-5						
						COMM											
1600166	3	D/I/C	Subj	Qualitative Displays	READS	OH						2.3E-3	2.5E-3	2	4.5E-3	1.2E-3	
						COMM											
1600264	3	D/I/C	Subj	Indicator Light	IDENTIFIES	OH	2.9E-3	3.2E-3	2	4.7E-3	1.8E-3						
						COMM											
1600364	3	D/I/C	Subj	Legend Light	IDENTIFIES	OH	2.6E-3	2.9E-3	2	4.3E-3	1.6E-3						
						COMM											
1600569	3	D/I/C	Subj	Annunciator	DIAGNOSES	OH	2.6E-2	2.8E-2	2	4.6E-2	1.5E-2						
						COMM											
1600667	3	D/I/C	Subj	CRT Text	MONITORS	OH	3.1E-2	3.4E-2	2	5.3E-2	1.8E-2						
						COMM											
1601166	3	D/I/C	Subj	Quantitative Displays	READS	OH						3.2E-1	3.5E-1	2	7.1E-1	1.4E-1	
						COMM											
1601266	3	D/I/C	Subj	Counter-Digital Readout	READS	OH	5.0E-5	1.1E-3	61	3.0E-3	8.0E-7	6.1E-4	6.7E-4	2	1.1E-3	3.5E-4	
						COMM											
1601366	3	D/I/C	Subj	Meter	READS	OH	1.2E-3	1.5E-3	3	3.0E-3	4.6E-4						
						COMM											
1601367	3	D/I/C	Subj	Meter	MONITORS	OH	5.9E-3	6.4E-3	2	1.5E-2	2.4E-3						
						COMM						1.8E-3	2.0E-3	2	3.4E-3	9.6E-4	
1601566	3	D/I/C	Subj	Chart Recorder	READS	OH	3.2E-3	4.0E-3	3	1.1E-2	9.1E-4						
						COMM											
1601567	3	D/I/C	Subj	Chart Recorder	MONITORS	OH						3.5E-3	3.8E-3	2	7.5E-3	1.6E-3	
						COMM											
1601667	3	D/I/C	Subj	CRT Graphic Display	MONITORS	OH	7.5E-2	2.0E-1	10	7.5E-1	7.5E-3	1.3E-1	2.8E-1	8	1.0E+0	1.6E-2	
						COMM											
1601767	3	D/I/C	Subj	CRT Alphanumeric Display	MONITORS	OH	3.1E-2	3.4E-2	2	5.3E-2	1.8E-2						
						COMM											
1603160	3	D/I/C	Subj	Two-Position Switches	POSITIONS	OH						4.6E-3	5.8E-3	3	1.4E-2	1.6E-3	
						COMM											
1603163	3	D/I/C	Subj	Two-Position Switches	SELECTS	OH	1.6E-3	2.0E-3	3	4.5E-3	5.6E-4						
						COMM											
1603263	3	D/I/C	Subj	Push-Button (Illuminated Legend)	SELECTS	OH						1.9E-4	2.1E-4	2	3.0E-4	1.2E-4	
						COMM											
1603363	3	D/I/C	Subj	Push-Button (Other)	SELECTS	OH						7.3E-4	7.9E-4	2	1.2E-3	4.5E-4	
						COMM											
1603463	3	D/I/C	Subj	Toggle Switch/Two-Position	SELECTS	OH						2.0E-4	2.2E-4	2	3.2E-4	1.2E-4	
						COMM											
1605160	3	D/I/C	Subj	Multiposition Selectors	POSITIONS	OH	3.0E-3	8.0E-3	10	3.0E-2	3.0E-4						
						COMM						3.0E-3	6.0E-3	7	2.0E-2	4.5E-4	
1605260	3	D/I/C	Subj	J-Handle Switch	POSITIONS	OH	2.7E-3	7.1E-3	10	2.7E-2	2.7E-4						
						COMM											

APPENDIX B. EQUIPMENT/HUMAN ACTION CELL LEVEL AGGREGATIONS (combined from Task REPs)

Cell Number	Tax Level	Vend EqLv	Job Ttl	Equipment Class	Human Action Verb	Error Type	Recovery Considered					Recovery Not Considered								
							Median	Mean	EF	UCB	LCB	Median	Mean	EF	UCB	LCB				
1605360	3	D/I/C	Subj	Rotary Switch	POSITIONS	OM														
						COMM	5.0E-4	1.1E-3	8	4.0E-3	6.3E-5	8.4E-3	1.1E-2	3	2.1E-2	3.3E-3				
1606162	3	D/I/C	Subj	Continuously Variable Controls	ADJUSTS	OM														
						COMM						3.0E-3	3.8E-3	3	9.0E-3	1.0E-3				
1607270	3	D/I/C	Subj	Calculator	CALCULATES	OM														
						COMM	5.0E-1	5.5E-1	2	1.0E+0	2.5E-1	1.0E-1	1.3E-1	3	3.0E-1	3.3E-2				
1615161	3	D/I/C	Subj	Printed Communications	USES	OM						1.0E-2	1.3E-2	3	3.0E-2	3.3E-3				
						COMM						5.0E-1	5.5E-1	2	1.0E+0	2.5E-1				
1615172	3	D/I/C	Subj	Printed Communications	WRITES	OM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
						COMM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
1615272	3	D/I/C	Subj	Tag	WRITES	OM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
						COMM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
1615372	3	D/I/C	Subj	Log Book	WRITES	OM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
						COMM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
1615472	3	D/I/C	Subj	Administrative Procedure	WRITES	OM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
						COMM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
1615561	3	D/I/C	Subj	Operating Procedure	USES	OM						7.1E-3	1.0E-2	4	2.5E-2	2.0E-3				
						COMM														
1615572	3	D/I/C	Subj	Operating Procedure	WRITES	OM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
						COMM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
1615661	3	D/I/C	Subj	Maintenance Procedure	USES	OM						3.0E-1	3.8E-1	3	1.0E+0	9.0E-2				
						COMM														
1615672	3	D/I/C	Subj	Maintenance Procedure	WRITES	OM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
						COMM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
1615761	3	D/I/C	Subj	Test Or Calibration Procedure	USES	OM						5.0E-2	8.1E-2	5	2.5E-1	1.0E-2				
						COMM														
1615772	3	D/I/C	Subj	Test Or Calibration Procedure	WRITES	OM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
						COMM						3.0E-3	4.8E-3	5	1.5E-2	6.0E-4				
1615866	3	D/I/C	Subj	Graph	READS	OM														
						COMM	7.0E-3	1.0E-2	4	3.0E-2	1.6E-3									
1616166	3	D/I/C	Subj	Label	READS	OM														
						COMM						4.9E-4	5.4E-4	2	8.8E-4	2.8E-4				
1618160	3	D/I/C	Subj	Equipment - Nonspecific	POSITIONS	OM														
						COMM						6.3E-4	6.9E-4	2	1.1E-3	3.6E-4				

APPENDIX C
TASK LEVEL AGGREGATIONS AND RAW DATA

APPENDIX C

INTRODUCTION

Appendix C presents data at the task level. Each data field represented in this appendix is described below.

CELL-TASK-SRC (Cell-Task-Source)

Cell--A unique seven-digit number representing three categories of information (i.e., XYYYYZZ), where XX = matrix; YYY = equipment; ZZ = human action involved in the HEP.

Task--A statement describing the activity attempted. A single task statement may contain one or several source records. Each task is represented as a number (X) in this field.

Source--Individual data records, the most detailed level of data. Each record is assigned a unique source number, which is listed in this field.

TASK DESCRIPTION AND AGGREGATED TASK VALUES

The task statement is a sentence describing the activity for which HEP data are provided. The format of the task statement varies slightly among the three levels of the taxonomy. The standard portion of the statement describes the nature of the error or undesired performance, and the conditions portion modifies the standard.

DATA VALUES

RAW

Data for Mean, Median, Error Factor, Upper Confidence Bound, Lower Confidence Bound, Error count, and Number of error opportunities, are presented in scientific notation in this field. These data are found within the source document.

NUCLARR CALC. (NUCLARR Calculated)

Data values calculated by NUCLARR are listed in scientific notation in this field (corresponding to the raw data in the adjacent column).

PSFs (Performance Shaping Factors)

PSFs are factors which affect human performance. They may be either aspects of the person, such as experience, training, general resistance to fatigue or stress, or of the immediate work environment, such as conditions of staffing or tagging, or the type and quality of procedures available to aid the person in the proper execution of his or her task. Although there are many PSFs available for analysis, only a limited number have been selected for inclusion in the NUCLARR system. Any other PSFs identified in the original source of data (including those relating to the quality of human factors engineering design) are included as conditions in the task statement.

For each data source within a cell, eight PSFs have been ranked on ordinal scales. This ranking scheme allows NUCLARR system users to evaluate cell data relative to any unique characteristics of their own analysis problems. Time factor information is also presented when available in the source document.

ATIME (Time Available)--Refers to the total time available for successful completion of the task. This time is often dictated by plant conditions and system response to phenomenological factors. For example, the majority of operator actions can only be successfully executed when the initiating and terminating event can be completed within the time interval defined by the procedural and system requirements. An action taken beyond this time interval may be inappropriate.

PTIME (Performance Time)--This term refers to the average time spent by the operator or crew in performing the task.

EXPERIENCE--The total time an individual has performed in his/her current job classification in a commercial nuclear power plant. Related experience in other types of plants (e.g., Navy, fossil) or in other job classifications is generally not included. The valid experience levels include:

- U - Insufficient information available to evaluate this PSF
- N - No commercial nuclear power plant experience
- 1 - Ten or more years job experience
- 2 - More than five years job experience
- 3 - More than six months job experience
- 4 - Less than six months job experience.

FEEDBACK--The knowledge of results that a person receives about the status or adequacy of his actions. In general, feedback refers to how the operator knows the appropriate control action has been taken, or how he is informed regarding the nature of general plant conditions. Feedback provides a person with objective information on what should be done, whether it has been performed correctly, and with detailed information on when and how a failure occurred. The level of systems feedback a person would experience in the performance of a task can range from superior to inadequate, as described below.

- U - Insufficient information available to evaluate this PSF
- 1 - Feedback superior: Extremely satisfactory, well above average--significantly helped performance

- 2 - Feedback more than satisfactory: Better than average--helped performance
- 3 - Feedback satisfactory: About average--did not help or hinder performance
- 4 - Feedback somewhat satisfactory: Below average--hindered performance
- 5 - Feedback NOT adequate: Well below average--significantly hindered performance.

PROCEDURE--In the performance of a task, the type and availability of procedures used will often influence its final outcome. In assessing operator error, it is often desirable to know if a procedure was used at all and, if so, what type. Secondly, if a procedure was used, it is of interest to understand how it was applied toward accomplishing the task. For example, was a procedure followed in its entirety or were parts of the procedure given to crew members? Categories for procedure use are a primary factor when measuring task performance. The valid categories include:

- U - Insufficient information available to evaluate this PSF.
- 1 - A written procedure with step checkoffs was used; checkoff was performed by a second person observing the work.
- 2 - A written procedure with step checkoffs was used; checkoff was performed by the person performing the work.
- 3 - A written procedure was used.
- 4 - Oral instructions directed actions.
- 5 - A written procedure was available but not used. Contents were recalled from memory.
- 6 - No procedures or instructions were available.

STAFFING--The number of qualified personnel who were directly involved in the performance of the task. Involvement implies actual assistance the primary crew member receives from other individuals in the operating area. If the staffing needs (or manning parameters) are inadequate, the potential for error is increased due to higher stress and workload demands placed on the primary operator. Staffing levels are generally explicitly measured as the total number of crew members participating in the task. Valid categories include:

- U - Insufficient information available to evaluate this PSF
- 1 - One person participated in the performance of the task

- 2 - Two persons participated in the performance of the task
- 3 - Three persons participated in the performance of the task
- 4 - Four persons participated in the performance of the task
- 5 - Five persons participated in the performance of the task

STRESS--The extent to which stress either hindered or helped performance. Personnel may be stressed as a function of fatigue as well as workload demand, or just by virtue of responding to an emergency. The valid stress levels include:

- U - Insufficient information available to evaluate this PSF.
- 1 - Optimum stress: The normal or facilitative level of stress. An optimum level of stress is associated with an optimum task load and is characterized by an active interaction between the person and the environment at a pace that can be managed comfortably.
- 2 - Very low stress: Insufficient arousal to maintain alertness. A very low stress level is associated with a very low task load and is characterized by routine, passive activities in which a lack of sufficient stimulation can cause boredom or inattention.
- 3 - Moderately high stress: A moderately high stress level is associated with a heavy task load and is characterized by a requirement to perform at a faster pace than a person is capable of, or by a large number of stimuli competing for attention. This stress level is assumed for situations in which special protective clothing must be worn, for single transients involving shutdown of the turbine or reactor, or for critical tasks performed under time constraints.
- 4 - Extremely high stress: An extremely high level of stress is characterized by the perception of an immediate threat to one's physical well-being, self-esteem, or professional status. This level of stress is infrequently encountered, and this rating should be used only in connection with catastrophic events such as a large break loss-of-coolant accident (LOCA), multiple transients, or situations where significant hazard to the individuals involved is clearly present and known to them (e.g., fires or very high radiation levels).

SUPERVISION--The degree of direction and managerial responsibility taken by senior personnel during performance of a task. The amount of supervision to oversee and monitor task activities can influence task performance. The range of supervision can range from formal approval

and verification to ensure the successful completion of a task within a given standard to no supervision at all. The scaled values for this PSF are:

- U - Insufficient information available to evaluate this PSF.
- 1 - Senior supervisor provides approval to initiate the task and verifies whether or not it has been successfully accomplished within a given standard of performance.
- 2 - Other operator (not a supervisory position) formally monitors and verifies satisfactory completion of task (e.g., worker sign off, checklist). Verification is explicitly stated in a procedure and/or standards and practices documents.
- 3 - Other operator (not a supervisory position) informally monitors and verifies satisfactory completion of task (e.g., verbal notification, ad hoc protocol). Verification not specified in a procedure or standards and practices document.
- 4 - No supervision provided; operator performs task independent of any direct verification from other personnel.

TAGGING--This term encompasses the total tagging system and includes all administrative controls that ensure (a) awareness of any valves or other items of equipment that are in a normal state or a protected normal state, and (b) prompt restoration of this equipment to the normal or unprotected state after completion of review or maintenance operations. Thus, a tagging system includes the use of (a) tags; (b) chains, locks, and keys; and (c) logs, suspense forms, and other techniques that provide a record of the above. The adequacy of the tagging system can vary significantly in its overall sophistication and completeness from a formal system, consisting of a high degree of administrative controls, to no tagging system at all, as described below.

- N - Tagging system is not applicable to this task.
- U - Tagging system is available, but information is insufficient to determine the level of tagging.
- 1 - A specific number of tags are used for each job. Each tag is uniquely numbered or otherwise identified. A record is kept of each tag.
- 2 - Tags are not accounted for individually. The operator may take an unspecified number and use accordingly. The record-keeping does not provide a thorough checking for errors of omission or selection.

- 3 - Tags are used, but record-keeping is inadequate to provide the shift supervisor with adequate knowledge of every item or equipment that should be restored. Also in this category, keys are available to users without logging requirements.
- 4 - No tags. A tagging system is applicable to the task but no tags are used.

TRAINING--The amount of relevant training provided can significantly affect the outcome of task performance. Training adequacy can be satisfied through one or more of the following modes: on-the-job training (OJT); simulation/mockup; drill; and/or classroom. The measure of training is typically selected from the lowest level of training adequacy represented for which the HEP occurred. The valid training adequacy levels include:

- U - Insufficient information available to evaluate this PSF.
- 1 - Training very adequate--formal training provided as well as maintaining a high level of state of current practice or skill for successful performance of the task.
- 2 - Training adequate, but could be improved--additional instruction and/or practice (e.g., classroom, OJT, drill, etc.) would be beneficial.
- 3 - Training somewhat adequate, but sorely lacking in specific areas--significant improvement to upgrade the adequacy of training is needed.
- 4 - Training NOT adequate--training is either not provided at all or is totally inappropriate (or irrelevant) for performing the task.
- 6 - Six (or more) persons participated in the performance of the task.

DOCUMENT INFORMATION

DOCUMENT (Document Identification Number) (e.g., X-YR)

This number consists of a unique identification number (X) followed by the last two digits of the calendar year in which the data were collected or published (YR).

ORIGIN (Origin of Source Data)

Each source is identified as one of the following types of data:

- Field data
- Training simulator data
- Laboratory data
- Consensus expert judgment
- Subjective data
- Simulation modeling data
- Analytic data

REFERENCE

This field is used for HEPs identified in the data source as being referenced from another document. The reference number identifies the original data source with a document identification number (X-YR).

VEND / EQLVL (Vendor / Equipment Level)

This field identifies the NSSS vendor for Level 1 data, and states "Component," and "Displays/Instr/Controls" for Levels 2 and 3, respectively.

PLANT CODE

A four-character alphanumeric code that identifies the facility from which the source data were derived. See Appendix D for a listing of plant codes.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0100201- 1- 1*	Control Room Operator OPERATES the Instrument Air System Common mode: Poor judge becuz procs, P&IDs, oper convention not match given: 100% power: errors of intention; PSF, HMI= 11, S/R/K=10, S.Cult= 9, motiv= 6, workload= 7, commun= 8; local; pre-IE, HRA= INTENT Mean: 1.1E-1 Median: 9.2E-2 EF: 3 UCB: 2.9E-1 LCB: 2.9E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.2E-1 Median: 9.2E-2 EF: 3 UCB: 2.9E-1 LCB: 2.9E-2 E: 2.000 N: 21.800	1.2E-1 9.2E-2 3 2.000 21.800	ATime: ----- PTime: ----- Experience: 3 Feedback: U Procedure: 6 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0100202- 1- 1*	Control Room Operator MONITORS the Instrument Air System Tolerate an out of range situation w/potentially moderate consequences given: 100% power: errors of intention; PSF, HMI - 9, S/R/K - 10, S.Cult - 11 motiv - 8, workload - 9, commun - 7; local; pre-IE, HRA - INTENT Mean: 1.1E-1 Median: 6.0E-2 EF: 6 UCB: 3.6E-1 LCB: 1.0E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.1E-1 Median: 6.0E-2 EF: 6 UCB: 3.6E-1 LCB: 1.0E-2 E: 1.000 N: 16.600	1.1E-1 6.0E-2 6 1.000 16.600	ATime: ----- PTime: ----- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0100203- 1- 1*	Control Room Operator DIAGNOSES the Instrument Air System Crews consult inappropriate resources in emergency given: 100% power: errors of intention; PSF, HMI=10, S/R/K= 9, S.Cult= 8 motiv= 7, workload=10, commun= 9; local; Post-IE, ROP, HRA= INTENT Mean: 3.5E-2 Median: 1.6E-2 EF: 8 UCB: 1.3E-1 LCB: 1.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.6E-2 Median: 1.6E-2 EF: 8 UCB: 1.3E-1 LCB: 1.9E-3 E: 0.500 N: 31.800	3.6E-2 1.6E-2 8 0.500 31.800	ATime: ----- PTime: ----- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0102101- 1- 1*	Control Room Operator OPERATES the Communication Systems Inadequate communication results in improper actions given: 100% power: errors of intention; PSF, HMI= 9, S/R/K= 8, S.Cult= 9 motiv= 8, workload= 9, commun=13; local; Post-IE, ROP, HRA= INTENT Mean: 5.7E-2 Median: 2.6E-2 EF: 8 UCB: 2.0E-1 LCB: 3.3E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 5.6E-2 Median: 2.6E-2 EF: 8 UCB: 2.0E-1 LCB: 3.3E-3 E: 0.500 N: 19.400	5.6E-2 2.6E-2 8 0.500 19.400	ATime: ----- PTime: ----- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0104101- 1- 1*	Control Room Operator OPERATES the Condensate Systems operator fails to operate condensate system in LPI mode given: HEP represents limiting cond. where more time doesn't inc reliability seq TGOV, local, post IE, ROP, therp, LPI failed Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: N:	2.0E-3 --- 0.100 133.300	ATime: 02:00:00 PTime: 00:06:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-87 IV-2... Origin: Psychological Scaling Reference: 901-87 Vend/EqLvl: CRO PlantCode: GGS1
0105101- 1- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Method Mean: 2.4E-2 Median: 1.1E-2 EF: 8 UCB: 8.8E-2 LCB: 1.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-2 EF: 8 UCB: LCB: E: N:	2.4E-2 --- 8.8E-2 1.4E-3 0.500 45.400	ATime: 01:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0105101- 2- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Method Mean: 2.0E-2 Median: 7.6E-3 EF: 10 UCB: 7.6E-2 LCB: 7.6E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.6E-3 EF: 10 UCB: LCB: E: N:	2.0E-2 --- 7.6E-2 7.6E-4 0.100 13.100	ATime: 01:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0105101- 3- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 2.9E-2 Median: 1.6E-2 EF: 6 UCB: 9.6E-2 LCB: 2.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.6E-2 EF: 6 UCB: LCB: E: N:	2.9E-2 --- 9.6E-2 2.7E-3 1.000 62.500	ATime: 00:50:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0105101- 4- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 4.0E-2 Median: 2.5E-2 EF: 5 UCB: 1.3E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-2 EF: 5 UCB: LCB: E: 1.000 N: 40.000	4.0E-2 --- 1.3E-1 5.0E-3 1.000 40.000	ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:CRD PlantCode: LSC1
0105101- 5- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 6.1E-2 Median: 4.3E-2 EF: 4 UCB: 1.7E-1 LCB: 1.1E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-2 EF: 4 UCB: LCB: E: 1.500 N: 34.800	6.1E-2 --- 1.7E-1 1.1E-2 1.500 34.800	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:CRD PlantCode: LSC1
0105101- 6- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 1.1E-1 Median: 8.4E-2 EF: 3 UCB: 2.5E-1 LCB: 2.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.4E-2 EF: 3 UCB: LCB: E: 2.000 N: 23.800	1.1E-1 --- 2.5E-1 2.8E-2 2.000 23.800	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:CRD PlantCode: LSC1
0105101- 7- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 2.3E-1 Median: 2.1E-1 EF: 2 UCB: 4.2E-1 LCB: 1.1E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.1E-1 EF: 2 UCB: LCB: E: 6.000 N: 28.500	2.3E-1 --- 4.2E-1 1.1E-1 6.000 28.500	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:CRD PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			PSFs	Document Information
		Raw	NUCLARR calc			
0105101- 8- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 8.7E-1 Median: 8.7E-1 EF: 1 UCB: 8.7E-1 LCB: 8.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.7E-1 EF: 1 UCB: LCB: E: N:	8.7E-1 --- 8.7E-1 8.7E-1 20.900 22.900	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1	
0105101- 9- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 2.0E-2 Median: 7.6E-3 EF: 10 UCB: 7.6E-2 LCB: 7.6E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.6E-3 EF: 10 UCB: LCB: E: N:	2.0E-2 --- 7.6E-2 7.6E-4 0.100 13.100	ATime: 01:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1	
0105101-10- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 2.4E-2 Median: 1.1E-2 EF: 8 UCB: 8.8E-2 LCB: 1.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-2 EF: 8 UCB: LCB: E: N:	2.4E-2 --- 8.8E-2 1.4E-3 0.500 45.400	ATime: 01:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1	
0105101-11- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 2.9E-2 Median: 1.6E-2 EF: 6 UCB: 9.6E-2 LCB: 2.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.6E-2 EF: 6 UCB: LCB: E: N:	2.9E-2 --- 9.6E-2 2.7E-3 1.000 62.500	ATime: 00:50:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1	

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0105101-12- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 4.0E-2 Median: 2.5E-2 EF: 5 UCB: 1.3E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-2 EF: 5 UCB: LCB: E: N:	4.0E-2 --- 1.3E-1 5.0E-3 1.000 40.000	ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:CRO PlantCode: LSC1
0105101-13- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 6.1E-2 Median: 4.3E-2 EF: 4 UCB: 1.7E-1 LCB: 1.1E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-2 EF: 4 UCB: LCB: E: N:	6.1E-2 --- 1.7E-1 1.1E-2 1.500 34.800	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:CRO PlantCode: LSC1
0105101-14- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 1.1E-1 Median: 8.4E-2 EF: 3 UCB: 2.5E-1 LCB: 2.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.4E-2 EF: 3 UCB: LCB: E: N:	1.1E-1 --- 2.5E-1 2.8E-2 2.000 23.800	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:CRO PlantCode: LSC1
0105101-15- 1*	Control Room Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 2.3E-1 Median: 2.1E-1 EF: 2 UCB: 4.2E-1 LCB: 1.1E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.1E-1 EF: 2 UCB: LCB: E: N:	2.3E-1 --- 4.2E-1 1.1E-1 6.000 28.500	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:CRO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0105101-16- 1*	Control Room Operator OPERATES the Containment Systems Failure to restore VP after drywell isolation given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 8.7E-1 Median: 8.7E-1 EF: 1 UCB: 9.6E-1 LCB: 7.9E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.7E-1 Median: 8.7E-1 EF: --- UCB: 9.6E-1 LCB: 7.9E-1 E: 20.000 N: 22.900	8.7E-1 1	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0105101-17- 1*	Control Room Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 2.0E-2 Median: 7.6E-3 EF: 10 UCB: 7.6E-2 LCB: 7.6E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.0E-2 Median: 7.6E-3 EF: 10 UCB: 7.6E-2 LCB: 7.6E-4 E: 0.100 N: 13.100	2.0E-2 ---	ATime: 01:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0105101-18- 1*	Control Room Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 2.4E-2 Median: 1.1E-2 EF: 8 UCB: 8.8E-2 LCB: 1.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.4E-2 Median: 1.1E-2 EF: 8 UCB: 8.8E-2 LCB: 1.4E-3 E: 0.500 N: 45.400	2.4E-2 ---	ATime: 01:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0105101-19- 1*	Control Room Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 2.9E-2 Median: 1.6E-2 EF: 6 UCB: 9.6E-2 LCB: 2.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.9E-2 Median: 1.6E-2 EF: 6 UCB: 9.6E-2 LCB: 2.7E-3 E: 1.000 N: 62.500	2.9E-2 ---	ATime: 00:50:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0105101-20- 1*	Control Room Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 4.0E-2 Median: 2.5E-2 EF: 5 UCB: 1.3E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-2 Median: 2.5E-2 EF: 5 UCB: 1.3E-1 LCB: 5.0E-3 E: 1.000 N: 40.000	4.0E-2 --- 1.3E-1 5.0E-3 1.000 40.000	ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0105101-22- 1*	Control Room Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 6.1E-2 Median: 4.3E-2 EF: 4 UCB: 1.7E-1 LCB: 1.1E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.1E-2 Median: 4.3E-2 EF: 4 UCB: 1.7E-1 LCB: 1.1E-2 E: 1.500 N: 34.800	6.1E-2 --- 1.7E-1 1.1E-2 1.500 34.800	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0105101-23- 1*	Control Room Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 1.1E-1 Median: 8.4E-2 EF: 3 UCB: 2.5E-1 LCB: 2.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-1 Median: 8.4E-2 EF: 3 UCB: 2.5E-1 LCB: 2.8E-2 E: 2.000 N: 23.800	1.1E-1 --- 2.5E-1 2.8E-2 2.000 23.800	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0105101-24- 1*	Control Room Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 2.3E-1 Median: 2.1E-1 EF: 2 UCB: 4.2E-1 LCB: 1.1E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.3E-1 Median: 2.1E-1 EF: 2 UCB: 4.2E-1 LCB: 1.1E-1 E: 6.000 N: 28.500	2.3E-1 --- 4.2E-1 1.1E-1 6.000 28.500	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0105101-25- 1*	Control Room Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, seq=NA, post i.e., Sandia Recover Model Mean: 8.7E-1 Median: 8.7E-1 EF: 1 UCB: 9.6E-1 LCB: 7.9E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.7E-1 Median: 8.7E-1 EF: --- UCB: 9.6E-1 LCB: 7.9E-1 E: 20.000 N: 22.900	8.7E-1 1 7.9E-1 20.000 22.900	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 vol. 2, pgs 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0105101-26- 1*	Control Room Operator OPERATES the Containment Systems Circumvent procedure with a minor consequence e.g., a minor ISCOCA given: 100% power: errors of intention; PSFs -> HMI= 7, S/R/K= 9, S.Cult=10, motiv= 7, workload= 9, commun= 8; local; seq=ISLOCA; Post-IE; ROP, HRA=INTENT Mean: 2.2E-2 Median: 5.3E-3 EF: 16 UCB: 8.6E-2 LCB: 3.3E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: --- Median: --- EF: --- UCB: 8.6E-2 LCB: 3.3E-4 E: --- N: ---	2.2E-2 5.3E-3 16 8.6E-2 3.3E-4 0.100 18.700	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 3	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0105101-27- 1*	Control Room Operator OPERATES the Containment Systems Circumvent proc wth potential catastrophic conseq/e.g., major ISLOCA given: 100% power: errors of intention; PSFs -> HMI= 6, S/R/K= 9, S.Cult=11, motiv= 7, workload= 8, commun= 7; local; seq=ISLOCA; Pre -IE; HRA=INTENT Mean: 2.2E-2 Median: 2.1E-3 EF: 35 UCB: 7.5E-2 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: --- Median: --- EF: --- UCB: 7.5E-2 LCB: 6.0E-5 E: --- N: ---	2.2E-2 2.1E-3 35 7.5E-2 6.0E-5 0.100 47.100	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0105103- 1- 1*	Control Room Operator DIAGNOSES the Containment Systems Competing goal states leads to wrong conclusion given: 100% power: errors of intention; PSFs -> HMI= 6, S/R/K=11, S.Cult= 9, motiv= 9, workload=10, commun= 6; local; Post-IE; ROP; HRA=INTENT Mean: 5.5E-2 Median: 3.9E-2 EF: 4 UCB: 1.7E-1 LCB: 8.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: --- Median: --- EF: --- UCB: 1.7E-1 LCB: 8.9E-3 E: --- N: ---	5.8E-2 3.9E-2 4 1.7E-1 8.9E-3 1.000 25.700	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP

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* Data point is used in Task Level calculations.

Cell-Task-Id	Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0105401- 1- 1*	Control Room Operator OPERATES the Containment Penetration/Isolation System operator fails to vent containment to avoid containment failure given: this HEP represents a limiting condition where increased time does not reduce the HEP; seq=all; local; ev=post-i.e.,poa; therp Mean: 2.0E-3 M. in: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-4 EF: 10 UCB: LCB: E: N:	2.0E-3 - 7.5E-3 7.5E-5 0.100 133.300	ATime: 06:00:00 PTime: ---:---: Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.203,it.1 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: GGS1
0105401- 2- 1*	Control Room Operator OPERATES the Containment Penetration/Isolation System Circumvent proc with potential catastrophic conseq. e.g. major ISLOCA given: 100% power; errors of intention; PSFs -> HMI= 6, S/R/K= 9, S.Cult=11, motiv= 7,workload= 8,commun= 7;local;seq=ISLOCA;Post-IE;ROP;HRA=INTENT Mean: 2.2E-2 Median: 2.1E-3 EF: 35 UCB: 7.5E-2 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	2.2E-2 2.1E-3 35 7.5E-2 6.0E-5 0.100 47.100	ATime: ---:---: PTime: ---:---: Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:CRO PlantCode: ALLP
0105501- 1- 1*	Control Room Operator OPERATES the Containment Spray (RHR) System operator fails to actuate containment spray system given: seq=all; local; ev=post-i.e.,poa; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-4 EF: 10 UCB: LCB: E: N:	2.0E-3 - 7.5E-3 7.5E-5 0.100 133.300	ATime: 20:00:00 PTime: ---:---: Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.203,it.2 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: GGS1
0105602- 1- 1*	Control Room Operator MONITORS the Standby Gas Treatment System Tolerate an out of range situation with potentially minor consequence given: 100% power; errors of intention; PSFs -> HMI= 9, S/R/K= 9, S.Cult=11, motiv= 7,workload= 9,commun= 7;local;Pre -IE;HRA=INTENT Mean: 4.1E-2 Median: 1.9E-2 EF: 8 UCB: 1.5E-1 LCB: 2.3E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	4.2E-2 1.9E-2 8 1.5E-1 2.3E-3 0.500 26.900	ATime: ---:---: PTime: ---:---: Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:CRO PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0105701- 1- 1*	Control Room Operator OPERATES the Suppression Pool Support System operator fails to actuate suppression pool cooling of RHR given: successful cooling of the suppression pool one MSRV opens, operator closes and watches RHR Mean: 7.8E-4 Median: 2.0E-4 EF: 15 UCB: 3.0E-3 LCB: 1.3E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.0E-4 EF: --- UCB: 3.0E-3 LCB: E: 0.100 N:	7.8E-4 15 1.3E-5 500.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: 1 Training: U	Document: 2-84 page c-4, item 4 Origin: Psychological Scoring Reference: ----- Vend/EqLvl:CRO PlantCode: BWR
0105701- 2- 1*	Control Room Operator OPERATES the Suppression Pool Support System failure to actuate SPM valve given: this HEP represents a limiting condition where increased time does not reduce the HEP; seq=all; local; ev=post ie,poa; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-4 EF: 10 UCB: LCB: E: N:	2.0E-3 --- 7.5E-3 7.5E-5 0.100 133.300	ATime: 12:00:00 PTime: 00:06:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chap.IV,pg.206,it.3 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: GGS1
0105701- 3- 1*	Control Room Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after Rx Trip. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-3 EF: 7 UCB: LCB: E: N:	2.4E-3 --- 8.4E-3 1.7E-4 0.500 416.600	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:CRO PlantCode: LSC1
0105701- 4- 1*	Control Room Operator OPERATES the Suppression Pool Support System Failure to initiate sp cooling after Rx trip given: emergency drill on simulator; 100% power local, Seq=N/A; Post-I.E., Sandia Recovery Model Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.7E-1 EF: 1 UCB: LCB: E: N:	6.7E-1 --- 6.7E-1 6.7E-1 20.000 29.800	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl:CRO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0105701- 5- 1*	Control Room Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after Rx Trip. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 3.1E-2 Median: 2.8E-2 EF: 2 UCB: 5.6E-2 LCB: 1.4E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.1E-2 Median: 2.8E-2 EF: 2 UCB: 5.6E-2 LCB: 1.4E-2 E: 6.000 N: 214.200	3.1E-2	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:CRO PlantCode: LSC1
0105701- 6- 1*	Control Room Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after Rx Trip. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 E: 1.500 N: 333.300	6.4E-3	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:CRO PlantCode: LSC1
0105701- 7- 1*	Control Room Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after DG1A load. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 3.1E-2 Median: 2.8E-2 EF: 2 UCB: 5.6E-2 LCB: 1.4E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.1E-2 Median: 2.8E-2 EF: 2 UCB: 5.6E-2 LCB: 1.4E-2 E: 6.000 N: 214.200	3.1E-2	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:CRO PlantCode: LSC1
0105701- 8- 1*	Control Room Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after DG1A load. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 E: 1.500 N: 333.300	6.4E-3	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:CRO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0105701- 9- 1*	Control Room Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after DG1A load given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 E: 0.500 N: 416.600	2.4E-3 -- 8.4E-3 1.7E-4 0.500 416.600	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0105701-10- 1*	Control Room Operator OPERATES the Suppression Pool Support System Failure to initiate sp cooling after Rx trip given: emergency drill on simulator; 100% power local, Seq=NA; Post-I.E., Servia Recovery Model Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 E: 20.000 N: 29.800	6.7E-1 -- 6.7E-1 6.7E-1 20.000 29.800	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0107101- 1- 1*	Control Room Operator OPERATES the Control Rod Drive Systems operator fails to manually insert rods given: insert control rods to shut down the reactor ATMS, manual scram fails Mean: 6.0E-4 Median: 3.0E-4 EF: 7 UCB: 2.0E-3 LCB: 4.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.0E-4 Median: 3.0E-4 EF: 7 UCB: 2.0E-3 LCB: 4.5E-5 E: 0.500 N: 1666.600	5.8E-4 7 2.0E-3 4.5E-5 0.500 1666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 4 Supervision: U Tagging: U Training: U	Document: 2-84 page c-5, item 11 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BMR
0107101- 2- 1*	Control Room Operator OPERATES the Control Rod Drive Systems operator fails to operate control rod drive system for injection given: this REP represents a limiting condition where increased time does not reduce the REP; seq=tqav,tqax; local; ev=post-i.e.; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N: 133.300	2.0E-3 -- 7.5E-3 7.5E-5 0.100 133.300	ATime: 08:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-87 Chap. IV, pg. 203, it. 2 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: GGS1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0107101- 3- 1*	Control Room Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 7.4E-2 Median: 4.6E-2 EF: 5 UCB: 2.3E-1 LCB: 9.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.6E-2 EF: 5 UCB: LCB: E: N:	7.4E-2 --- 2.3E-1 9.2E-3 1.000 2.700	ATime: 00:50:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pgs 32 & 33 Origin: Analytic Reference: --- Vend/EqLvl: CRD PlantCode: LSC1
0107101- 4- 1*	Control Room Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt. given: Emergency drill on a simulator; 100% power. Remote; Seq=N/A; Ev=Post; Sandia Mean: 1.0E-1 Median: 7.1E-2 EF: 4 UCB: 2.8E-1 LCB: 1.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.1E-2 EF: 4 UCB: LCB: E: N:	1.0E-1 --- 2.8E-1 1.8E-2 1.500 21.100	ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pgs 32 & 33 Origin: Analytic Reference: --- Vend/EqLvl: CRD PlantCode: LSC1
0107101- 5- 1*	Control Room Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt. given: Emergency drill on a simulator; 100% power. Remote; Seq=N/A; Ev=Post; Sandia Mean: 1.4E-1 Median: 1.1E-1 EF: 3 UCB: 3.3E-1 LCB: 3.7E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-1 EF: 3 UCB: LCB: E: N:	1.4E-1 --- 3.3E-1 3.7E-2 2.000 18.100	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pgs 32 & 33 Origin: Analytic Reference: --- Vend/EqLvl: CRD PlantCode: LSC1
0107101- 6- 1*	Control Room Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt. given: Emergency drill on a simulator; 100% power. Remote; Seq=N/A; Ev=Post; Sandia Mean: 2.1E-1 Median: 1.9E-1 EF: 2 UCB: 3.8E-1 LCB: 9.5E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.9E-1 EF: 2 UCB: LCB: E: N:	2.1E-1 --- 3.8E-1 9.5E-2 6.000 31.500	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pgs 32 & 33 Origin: Analytic Reference: --- Vend/EqLvl: CRD PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFS	Document Information
		Raw	MUCLAB calc		
0107101-7-1*	Control Room Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt given: emergency drill on simulator; 100% power remote Seq=NA; Post-I.E., Sandia Recovery Model Mean: 4.3E-1 Median: 3.9E-1 EF: 2 UCB: 7.0E-1 LCB: 2.0E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.9E-1 EF: UCB: LCB: E: N:	4.3E-1 ---- 7.0E-1 2.0E-1 6.000 15.300 Supervision: U Tagging: U Training: U	ATime: 00:10:00 PTime: ---- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Page 32 & 33 Origin: Analytic Reference: ---- Vend/Eq vl: CR0 PlantCode: LSC1
0107101-8-1*	Control Room Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt given: emergency drill on simulator; 100% power remote Seq=RA; Post-I.E., Sandia Recovery Model Mean: 9.6E-1 Median: 9.6E-1 EF: 1 UCB: 1.0E+0 LCB: 9.2E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.6E-1 EF: UCB: LCB: E: N:	9.6E-1 1 9.2E-1 20.000 20.800 Supervision: U Tagging: U Training: U	ATime: 00:01:00 PTime: ---- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Page 32 & 33 Origin: Analytic Reference: ---- Vend/Eq vl: CR0 PlantCode: LSC1
0107101-9-1*	Control Room Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt given: emergency drill on a simulator; 100% power. Remote; Seq=NA; Ev=Post; Sandia Mean: 5.3E-2 Median: 2.4E-2 EF: 8 UCB: 1.0E-1 LCB: 3.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.4E-2 EF: UCB: LCB: E: N:	5.3E-2 ---- 1.0E-1 3.0E-3 0.500 20.800 Supervision: U Tagging: U Training: U	ATime: 01:10:00 PTime: ---- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pgs 32 & 33 Origin: Analytic Reference: ---- Vend/Eq vl: CR0 PlantCode: LSC1
0107101-10-1*	Control Room Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt given: emergency drill on a simulator; 100% power. Remote; Seq=NA; Ev=Post; Sandia Mean: 6.0E-2 Median: 3.3E-2 EF: 6 UCB: 2.0E-1 LCB: 5.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.3E-2 EF: UCB: LCB: E: N:	6.0E-2 ---- 2.0E-1 5.5E-3 1.000 50.300 Supervision: U Tagging: U Training: U	ATime: 01:00:00 PTime: ---- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pgs 32 & 33 Origin: Analytic Reference: ---- Vend/Eq vl: CR0 PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MECLABR calc		
0107103- 1- 1*	Control Room Operator OPERATES the Control Rod Drive Systems Correct actions taken during the wrong plant evaluation given: 100% power: errors of intention; PSFs -> RWI= 9, S/R/K= 9, S-Cult= 7, active= 8, workload=10, comman= 9, local, Post-1E,ROP,MSA=INTENT Mean: 1.0E-2 Median: 5.7E-3 EF: 6 UCB: 3.2E-2 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	9.0E-3 5.7E-3 6 3.2E-2 1.0E-3 1.000 175.700	Atime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: 0 Procedure: 5 Staffing: 0 Stress: 3 Supervision: 3 Tagging: 0 Training: 4	Document: 20-1 Table 2 Origin: Subjective Reference: --- Vend/Eq.vl:CR0 PlantCode: RLLP
0108101- 1- 1*	Control Room Operator OPERATES the Electrical Distribution Systems operator fails to maintain RPV water level to top of active fuel given: throttling action required seqratw(tc); local; evpost ie,rop; sli Mean: 1.6E-1 Median: 6.0E-2 EF: 10 UCB: 6.0E-1 LCB: 6.0E-3 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	1.6E-1 6.0E-2 10 6.0E-1 6.0E-3 1.600	Atime: 00:00:00 PTime: ---:---:--- Experience: 0 Feedback: 0 Procedure: 6 Staffing: 0 Stress: 4 Supervision: 0 Tagging: 0 Training: 4	Document: 1-85 paps 20 Origin: Simulation Modeling Reference: --- Vend/Eq.vl:CR0 PlantCode: PSS2
0108101- 2- 1*	Control Room Operator OPERATES the Electrical Distribution Systems operator fails to restore switchgear room cooling given: seqrall; remote; evpost ie,pos; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	4.0E-3 1.5E-3 10 1.5E-2 1.5E-4 0.100 66.600	Atime: 06:00:00 PTime: ---:---:--- Experience: 0 Feedback: 0 Procedure: 0 Staffing: 0 Stress: 0 Supervision: 0 Tagging: 0 Training: 0	Document: 1-87 chp.IV.pg.206,tt.5 Origin: Subjective Reference: 4-87 Vend/Eq.vl:CR0 PlantCode: GGS1
0108101- 3- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to request x-tie after SAT failure. given: Emergency drill on a simulator; 100% power. Seqm/A; EvPost; Sandia Mean: 5.6E-2 Median: 3.5E-2 EF: 5 UCB: 1.8E-1 LCB: 7.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	5.6E-2 3.5E-2 5 1.8E-1 7.0E-3 1.000 28.500	Atime: 01:10:00 PTime: ---:---:--- Experience: 0 Feedback: 0 Procedure: 0 Staffing: 0 Stress: 0 Supervision: 0 Tagging: 0 Training: 0	Document: 5-87 Vol. 2, pg. 24 & 25 Origin: Analytic Reference: --- Vend/Eq.vl:CR0 PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0108101- 4- 1*	Control Room Operator OPERATES the Electrical Distribution Systems. Failure to request x-tie after SAT failure. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 6.8E-2 Median: 4.8E-2 EF: 4 UCB: 1.9E-1 LCB: 1.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.8E-2 Median: 4.8E-2 EF: 4 UCB: 1.9E-1 LCB: 1.2E-2 E: 1.500 N: 31.200	6.8E-2 ---	ATime: 01:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pg. 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0108101- 5- 1*	Control Room Operator OPERATES the Electrical Distribution Systems. Failure to request x-tie after SAT failure. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 8.6E-2 Median: 6.9E-2 EF: 3 UCB: 2.1E-1 LCB: 2.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.6E-2 Median: 6.9E-2 EF: 3 UCB: 2.1E-1 LCB: 2.3E-2 E: 2.000 N: 28.900	8.6E-2 ---	ATime: 00:50:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pg. 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0108101- 6- 1*	Control Room Operator OPERATES the Electrical Distribution Systems. Failure to request x-tie after SAT failure. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 1.1E-1 Median: 1.0E-1 EF: 2 UCB: 2.0E-1 LCB: 5.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-1 Median: 1.0E-1 EF: 2 UCB: 2.0E-1 LCB: 5.0E-2 E: 6.000 N: 60.000	1.1E-1 ---	ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pg. 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0108101- 7- 1*	Control Room Operator OPERATES the Electrical Distribution Systems. Failure to request x-tie after SAT failure. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 1.7E-1 Median: 1.6E-1 EF: 2 UCB: 3.2E-1 LCB: 1.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.7E-1 Median: 1.6E-1 EF: 2 UCB: 3.2E-1 LCB: 8.0E-2 E: 6.000 N: 37.500	1.7E-1 ---	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pg. 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0108101- 8- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to request X-tie after SAT failure given: emergency drill on simulator; 100% power local, Seq=NA; Post-I.E., Sandia Recovery Model Mean: 3.1E-1 Median: 2.8E-1 EF: 2 UCB: 5.6E-1 LCB: 1.4E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.1E-1 Median: 2.8E-1 EF: 2 UCB: 5.6E-1 LCB: 1.4E-1 E: 6.000 N: 21.400	3.1E-1 ---	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Page 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0108101- 9- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to request X-tie after SAT failure given: emergency drill on simulator; 100% power local, Seq=NA; Post-I.E., Sandia Recovery Model Mean: 5.4E-1 Median: 5.4E-1 EF: 1 UCB: 5.4E-1 LCB: 5.4E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 5.4E-1 Median: 5.4E-1 EF: 1 UCB: 5.4E-1 LCB: 5.4E-1 E: 20.000 N: 37.000	5.4E-1 ---	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Page 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0108101-10- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to request X-tie after SAT failure given: emergency drill on simulator; 100% power local, Seq=NA; Post-I.E., Sandia Recovery Model Mean: 9.8E-1 Median: 9.8E-1 EF: 1 UCB: 1.0E+0 LCB: 9.6E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.8E-1 Median: 9.8E-1 EF: --- UCB: 1.0E+0 LCB: 9.6E-1 E: 20.000 N: 20.500	9.8E-1 1	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Page 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0108101-11- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to request X-tie after SAT failure given: emergency drill on simulator; 100% power local, Seq=NA; Post-I.E., Sandia Recovery Model Mean: 9.9E-1 Median: 9.9E-1 EF: 1 UCB: 1.0E+0 LCB: 9.8E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.9E-1 Median: 9.9E-1 EF: --- UCB: 1.0E+0 LCB: 9.8E-1 E: 20.000 N: 20.200	9.9E-1 1	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Page 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0108101-12- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to request X-tie after SAT failure given: emergency drill on simulator; 100% power local, Seq=NA; Post-I.E., Sandia Recovery Model Mean: 5.4E-1 Median: 5.4E-1 EF: 1 UCB: 5.4E-1 LCB: 5.4E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 5.4E-1 Median: 5.4E-1 EF: 1 UCB: 5.4E-1 LCB: 5.4E-1 E: 20.000 N:	5.4E-1 ---	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Page 24 & 25 Origin: Analytic Reference: ---:---:--- Vend/EqLvl: CRO PlantCode: LSC1
0108101-13- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to request X-tie after SAT failure given: emergency drill on simulator; 100% power local, Seq=NA; Post-I.E., Sandia Recovery Model Mean: 3.1E-1 Median: 2.8E-1 EF: 2 UCB: 5.6E-1 LCB: 1.4E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.1E-1 Median: 2.8E-1 EF: 2 UCB: 5.6E-1 LCB: 1.4E-1 E: 6.000 N:	3.1E-1 ---	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Page 24 & 25 Origin: Analytic Reference: ---:---:--- Vend/EqLvl: CRO PlantCode: LSC1
0108101-14- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 1.7E-1 Median: 1.6E-1 EF: 2 UCB: 3.2E-1 LCB: 8.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.7E-1 Median: 1.6E-1 EF: 2 UCB: 3.2E-1 LCB: 8.0E-2 E: 6.000 N:	1.7E-1 ---	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pg. 24 & 25 Origin: Analytic Reference: ---:---:--- Vend/EqLvl: CRO PlantCode: LSC1
0108101-15- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 1.1E-1 Median: 1.0E-1 EF: 2 UCB: 2.0E-1 LCB: 5.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-1 Median: 1.0E-1 EF: 2 UCB: 2.0E-1 LCB: 5.0E-2 E: 6.000 N:	1.1E-1 ---	ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pg. 24 & 25 Origin: Analytic Reference: ---:---:--- Vend/EqLvl: CRO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFS	Document Information
		Raw	INCLABR calc		
0108101-16- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 8.6E-2 Median: 6.9E-2 EF: 3 UCB: 2.1E-1 LCB: 2.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.6E-2 Median: 6.9E-2 EF: 3 UCB: 2.1E-1 LCB: 2.3E-2 E: 2.000 N: 28,900	8.6E-2 --- 2.1E-1 2.3E-2 2.000 28,900	Atime: 00:50:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pg. 24 & 25 Origin: Analytic Reference: --- Vend/Eq.vl.:CR0 PlantCode: LSC1
0108101-17- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 6.8E-2 Median: 4.8E-2 EF: 4 UCB: 1.9E-1 LCB: 1.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.8E-2 Median: 4.8E-2 EF: 4 UCB: 1.9E-1 LCB: 1.2E-2 E: 1,500 N: 31,200	6.8E-2 --- 1.9E-1 1.2E-2 1,500 31,200	Atime: 01:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pg. 24 & 25 Origin: Analytic Reference: --- Vend/Eq.vl.:CR0 PlantCode: LSC1
0108101-18- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 5.6E-2 Median: 3.5E-2 EF: 5 UCB: 1.8E-1 LCB: 7.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 5.6E-2 Median: 3.5E-2 EF: 5 UCB: 1.8E-1 LCB: 7.0E-3 E: 1,000 N: 28,500	5.6E-2 --- 1.8E-1 7.0E-3 1,000 28,500	Atime: 01:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pg. 24 & 25 Origin: Analytic Reference: --- Vend/Eq.vl.:CR0 PlantCode: LSC1
0108101-19- 1*	Control Room Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 4.7E-2 Median: 2.6E-2 EF: 6 UCB: 1.6E-1 LCB: 4.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.7E-2 Median: 2.6E-2 EF: 6 UCB: 1.6E-1 LCB: 4.3E-3 E: 1,000 N: 38,400	4.7E-2 --- 1.6E-1 4.3E-3 1,000 38,400	Atime: 01:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, pg. 24 & 25 Origin: Analytic Reference: --- Vend/Eq.vl.:CR0 PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NOELARR calc		
0108401- 1- 1*	Control Room Operator OPERATES the Plant AC Distribution System operator fails to operate condensate system in LPI mode given: REP represents limit condition where inc time doesn't imp reliability seqtqav; local; ex-post ie, rop; therp; LPI failed Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.5E-4 Median: 10 EF: 7.5E-3 UCB: 7.5E-5 LCB: 7.5E-5 E: --- N: 133.300	2.0E-3 --- 0.100 133.300	Atime: 02:00:00 PTime: 00:06:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-87 chapter IV, page 292 Origin: Subjective Reference: 4-87 Vend/Eq.vl:080 PlantCode: G651
0108401- 2- 2*	Control Room Operator OPERATES the Plant AC Distribution System Operator fails to reconnect stub-bus after LOSP given: local, SeqLOSP, Post-I.E., Planned Operator Act, Therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.5E-3 Median: 10 EF: --- UCB: --- LCB: --- E: --- N: 66.600	4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600	Atime: 01:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-86 Chapter IV, Page 207 Origin: Simulation Modeling Reference: 4-87 Vend/Eq.vl:280 PlantCode: SPS1
0109501- 1- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems op fails to maint RPV #20 level at top of act fuel while at low pres given: seqtqc, local, post ie, rop, sli Mean: 2.0E-1 Median: 1.3E-1 EF: 8 UCB: 1.0E+0 LCB: 1.7E-2 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 1.3E-1 Median: --- EF: --- UCB: --- LCB: --- E: --- N: ---	2.0E-1 8 1.0E+0 1.7E-2 0.500 3.800	Atime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 6 Staffing: U Stress: 4 Supervision: U Tagging: U Training: 4	Document: 1-85 page 35, para 3 Origin: Simulation Modeling Reference: --- Vend/Eq.vl:083 PlantCode: PPS2
0109501- 2- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: local, SeqWA, Post-I.E., Sandia Recovery Model Mean: 8.3E-2 Median: 3.4E-2 EF: 9 UCB: 3.1E-1 LCB: 3.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.4E-2 Median: 9 EF: --- UCB: --- LCB: --- E: --- N: ---	8.3E-2 --- 3.1E-1 3.0E-3 14.700	Atime: 01:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 29,30,831 Origin: Analytic Reference: --- Vend/Eq.vl:080 PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0109501- 3- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.3E-2 Median: 4.2E-2 EF: 8 UCB: 3.4E-1 LCB: 5.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.3E-2 Median: 4.2E-2 EF: 8 UCB: 3.4E-1 LCB: 5.3E-3 E: 0.500 N: 11.900	9.3E-2 ---	ATime: 01:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 29,30,831 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0109501- 4- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.5E-2 Median: 4.7E-2 EF: 7 UCB: 3.3E-1 LCB: 6.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.5E-2 Median: 4.7E-2 EF: 7 UCB: 3.3E-1 LCB: 6.7E-3 E: 0.500 N: 10.600	9.5E-2 ---	ATime: 01:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 29,30,831 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0109501- 5- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.8E-2 Median: 5.4E-2 EF: 6 UCB: 3.2E-1 LCB: 9.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.8E-2 Median: 5.4E-2 EF: 6 UCB: 3.2E-1 LCB: 9.0E-3 E: 1.000 N: 18.500	9.8E-2 ---	ATime: 01:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 29,30,831 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0109501- 6- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.1E-1 Median: 6.3E-2 EF: 6 UCB: 3.8E-1 LCB: 1.1E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-1 Median: 6.3E-2 EF: 6 UCB: 3.8E-1 LCB: 1.1E-2 E: 1.000 N: 15.800	1.1E-1 ---	ATime: 00:50:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 29,30,831 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0109501- 7- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.2E-1 Median: 7.6E-2 EF: 5 UCB: 3.8E-1 LCB: 1.5E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.6E-2 EF: 5 UCB: LCB: E: N:	1.2E-1 --- 3.8E-1 1.5E-2 1.000 15.100	ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 29,30,&31 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0109501- 8- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.4E-1 Median: 9.6E-2 EF: 4 UCB: 3.8E-1 LCB: 2.4E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.6E-2 EF: 4 UCB: LCB: E: N:	1.4E-1 --- 3.8E-1 2.4E-2 1.500 15.600	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 29,30,&31 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0109501- 9- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.6E-1 Median: 1.3E-1 EF: 3 UCB: 3.9E-1 LCB: 4.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.3E-1 EF: 3 UCB: LCB: E: N:	1.6E-1 --- 3.9E-1 4.3E-2 2.000 15.300	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 29,30,&31 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0109501-10- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.5E-1 Median: 2.0E-1 EF: 3 UCB: 6.0E-1 LCB: 6.7E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.0E-1 EF: 3 UCB: LCB: E: N:	2.5E-1 --- 6.0E-1 6.7E-2 2.000 10.000	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 29,30,&31 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0109501-11- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: Local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 5.6E-1 Median: 5.6E-1 EF: 1 UCB: 5.6E-1 LCB: 5.6E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.6E-1 EF: 1 UCB: LCB: E: N:	5.6E-1 --- 5.6E-1 5.6E-1 20.000 35.700	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 29,30,431 Origin: Analytic Reference: ----- Vend/Eq.vl: CRO PlantCode: LSC1
0109501-12- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: Local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.3E-2 Median: 3.8E-2 EF: 9 UCB: 3.4E-1 LCB: 4.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-2 EF: 9 UCB: LCB: E: N:	9.3E-2 --- 3.4E-1 4.2E-3 0.500 15.100	ATime: 01:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 29,30,431 Origin: Analytic Reference: ----- Vend/Eq.vl: CRO PlantCode: LSC1
0109501-13- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Right conclus/wrong act path select. Capture seq based on respon set given: 100% power: errors of intention; PSFs -> HMI=11, S/R/K= 9, S.Cult= 6, motiv= 7, workload=11, comm= 8; local; Post-IE; ROP; HRA=INTENT Mean: 6.5E-2 Median: 2.9E-2 EF: 8 UCB: 2.2E-1 LCB: 3.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 2.2E-1 LCB: 3.9E-3 E: N:	6.2E-2 2.9E-2 8 --- 3.9E-3 0.500 17.000	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/Eq.vl: CRO PlantCode: ALLP
0109501-14- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Multiple fault situation, crew solves the more minor fault. given: 100% power: errors of intention; PSFs -> HMI= 8, S/R/K=10, S.Cult= 7, motiv= 7, workload= 9, comm=11; local; Post-IE; HRA=INTENT Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 1.2E-1 LCB: 1.2E-3 E: N:	3.2E-2 1.2E-2 10 --- 1.2E-3 0.100 8.300	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/Eq.vl: CRO PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0109503- 1- 1*	Control Room Operator DIAGNOSES the Emergency Core Cooling System Symptoms noticed, but incorrect interpretation. given: 100% power; errors of intention; PSFs -> HMI=11, S/R/K=11, S.Cult= 6, motiv= 8, workload=10, commun= 7; local; Post-1E; ROP; NRA=INTENT Mean: 3.3E-2 Median: 2.0E-2 EF: 5 UCB: 1.0E-1 LCB: 4.2E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 1.0E-1 LCB: 4.2E-3 E: N:	3.3E-2 2.0E-2 5 1.000 48.800	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0109503- 2- 1*	Control Room Operator DIAGNOSES the Emergency Core Cooling System Misdiagnose given like symptoms. Capture sequence based on stimuli. given: 100% power; errors of intention; PSFs -> HMI=11, S/R/K=11, S.Cult= 5, motiv= 8, workload=11, commun= 8; local; Post-1E; ROP; NRA=INTENT Mean: 6.9E-2 Median: 4.8E-2 EF: 4 UCB: 1.0E-1 LCB: 1.3E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 1.0E-1 LCB: 1.3E-2 E: N:	6.7E-2 4.8E-2 4 1.500 31.000	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0109601- 1- 1*	Control Room Operator OPERATES the High Pressure Coolant Injection System operator fails to switch from sup pool to CST given: achieve manually switching between the 2 water systs transient occurs, HPIC works, hi suppression pool temp Mean: 9.7E-3 Median: 6.0E-3 EF: 5 UCB: 3.0E-2 LCB: 1.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: EF: --- UCB: 3.0E-2 LCB: 1.2E-3 E: N:	9.7E-3 6.0E-3 5 1.000 166.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-84 page c-5, item 7 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BWR
0109602- 1- 1*	Control Room Operator MONITORS the High Pressure Coolant Injection System operator doesn't notice hi suppression pool temp could fail HPIC given: operator recognizes hi suppression pool temp can cause 2-phase flow transient occurs, suppression pool cooling inoperable Mean: 1.0E-1 Median: 7.0E-2 EF: 4 UCB: 3.1E-1 LCB: 1.6E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: EF: --- UCB: 3.1E-1 LCB: 1.6E-2 E: N:	1.1E-1 7.0E-2 4 1.000 14.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-84 page c-4, item 6 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BWR

* Data point is used in Task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0109701- 1- 1*	Control Room Operator OPERATES the High Pressure Core Spray System operator fails to initiate alternate room cooling given: operator successfully opens doors, providing cooling plant experiences station black out greater than 5 hours, HPCI emphasis Mean: 8.9E-2 Median: 4.0E-2 EF: 8 UCB: 3.0E-1 LCB: 5.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-2 EF: --- UCB: 3.0E-1 LCB: 5.3E-3 E: 0.500 N:	8.5E-2 7 5.3E-3 12.500	ATime: 05:00:00 PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-84 pg. c-5, item 8 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BWR
0109801- 1- 1*	Control Room Operator OPERATES the Low Pressure Core Spray System operator fails to operate LPCS valve given: seq=all; local; ev=post ie,pos; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N:	2.0E-3 --- 7.5E-3 0.100 133.300	ATime: 20:00:00 PTime: 00:06:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chap.IV,pg.205,it.3 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: GGS1
0109801- 2- 1*	Control Room Operator OPERATES the Low Pressure Core Spray System operator fails to actuate LPCS valve given: seq=all; local; ev=post ie,pos; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N:	2.0E-3 --- 7.5E-3 0.100 133.300	ATime: 20:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chap.IV,pg.205,it.1 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: GGS1
0109801- 3- 1*	Control Room Operator OPERATES the Low Pressure Core Spray System operator fails to operate LPCS valve given: seq=all; local; ev=post ; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N:	2.0E-3 --- 7.5E-3 0.100 133.300	ATime: 20:00:00 PTime: 00:06:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chap.IV,pg.205,it.1 Origin: None Reference: 901-87 Vend/EqLvl: CRO PlantCode: GGS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0109801- 4- 1*	Control Room Operator OPERATES the Low Pressure Core Spray System Failure to inject LP after RCIC failure. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 6.6E-2 Median: 2.7E-2 EF: 9 UCB: 2.4E-1 LCB: 3.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.6E-2 Median: 2.7E-2 EF: 9 UCB: 2.4E-1 LCB: 3.0E-3 E: 0.500 N: 18.500	6.6E-2 ---	ATime: 00:15:00 PTime: : : : : : Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 20 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0109801- 5- 1*	Control Room Operator OPERATES the Low Pressure Core Spray System Failure to inject LP after RCIC failure given: emergency drill on simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.8E-1 Median: 9.8E-1 EF: 1 UCB: 1.0E+0 LCB: 9.6E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.8E-1 Median: 9.8E-1 EF: 1 UCB: 1.0E+0 LCB: 9.6E-1 E: 20.000 N: 20.400	9.8E-1 1	ATime: 00:05:00 PTime: : : : : : Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pg. 20 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0109802- 1- 1*	Control Room Operator MONITORS the Low Pressure Core Spray System operator fails to operate LPCS valve given: seq=all; local; ev=post ; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N: 133.300	2.0E-3 ---	ATime: 20:00:00 PTime: 00:06:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 IV-205, item 3 Origin: None Reference: 901-87 Vend/EqLvl: CRO PlantCode: GGS1
0109901- 1- 1*	Control Room Operator OPERATES the Residual Heat Removal/Low Press Coolant Inject Syst operator fails to restore RHR cooling within 10 min given: restore RHR cooling after pump trip RHR pump trips due to electrical fault Mean: 9.0E-4 Median: 5.0E-4 EF: 6 UCB: 3.0E-3 LCB: 8.3E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.0E-4 Median: 5.0E-4 EF: 6 UCB: 3.0E-3 LCB: 8.3E-5 E: 1.000 N: 2000.000	9.0E-4 6	ATime: 00:10:00 PTime: : : : : : Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-84 pg. c-6, item 14 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BUR

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0109901- 2- 1*	Control Room Operator OPERATES the Residual Heat Removal/Low Press Coolant Inject Syst failure to align & actuate SPC given: this HEP represents a limiting condition where increased time does not reduce the HEP; seq=fall; local; ev=post ie,poa; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-4 EF: 10 UCB: LCB: E: N:	2.0E-3 --- 7.5E-3 7.5E-5 0.100 133.300	ATime: 02:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chap.IV,pg.206,tt.2 Origin: Subjective Reference: 4-87 Vend/EqLvl:CR0 PlantCode: GGS1
0113301- 1- 1*	Control Room Operator OPERATES the Generator R2 Cooling/CO2 Purge System operator fails to employ SRVS to achieve manual depressurization given: seq=atws(tc); local; ev=post ie,rop; sli=m Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-2 EF: 10 UCB: LCB: E: N:	1.3E-1 --- 5.0E-1 5.0E-3 0.100 2.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 6 Staffing: U Stress : 4 Supervision: U Tagging: U Training: 4	Document: 1-85 page 32, table 1 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:CR0 PlantCode: PBS2
0113301- 2- 1*	Control Room Operator OPERATES the Generator R2 Cooling/CO2 Purge System operator fails to defeat ADS initiation given: seq=atws(tc); local; ev=post ie,poa; sli Mean: 2.1E-2 Median: 8.0E-3 EF: 10 UCB: 8.0E-2 LCB: 8.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 8.0E-3 EF: 10 UCB: LCB: E: N:	2.1E-2 --- 8.0E-2 8.0E-4 0.100 12.500	ATime: 00:08:00 PTime: 00:04:00 Experience: U Feedback: U Procedure: 1 Staffing: U Stress : 4 Supervision: U Tagging: U Training: 1	Document: 1-85 page 26, 3rd para Origin: Simulation Modeling Reference: ----- Vend/EqLvl:CR0 PlantCode: PBS2
0113301- 3- 1*	Control Room Operator OPERATES the Generator R2 Cooling/CO2 Purge System operator fails to manually activate automatic depressuriz. system given: successfully depressur. of reactor coolant system (RCS) no pressure injection during loss of offsite power Mean: 2.0E-3 Median: 7.0E-4 EF: 11 UCB: 8.0E-3 LCB: 6.1E-5 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 7.0E-4 EF: --- UCB: 8.0E-3 LCB: E: N:	2.1E-3 11 8.0E-3 6.1E-5 0.100 142.800	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-84 appendix C-3, item 1 Origin: Psychological Scaling Reference: ----- Vend/EqLvl:CR0 PlantCode: BAR

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0114101- 1- 1*	Control Room Operator OPERATES the Heating, Ventilation & Air Conditioning Systems AUX operator fails to locally open air operated valves given: manually open valves to restore room cooling plant experiences total loss of instrument air Mean: 1.0E-1 Median: 3.0E-2 EF: 13 UCB: 3.9E-1 LCB: 2.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-1 Median: 3.0E-2 EF: --- UCB: 3.9E-1 LCB: 2.3E-3 E: 0.100 N: 3.300	1.0E-1 13 2.3E-3 0.100 3.300	ATime: 01:00:00 PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: 1 Tagging: 1 Training: U	Document: 2-84 pg. c-6, item 15 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BWR
0114101- 2- 1*	Control Room Operator OPERATES the Heating, Ventilation & Air Conditioning Systems operator fails to initiate alternate room cooling given: operator successfully opens doors, providing cooling plant experiences station black out greater than 5 hours Mean: 8.9E-2 Median: 4.0E-2 EF: 8 UCB: 3.0E-1 LCB: 5.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.9E-2 Median: 4.0E-2 EF: --- UCB: 3.0E-1 LCB: 5.3E-3 E: 0.500 N: 12.500	8.5E-2 7 5.3E-3 0.500 12.500	ATime: 05:00:00 PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-84 pg. c-5, item 6 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BWR
0116101- 1- 1*	Control Room Operator OPERATES the Reactor Protection System operator fails to manually insert rods given: manually scram reactor when suppression pool temp = 110 MSRV inadvertently opens, operator mistakenly thinks that he closes it Mean: 3.2E-4 Median: 2.0E-4 EF: 5 UCB: 1.0E-3 LCB: 4.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.2E-4 Median: 2.0E-4 EF: --- UCB: 1.0E-3 LCB: 4.0E-5 E: 1.000 N: 5000.000	3.2E-4 5 4.0E-5 1.000 5000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-84 page c-4, item 5 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BWR
0116901- 1- 1*	Control Room Operator OPERATES the Neutron Monitoring System fail to operate nuclear instrumentation system correctly given: proper verification that reactor power is decreased loss of offsite power event Mean: 2.3E-3 Median: 8.0E-4 EF: 11 UCB: 9.0E-3 LCB: 7.1E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.3E-3 Median: 8.0E-4 EF: --- UCB: 9.0E-3 LCB: 7.1E-5 E: 0.100 N: 125.000	2.4E-3 11 7.1E-5 0.100 125.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-84 pg c-4, item 3 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BWR

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0117901- 1- 1*	Control Room Operator OPERATES the Automatic Depressurization System operator fails to manually activate automatic depressurization syst. given: successful depressurization of reactor coolant system no high pressure injection during loss of offsite power Mean: 2.0E-3 Median: 7.0E-4 EF: 11 UCB: 8.0E-3 LCB: 6.1E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.0E-4 Median: 7.0E-4 EF: --- UCB: 8.0E-3 LCB: 6.1E-5 E: 0.100 N: 142.800	2.1E-3 11 6.1E-5 0.100 142.800	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-84 pg.appen. c-3,item 1 Origin: Psychological Scaling Reference: --- Vend/EqLvl:CRO PlantCode: BWR
0117901- 2- 1*	Control Room Operator OPERATES the Automatic Depressurization System operator fails to provide alternate depressurization via SRV given: limit condition where time doesn't improve reliability ADS has failed seq=tqx; local; ev=post ie,pos; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.5E-4 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N: 133.300	2.0E-3 --- 0.100 133.300	ATime: 02:00:00 PTime: 00:06:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chapter IV, page 202 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: GGS1
0117901- 3- 1*	Control Room Operator OPERATES the Automatic Depressurization System operator fails to provide alternate depressurization via SRV given: ADS has failed seq=tqx; local; ev=post ie,pos; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.5E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600	4.0E-3 --- 0.100 66.600	ATime: 00:40:00 PTime: 00:06:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chapter IV, page 202 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: GGS1
0118201- 1- 1*	Control Room Operator OPERATES the Feedwater Control System Failure to close FW valve 1A after level 7 alarm given: emergency drill on simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 3.5E-2 Median: 2.8E-2 EF: 3 UCB: 8.4E-2 LCB: 9.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.8E-2 Median: 2.8E-2 EF: 3 UCB: 8.4E-2 LCB: 9.3E-3 E: 2.000 N: 71.400	3.5E-2 --- 8.4E-2 9.3E-3 2.000 71.400	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pg. 19 Origin: Analytic Reference: --- Vend/EqLvl:CRO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0118201- 2- 1*	Control Room Operator OPERATES the Feedwater Control System Failure to close FW valve 1A after level 7 alarm given: emergency drill on simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 E: 20.000 N: 29.800	6.7E-1 ---	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pg. 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0118201- 3- 1*	Control Room Operator OPERATES the Feedwater Control System Failure to close FW valve 1A after level 7 alarm given: emergency drill on simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 E: 1.500 N: 333.300	6.4E-3 ---	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pg. 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0118201- 4- 1*	Control Room Operator OPERATES the Feedwater Control System Failure to close FW valve 1A after level 7 alarm given: emergency drill on simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 E: 0.500 N: 416.600	2.4E-3 ---	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pg. 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0123101- 1- 1*	Control Room Operator OPERATES the Water Systems operator fails to realign & operate the high pressure service water given: control room operator seq=tqxv,tqx; local; ev=post ie,rop; therp Mean: 1.0E-1 Median: 3.8E-2 EF: 10 UCB: 3.8E-1 LCB: 3.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-1 Median: 3.8E-2 EF: 10 UCB: 3.8E-1 LCB: 3.8E-3 E: 0.100 N: 2.600	1.0E-1 ---	ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 3-86 chapter IV page 188 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: PRS2

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Raw	MECLARR calc.	PSFs	Document Information
0123101-2-1*	Control Room Operator OPERATES the Water Systems operator fails to realign & operate the high pressure service water given: control room operator seq:tzav,tqaz; local; evpost ie,rop; therp Mean: 2.9E-2 Median: 1.1E-2 EF: 10 UCB: 1.1E-1 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 10 EF: UCB: LCB: E: M:	2.9E-2 --- 1.1E-1 1.1E-3 0.100 9.000	Atime: 02:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 3-86 chapter IV page 100 Origin: Subjective Reference: 4-87 Vend/Eq.vl:ORO PlantCode: P85Z
0123101-3-1*	Control Room Operator OPERATES the Water Systems operator fails to realign & operate the high pressure service water given: control room operator seq:tzav,tqaz; local; evpost ie,rop; therp Mean: 2.9E-2 Median: 1.1E-2 EF: 10 UCB: 1.1E-1 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 10 EF: UCB: LCB: E: M:	2.9E-2 --- 1.1E-1 1.1E-3 0.100 9.000	Atime: 04:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 3-86 chapter IV page 100 Origin: Subjective Reference: 4-87 Vend/Eq.vl:ORO PlantCode: P85Z
0123101-4-1*	Control Room Operator OPERATES the Water Systems operator fails to realign & operate the high pressure service water given: control room operator seq:tzav,tqaz; local; evpost ie,rop; therp Mean: 2.9E-2 Median: 1.1E-2 EF: 10 UCB: 1.1E-1 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 10 EF: UCB: LCB: E: M:	2.9E-2 --- 1.1E-1 1.1E-3 0.100 9.000	Atime: 08:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 3-86 chapter IV page 100 Origin: Subjective Reference: 4-87 Vend/Eq.vl:ORO PlantCode: P85Z
0123101-5-1*	Control Room Operator OPERATES the Water Systems operator fails to realign & operate the high pressure service water given: control room operator seq:tzav,tqaz; local; evpost ie,rop; therp Mean: 1.1E-3 Median: 4.0E-4 EF: 10 UCB: 4.0E-3 LCB: 4.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-4 Median: 10 EF: UCB: LCB: E: M:	1.1E-3 --- 4.0E-3 4.0E-5 0.100 250.000	Atime: 23:59:59 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 3-86 chapter IV page 100 Origin: Subjective Reference: 4-87 Vend/Eq.vl:ORO PlantCode: P85Z

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			PSFS	Document Information
		Raw	NUCLARR calc	Mean		
0123203- 1- 1*	Control Room Operator / DIAGNOSES the Circulating Water System operator fails to manually initiate RHRSM given; operator obtains successful long term decay heat removal LOCA occurs, detailed procedure; available Mean: 8.5E-3 Median: 1.0E-3 EF: 30 UCB: 3.0E-2 LCB: 3.1E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-3 Median: --- EF: --- UCB: 3.0E-2 LCB: --- E: --- N: ---	8.5E-3 30 3.1E-5 0.100 100.000	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 3 Stress: 1 Supervision: U Tagging: U Training: U	Document: 2-24 page c-6, item 12 Origin: Psychological Scaling Reference: --- Vend/Eq.vl:CRD PlantCode: BAR	
0123203- 2- 1*	Control Room Operator / DIAGNOSES the Circulating Water System operator fails to manually initiate RHRSM given; operator obtains successful long term decay heat removal LOCA occurs, detailed RHRSM procedures available; operator too busy; operator failed to respond to hi sup pool temp alarm & begin RHRSM Mean: 5.3E-3 Median: 2.0E-3 EF: 10 UCB: 2.0E-2 LCB: 2.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.0E-3 Median: --- EF: --- UCB: 2.0E-2 LCB: --- E: --- N: ---	5.3E-3 10 2.0E-4 0.100 50.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 3 Stress: 4 Supervision: U Tagging: U Training: U	Document: 2-64 pg. c-6, item 13 Origin: Psychological Scaling Reference: --- Vend/Eq.vl:CRD PlantCode: BAR	
0124101- 1- 1*	Control Room Operator OPERATES the Station Service Water System operator fails to align & actuate standby service water valve given; this REP represents a limiting condition where increased time does not reduce the REP; se; small; local; evpost; ie; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.5E-4 Median: 10 EF: --- UCB: --- LCB: --- E: --- N: ---	2.0E-3 --- 7.5E-3 7.5E-5 0.100 133.300	ATime: 12:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-87 chap. IV, pg. 206, it. 4 Origin: Subjective Reference: 4-87 Vend/Eq.vl:CRD PlantCode: GGS1	
0125101- 1- 1*	Control Room Operator OPERATES the Reactor Coolant Systems and Connected Systems failure to restore power conversion system given; se; q; tw; local; evpost; i.e.; pos; historical data Mean: 6.9E-3 Median: 2.6E-3 EF: 10 UCB: 2.6E-2 LCB: 2.6E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.6E-3 Median: 10 EF: --- UCB: --- LCB: --- E: --- N: ---	6.9E-3 --- 2.6E-2 2.6E-4 0.100 36.400	ATime: 20:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-87 Chap. IV, pg. 205, it. 5 Origin: Training / Simulation Reference: 4-87 Vend/Eq.vl:CRD PlantCode: GGS1	

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0125401- 1- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System operator fails to operate RCIC system given: maintain reactor water level loss of offsite power event (feedwater unavailable); RCIC-reactor core isolation cooling Mean: 1.6E-3 Median: 1.0E-3 EF: 5 UCB: 5.0E-3 LCB: 2.0E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: 1.6E-3 Median: 1.0E-3 EF: 5 UCB: 5.0E-3 LCB: 2.0E-4 E: N:	1.6E-3 5 1.000 1000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-84 pg c-4, item 2 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BWR
0125401- 2- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System operator fails to initiate alternate room cooling given: operator successfully opens door, providing cooling plant experiences station blackout greater than 5 hours; RCIC emphasis Mean: 8.9E-2 Median: 4.0E-2 EF: 8 UCB: 3.0E-1 LCB: 5.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.9E-2 Median: 4.0E-2 EF: 8 UCB: 3.0E-1 LCB: 5.3E-3 E: N:	8.5E-2 7 5.3E-3 0.500 12.500	ATime: 05:00:00 PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-84 pg c-5, item 8 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BWR
0125401- 3- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System AUX operator fails to locally open air operated valves given: manually open valves to restore room cooling plant experiences total loss of instrument air Mean: 1.0E-1 Median: 3.0E-2 EF: 13 UCB: 3.9E-1 LCB: 2.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-1 Median: 3.0E-2 EF: 13 UCB: 3.9E-1 LCB: 2.3E-3 E: N:	1.0E-1 13 2.3E-3 0.100 3.300	ATime: 01:00:00 PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-84 pg. c-6, item 15 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: CRO PlantCode: BWR
0125401- 4- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to initiate RCIC after station blackout. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 3.1E-2 Median: 2.8E-2 EF: 2 UCB: 5.6E-2 LCB: 1.4E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.1E-2 Median: 2.8E-2 EF: 2 UCB: 5.6E-2 LCB: 1.4E-2 E: N:	3.1E-2 --- 5.6E-2 1.4E-2 6.000 214.200	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 10 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: ESC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0125401- 5- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to initiate RCIC after station blackout. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.5E-3 EF: 4 UCB: LCB: E: N:	6.4E-3 --- 1.8E-2 1.1E-3 1.500 333.300	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0125401- 6- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to initiate RCIC after station blackout. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-3 EF: 7 UCB: LCB: E: N:	2.4E-3 --- 8.4E-3 1.7E-4 0.500 416.600	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0125401- 7- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to initiate RCIC after station blackout given: emergency drill on simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.7E-1 EF: 1 UCB: LCB: E: N:	6.7E-1 --- 6.7E-1 6.7E-1 20.000 29.800	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pg. 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0125401- 8- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to send B-man to open RCIC injection valve given: emergency drill on simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.5E-1 Median: 2.3E-1 EF: 2 UCB: 4.6E-1 LCB: 1.2E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.3E-1 EF: 2 UCB: LCB: E: N:	2.5E-1 --- 4.6E-1 1.2E-1 6.000 26.000	ATime: 00:05:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pg. 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0125401-9-1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to send B-man to open RCIC injection valve given: Emergency drill on a simulator; 100% power. Remote; Seq=N/A; Ev=Post; Sandia Mean: 5.6E-2 Median: 3.9E-2 EF: 4 UCB: 1.6E-1 LCB: 9.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 5.6E-2 Median: 3.9E-2 EF: 4 UCB: 1.6E-1 LCB: 9.8E-3 E: 1.500 N: 38.400	5.6E-2 --- 1.6E-1 9.8E-3 1.500 38.400	ATime: 00:15:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 21 22 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0125401-10-1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to send B-man to open RCIC injection valve given: Emergency drill on a simulator; 100% power. Remote; Seq=N/A; Ev=Post; Sandia Mean: 9.2E-2 Median: 8.4E-2 EF: 2 UCB: 1.7E-1 LCB: 4.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.2E-2 Median: 8.4E-2 EF: 2 UCB: 1.7E-1 LCB: 4.2E-2 E: 6.000 N: 71.400	9.2E-2 --- 1.7E-1 4.2E-2 6.000 71.400	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 21 22 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0125401-11-1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to send B-man to open RCIC injection valve given: emergency drill on simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 7.8E-1 Median: 7.8E-1 EF: 1 UCB: 9.0E-1 LCB: 6.8E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.8E-1 Median: 7.8E-1 EF: 1 UCB: 9.0E-1 LCB: 6.8E-1 E: 20.000 N: 25.600	7.8E-1 --- 1 9.0E-1 6.8E-1 20.000 25.600	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Pg. 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0125401-12-1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to reset RCIC isolation after DGIA loads given: emergency drill on simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.5E-1 Median: 2.3E-1 EF: 2 UCB: 4.6E-1 LCB: 1.2E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.5E-1 Median: 2.3E-1 EF: 2 UCB: 4.6E-1 LCB: 1.2E-1 E: 6.000 N: 26.000	2.5E-1 --- 4.6E-1 1.2E-1 6.000 26.000	ATime: 00:05:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, Pg. 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0125401-13- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to reset RCIC isolation after DGIA loads. given: Emergency drill on a simulator; 100% power. Local; Seq=N/A; Ev=Post; Sandia Mean: 5.6E-2 Median: 3.9E-2 EF: 4 UCB: 1.6E-1 LCB: 9.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 5.6E-2 Median: 3.9E-2 EF: 4 UCB: 1.6E-1 LCB: 9.8E-3 E: 1.500 N: 38.400	5.6E-2 ---	ATime: 00:15:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 21,22 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0125401-14- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to reset RCIC isolation after DGIA loads. given: Emergency drill on a simulator; 100% power. Local; Seq=N/A; Ev=Post; Sandia Mean: 9.2E-2 Median: 8.4E-2 EF: 2 UCB: 1.7E-1 LCB: 4.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.2E-2 Median: 8.4E-2 EF: 2 UCB: 1.7E-1 LCB: 4.2E-2 E: 6.000 N: 71.400	9.2E-2 ---	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 21,22 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0125401-15- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to reset RCIC isolation after DGIA loads. given: emergency drill on simulator; 100% power. local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 7.8E-1 Median: 7.8E-1 EF: 1 UCB: 9.0E-1 LCB: 6.8E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.8E-1 Median: 7.8E-1 EF: 1 UCB: 9.0E-1 LCB: 6.8E-1 E: 20.000 N: 25.600	7.8E-1 1	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pg. 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0125401-16- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to request RCIC investigation after RCIC fails given: emergency drill on simulator; 100% power. local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.5E-1 Median: 2.3E-1 EF: 2 UCB: 4.6E-1 LCB: 1.2E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.5E-1 Median: 2.3E-1 EF: 2 UCB: 4.6E-1 LCB: 1.2E-1 E: 6.000 N: 26.000	2.5E-1 ---	ATime: 00:05:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pg. 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLEAR CRIC	CRS	
0125401-17- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to request RCIC investigation after RCIC fails. given: Emergency drill on a simulator; 100% power. Local; Seq=N/A; Ev=Post; Sandia Mean: 5.6E-2 Median: 3.9E-2 EF: 4 UCB: 1.6E-1 LCB: 9.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-2 EF: 4 UCB: 1.6E-1 LCB: 9.8E-3 E: 1.500 N: 38.400	5.6E-2 ---	ATime: 00:15:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 21,22 Origin: Analytic Reference: ----- Vend/EqLvl:CRD PlantCode: LSC1
0125401-18- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to request RCIC investigation after RCIC fails. given: Emergency drill on a simulator; 100% power. Local; Seq=N/A; Ev=Post; Sandia Mean: 9.2E-2 Median: 8.4E-2 EF: 2 UCB: 1.7E-1 LCB: 4.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.4E-2 EF: 2 UCB: 1.7E-1 LCB: 4.2E-2 E: 6.000 N: 71.400	9.2E-2 ---	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 21,22 Origin: Analytic Reference: ----- Vend/EqLvl:CRD PlantCode: LSC1
0125401-19- 1*	Control Room Operator OPERATES the Reactor Core Isolation Cooling System Failure to request RCIC investigation after RCIC fails given: Emergency drill on simulator; 100% power local, Seq=NA, Post-1.E., Sandia Recovery Model Mean: 7.8E-1 Median: 7.8E-1 EF: 1 UCB: 9.0E-1 LCB: 6.8E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.8E-1 EF: --- UCB: 9.0E-1 LCB: 6.8E-1 E: 20.000 N: 25.600	7.8E-1 1	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pg. 19 Origin: Analytic Reference: ----- Vend/EqLvl:CRD PlantCode: LSC1
0125701- 1- 1*	Control Room Operator OPERATES the Standby Liquid Control System operator fails to provide SLC within 5-10 min. given: operator provides SLC within 5-10 min. ATWS, followed by failure to manually trip reactor Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-4 EF: --- UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000	2.7E-4 10	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 4 Supervision: U Tagging: U Training: U	Document: 2-84 page c-5, item 9 Origin: Psychological Scaling Reference: ----- Vend/EqLvl:CRD PlantCode: BWR

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0125701- 2- 1*	Control Room Operator OPERATES the Standby Liquid Control System operator fails to initiate SLCS within 2 minutes after ATWS given: note: no temp gage available seq=tc, local, post i.e., poa, oat/trc Mean: 7.5E-2 Median: 2.8E-2 EF: 10 UCB: 2.8E-1 LCB: 2.8E-3 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 7.5E-2 Median: 2.8E-2 EF: 10 UCB: 2.8E-1 LCB: 2.8E-3 E: 0.100 N: 3.500	---	ATime: 00:02:00 PTime: 00:00:20 Experience: U Feedback: U Procedure: 1 Staffing: U Stress: 4 Supervision: U Tagging: U Training: 1	Document: 1-85 page 21, para 3 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: PBS2
0126101- 1- 1*	Control Room Operator OPERATES the Standby Diesel Generator Systems Failure to request DGD repair after station blackout given: DGD is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.6E-1 Median: 6.6E-1 EF: 1 UCB: 6.6E-1 LCB: 6.6E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.6E-1 EF: 1 UCB: LCB: E: 20.000 N: 30.300	6.6E-1 ---	ATime: 00:01:00 PTime: ----- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 23 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0126101- 2- 1*	Control Room Operator OPERATES the Standby Diesel Generator Systems Failure to request DGD repair after station blackout given: DGD is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.4E-3 EF: 10 UCB: LCB: E: 0.100 N: 29.400	9.1E-3 ---	ATime: 00:10:00 PTime: ----- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 23 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0126101- 3- 1*	Control Room Operator OPERATES the Standby Diesel Generator Systems Failure to request DGD repair after station blackout given: DGD is out of service & DGD is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.6E-1 Median: 6.6E-1 EF: 1 UCB: 6.6E-1 LCB: 6.6E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.6E-1 EF: 1 UCB: LCB: E: 20.000 N: 30.300	6.6E-1 ---	ATime: 00:01:00 PTime: ----- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 23 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

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* Data point is used in Task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0126101- 4- 1*	Control Room Operator OPERATES the Standby Diesel Generator Systems Failure to request DGIB repair after station blackout given: DGO is out of service & DGIB is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.400	9.1E-3 3.4E-3 --- 3.4E-2 3.4E-4 0.100 29.400	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 23 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0126101- 5- 1*	Control Room Operator OPERATES the Standby Diesel Generator Systems Failure to recover DGIA after DGIA trouble given: DGO is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.6E-1 Median: 6.6E-1 EF: 1 UCB: 6.6E-1 LCB: 6.6E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.6E-1 Median: 6.6E-1 EF: 1 UCB: 6.6E-1 LCB: 6.6E-1 E: 20.000 N: 30.300	6.6E-1 6.6E-1 --- 6.6E-1 6.6E-1 20.000 30.300	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 23 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0126101- 6- 1*	Control Room Operator OPERATES the Standby Diesel Generator Systems Failure to recover DGIA after DGIA trouble given: DGO is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.400	9.1E-3 3.4E-3 --- 3.4E-2 3.4E-4 0.100 29.400	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 23 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0126101- 7- 1*	Control Room Operator OPERATES the Standby Diesel Generator Systems Failure to request DGA investigation after DCA failure given: DGO is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.400	9.1E-3 3.4E-3 --- 3.4E-2 3.4E-4 0.100 29.400	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 23 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0126101- 8- 1*	Control Room Operator OPERATES the Standby Diesel Generator Systems Failure to request DGA investigation after DCA failure given: DGO is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.6E-1 Median: 6.6E-1 EF: 1 UCB: 6.6E-1 LCB: 6.6E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.6E-1 EF: 1 UCB: LCB: E: N:	6.6E-1 --- 6.6E-1 6.6E-1 20.000 30.300	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 23 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0127301- 1- 1*	Control Room Operator OPERATES the Main Steam System Failure to close MSIVs after level 7 alarm given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 3.5E-2 Median: 2.8E-2 EF: 3 UCB: 8.4E-2 LCB: 9.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.8E-2 EF: 3 UCB: LCB: E: N:	3.5E-2 --- 8.4E-2 9.3E-3 2.000 71.400	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0127301- 2- 1*	Control Room Operator OPERATES the Main Steam System Failure to close MSIVs after level 7 alarm given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.5E-3 EF: 4 UCB: LCB: E: N:	6.4E-3 --- 1.8E-2 1.1E-3 1.500 333.300	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1
0127301- 3- 1*	Control Room Operator OPERATES the Main Steam System Failure to close MSIVs after level 7 alarm given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-3 EF: 7 UCB: LCB: E: N:	2.4E-3 --- 8.4E-3 1.7E-4 0.500 416.600	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl: CRO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0127301- 4- 1*	Control Room Operator OPERATES the Main Steam System Failure to close MSIVs after level 7 alarm given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.7E-1 EF: 1 UCB: LCB: E: N:	6.7E-1 --- 6.7E-1 6.7E-1 20.000 29.800	ATime: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: --- Vend/EqLvl: CRO PlantCode: LSC1
0200211- 1- 1*	Equipment Operator OPERATES the Instrument Air System operator fails to restore instrument air given: this HEP represents a limiting condition where increased time does not reduce the HEP; seq=all; remote; ev=post ie,rop; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-4 EF: 10 UCB: LCB: E: N:	2.0E-3 --- 7.5E-3 7.5E-5 0.100 133.300	ATime: 04:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chap.IV,pg.204,it.5 Origin: Subjective Reference: 4-87 Vend/EqLvl: E0 PlantCode: GGS1
0204113- 1- 1*	Equipment Operator MAINTAINS the Condensate Systems common cause miscalibration of CST low sensors given: BWR no compelling signals, written verification assumed no daily check local; seq=na; ev=pre; ASEP; Mean: 1.8E-4 Median: 6.7E-5 EF: 10 UCB: 6.7E-4 LCB: 6.6E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.7E-5 EF: 10 UCB: LCB: E: N:	1.8E-4 --- 6.7E-4 6.6E-6 0.100 1503.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 Origin: Subjective Reference: --- Vend/EqLvl: E0 PlantCode: PBS
0205111- 1- 1*	Equipment Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.0E-2 Median: 7.6E-3 EF: 10 UCB: 7.6E-2 LCB: 7.6E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.6E-3 EF: 10 UCB: LCB: E: N:	2.0E-2 --- 7.6E-2 7.6E-4 0.100 13.100	ATime: 01:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: --- Vend/EqLvl: E0 PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0205111- 2- 1*	Equipment Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.4E-2 Median: 1.1E-2 EF: 8 UCB: 8.8E-2 LCB: 1.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-2 EF: 8 UCB: LCB: E: N:	2.4E-2 --- 8.8E-2 1.4E-3 0.500 45.400	ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 77 & 28 Origin: Analytic Referer Vend Plt
0205111- 3- 1*	Equipment Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.9E-2 Median: 1.6E-2 EF: 6 UCB: 9.6E-2 LCB: 2.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.6E-2 EF: 6 UCB: LCB: E: N:	2.9E-2 --- 9.6E-2 2.7E-3 1.000 62.500	ATime: 00:50:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111- 4- 1*	Equipment Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 4.0E-2 Median: 2.5E-2 EF: 5 UCB: 1.3E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-2 EF: 5 UCB: LCB: E: N:	4.0E-2 --- 1.3E-1 5.0E-3 1.000 40.000	ATime: 00:40:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111- 5- 1*	Equipment Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.1E-2 Median: 4.3E-2 EF: 4 UCB: 1.7E-1 LCB: 1.1E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-2 EF: 4 UCB: LCB: E: N:	6.1E-2 --- 1.7E-1 1.1E-2 1.500 34.800	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	#UCLARR calc		
0205111- 6- 1*	Equipment Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.1E-1 Median: 8.4E-2 EF: 3 UCB: 2.5E-1 LCB: 2.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.4E-2 EF: 3 UCB: 2.5E-1 LCB: 2.8E-2 E: 2.000 N: 23.800	1.1E-1 ---	ATime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111- 7- 1*	Equipment Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.3E-1 Median: 2.1E-1 EF: 2 UCB: 4.2E-1 LCB: 1.1E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.1E-1 EF: 2 UCB: 4.2E-1 LCB: 1.1E-1 E: 6.000 N: 28.500	2.3E-1 ---	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111- 8- 1*	Equipment Operator OPERATES the Containment Systems Failure to jumper VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 8.7E-1 Median: 8.7E-1 EF: 1 UCB: 9.6E-1 LCB: 7.9E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.7E-1 EF: --- UCB: 9.6E-1 LCB: 7.9E-1 E: 20.000 N: 22.900	8.7E-1 1	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111- 9- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.0E-2 Median: 7.6E-3 EF: 10 UCB: 7.6E-2 LCB: 7.6E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.6E-3 EF: 10 UCB: 7.6E-2 LCB: 7.6E-4 E: 0.100 N: 13.100	2.0E-2 ---	ATime: 01:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLARR ca/c	PSFs	
0205111-10- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.4E-2 Median: 1.1E-2 EF: 8 UCB: 8.8E-2 LCB: 1.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-2 EF: 8 UCB: LCB: E: N:	2.4E-2 --- 8.3E-2 1.4E-3 0.500 45.400	ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111-11- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.9E-2 Median: 1.6E-2 EF: 6 UCB: 9.6E-2 LCB: 2.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.6E-2 EF: 6 UCB: LCB: E: N:	2.9E-2 --- 9.6E-2 2.7E-3 1.000 62.500	ATime: 00:50:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111-12- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 4.0E-2 Median: 2.5E-2 EF: 5 UCB: 1.3E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-2 EF: 5 UCB: LCB: E: N:	4.0E-2 --- 1.3E-1 5.0E-3 1.000 40.000	ATime: 00:40:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111-13- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.1E-2 Median: 4.3E-2 EF: 4 UCB: 1.7E-1 LCB: 1.1E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-2 EF: 4 UCB: LCB: E: N:	6.1E-2 --- 1.7E-1 1.1E-2 1.500 34.800	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-S/c	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0205111-14- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.1E-1 Median: 8.4E-2 EF: 3 UCB: 2.5E-1 LCB: 2.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.4E-2 EF: 3 UCB: 2.5E-1 LCB: 2.8E-2 E: 2.000 N: 23.800	1.1E-1 --- 2.5E-1 2.8E-2 2.000 23.800	ATime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111-15- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.3E-1 Median: 2.1E-1 EF: 2 UCB: 4.2E-1 LCB: 1.1E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.1E-1 EF: 2 UCB: 4.2E-1 LCB: 1.1E-1 E: 6.000 N: 28.500	2.3E-1 --- 4.2E-1 1.1E-1 6.000 28.500	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111-16- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after drywell isolation given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 8.7E-1 Median: 8.7E-1 EF: 1 UCB: 9.6E-1 LCB: 7.9E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.7E-1 EF: --- UCB: 9.6E-1 LCB: 7.9E-1 E: 20.000 N: 22.900	8.7E-1 1 9.6E-1 7.9E-1 20.000 22.900	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111-17- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.0E-2 Median: 7.6E-3 EF: 10 UCB: 7.6E-2 LCB: 7.6E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.6E-3 EF: 10 UCB: 7.6E-2 LCB: 7.6E-4 E: 0.100 N: 13.100	2.0E-2 --- 7.6E-2 7.6E-4 0.100 13.100	ATime: 01:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0205111-18- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.4E-2 Median: 1.1E-2 EF: 8 UCB: 8.8E-2 LCB: 1.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-2 EF: 8 UCB: LCB: E: N:	2.4E-2 --- 8.8E-2 1.4E-3 0.500 45.400	ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:E0 PlantCode: LSC1
0205111-19- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.9E-2 Median: 1.6E-2 EF: 6 UCB: 9.6E-2 LCB: 2.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.6E-2 EF: 6 UCB: LCB: E: N:	2.9E-2 --- 9.6E-2 2.7E-3 1.000 62.500	ATime: 00:50:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:E0 PlantCode: LSC1
0205111-20- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 4.0E-2 Median: 2.5E-2 EF: 5 UCB: 1.3E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-2 EF: 5 UCB: LCB: E: N:	4.0E-2 --- 1.3E-1 5.0E-3 1.000 40.000	ATime: 00:40:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:E0 PlantCode: LSC1
0205111-21- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.1E-2 Median: 4.3E-2 EF: 4 UCB: 1.7E-1 LCB: 1.1E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-2 EF: 4 UCB: LCB: E: N:	6.1E-2 --- 1.7E-1 1.1E-2 1.500 34.800	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:E0 PlantCode: LSC1

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0205111-22- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.1E-1 Median: 8.4E-2 EF: 3 UCB: 2.5E-1 LCB: 2.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.4E-2 EF: 3 UCB: LCB: E: N:	1.1E-1 --- 2.5E-1 2.8E-2 2.000 25.800	ATime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111-23- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.3E-1 Median: 2.1E-1 EF: 2 UCB: 4.2E-1 LCB: 1.1E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.1E-1 EF: 2 UCB: LCB: E: N:	2.3E-1 --- 4.2E-1 1.1E-1 6.000 28.500	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205111-24- 1*	Equipment Operator OPERATES the Containment Systems Failure to restore VP after DCA failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 8.7E-1 Median: 8.7E-1 EF: 1 UCB: 9.6E-1 LCB: 7.9E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.7E-1 EF: --- UCB: 9.6E-1 LCB: E: N:	8.7E-1 1 7.9E-1 20.000 22.900	ATime: 00:01:00 PTime: 00:00:00 Exp:rience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pages 27 & 28 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205711- 1- 1*	Equipment Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after DGIA load given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 3.5E-2 Median: 2.8E-2 EF: 3 UCB: 8.4E-2 LCB: 9.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.8E-2 EF: 3 UCB: LCB: E: N:	3.5E-2 --- 8.4E-2 9.3E-3 2.000 71.400	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0205711- 2- 1*	Equipment Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after DGIA load given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.5E-3 EF: 4 UCB: LCB: E: N:	6.4E-3 --- 1.8E-2 1.1E-3 1.500 333.300	ATime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205711- 3- 1*	Equipment Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after DGIA load given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-3 EF: 7 UCB: LCB: E: N:	2.4E-3 --- 8.4E-3 1.7E-4 0.500 416.600	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205711- 4- 1*	Equipment Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after DGIA load given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.7E-1 EF: 1 UCB: LCB: E: N:	6.7E-1 --- 6.7E-1 6.7E-1 20.000 29.800	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205711- 5- 1*	Equipment Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after Rx trip given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-3 EF: 7 UCB: LCB: E: N:	2.4E-3 --- 8.4E-3 1.7E-4 0.500 416.600	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0205711- 6- 1*	Equipment Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after Rx trip given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.5E-3 EF: 4 UCB: LCB: E: N:	6.4E-3 --- 1.8E-2 1.1E-3 1.500 333.300	ATime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205711- 7- 1*	Equipment Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after Rx trip given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.7E-1 EF: 1 UCB: LCB: E: N:	6.7E-1 --- 6.7E-1 6.7E-1 20.000 29.800	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0205711- 8- 1*	Equipment Operator OPERATES the Suppression Pool Support System Failure to initiate SP cooling after Rx trip given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 3.5E-2 Median: 2.8E-2 EF: 3 UCB: 8.4E-2 LCB: 9.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.8E-2 EF: 3 UCB: LCB: E: N:	3.5E-2 --- 8.4E-2 9.3E-3 2.000 71.400	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0207111- 1- 1*	Equipment Operator OPERATES the Control Rod Drive Systems Failure to send P man to close SDV valves after scram reset attempt given: emergency drill on a simulator; 100% power remote Seq=NA, Post-I.E., Sandia Recovery Model Mean: 5.3E-2 Median: 2.4E-2 EF: 8 UCB: 1.9E-1 LCB: 3.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.4E-2 EF: 8 UCB: LCB: E: N:	5.3E-2 --- 1.9E-1 3.0E-3 0.500 20.800	ATime: 01:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 32 & 33 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0207111- 2- 1*	Equipment Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt given: emergency drill on a simulator; 100% power remote Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.6E-2 Median: 3.3E-2 EF: 7 UCB: 2.3E-1 LCB: 4.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.3E-2 EF: 7 UCB: LCB: E: N:	6.6E-2 --- 2.3E-1 4.7E-3 0.500 15.100	ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 32 & 33 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0207111- 3- 1*	Equipment Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt given: emergency drill on a simulator; 100% power remote Seq=NA, Post-I.E., Sandia Recovery Model Mean: 7.4E-2 Median: 4.6E-2 EF: 5 UCB: 2.3E-1 LCB: 9.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.6E-2 EF: 5 UCB: LCB: E: N:	7.4E-2 --- 2.3E-1 9.2E-3 1.000 21.700	ATime: 00:50:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 32 & 33 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0207111- 4- 1*	Equipment Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt given: emergency drill on a simulator; 100% power remote Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.0E-1 Median: 7.1E-2 EF: 4 UCB: 2.8E-1 LCB: 1.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.1E-2 EF: 4 UCB: LCB: E: N:	1.0E-1 --- 2.8E-1 1.8E-2 1.500 21.100	ATime: 00:40:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 32 & 33 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0207111- 5- 1*	Equipment Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt given: emergency drill on a simulator; 100% power remote Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.4E-1 Median: 1.1E-1 EF: 3 UCB: 3.3E-1 LCB: 3.7E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-1 EF: 3 UCB: LCB: E: N:	1.4E-1 --- 3.3E-1 3.7E-2 2.000 18.100	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 32 & 33 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLEAR calc		
0207111- 6- 1*	Equipment Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt given; emergency drill on a simulator; 100% power remote Seq=MA, Post-1.E., Sandia Recovery Model Mean: 2.1E-1 Median: 1.9E-1 EF: 2 UCB: 3.8E-1 LCB: 9.5E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.9E-1 Median: 2 EF: UCB: LCB: E: N:	2.1E-1 --- 3.8E-1 9.5E-2 6.000 31.500	ATime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 32 & 33 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0207111- 7- 1*	Equipment Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt given; emergency drill on a simulator; 100% power remote Seq=MA, Post-1.E., Sandia Recovery Model Mean: 3.9E-1 Median: 3.9E-1 EF: 1 UCB: 3.9E-1 LCB: 3.9E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.9E-1 Median: 1 EF: UCB: LCB: E: N:	3.9E-1 --- 3.9E-1 3.9E-1 20.000 51.200	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 32 & 33 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0207111- 8- 1*	Equipment Operator OPERATES the Control Rod Drive Systems Failure to send B-man to close SDV valves after scram reset attempt given; emergency drill on a simulator; 100% power remote Seq=MA, Post-1.E., Sandia Recovery Model Mean: 9.6E-1 Median: 9.6E-1 EF: --- UCB: 1.0E+0 LCB: 9.2E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.6E-1 Median: --- EF: UCB: LCB: E: N:	9.6E-1 1 9.2E-1 20.000 20.800	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 32 & 33 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0208111- 1- 1*	Equipment Operator OPERATES the Electrical Distribution Systems failure to restore offsite power given; seq-station blackout; remote; ev=post-i.e.; historical data Mean: 2.7E-1 Median: 1.1E-1 EF: 9 UCB: 1.0E+0 LCB: 1.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-1 Median: --- EF: UCB: LCB: E: N:	2.7E-1 9 1.0E+0 1.2E-2 0.500 4.500	ATime: 02:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.205,ft.4 Origin: Training / Simulation Reference: 3-87 Vend/Eq.vl:EO PlantCode: GG01

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLPFR calc		
0208111- 2- 1*	Equipment Operator OPERATES the Electrical Distribution Systems failure to restore offsite power given: seq=station blackout; remote; ev=post-i.e.; historical data Mean: 2.0E-1 Median: 7.5E-2 EF: 10 UCB: 7.5E-1 LCB: 7.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-2 EF: 10 UCB: LCB: E: N:	2.0E-1 --- 7.5E-1 7.5E-3 0.100 1.300	ATime: 04:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.205,it.4 Origin: Training / Simulation Reference: 3-87 Vend/EqLvl:E0 PlantCode: GGS1
0208111- 3- 1*	Equipment Operator OPERATES the Electrical Distribution Systems failure to restore offsite power given: seq=station blackout; remote; ev=post-i.e.; historical data Mean: 4.0E-2 Median: 1.5E-2 EF: 10 UCB: 1.5E-1 LCB: 1.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-2 EF: 10 UCB: LCB: E: N:	4.0E-2 --- 1.5E-1 1.5E-3 0.100 6.600	ATime: 08:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.205,it.4 Origin: Training / Simulation Reference: 3-87 Vend/EqLvl:E0 PlantCode: GGS1
0208111- 4- 1*	Equipment Operator OPERATES the Electrical Distribution Systems failure to restore offsite power given: seq=station blackout; remote; ev=post-i.e.; historical data Mean: 2.0E-2 Median: 7.5E-3 EF: 10 UCB: 7.5E-2 LCB: 7.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-3 EF: 10 UCB: LCB: E: N:	2.0E-2 --- 7.5E-2 7.5E-4 0.100 13.300	ATime: 12:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.205,it.4 Origin: Training / Simulation Reference: 3-87 Vend/EqLvl:E0 PlantCode: GGS1
0208111- 5- 1*	Equipment Operator OPERATES the Electrical Distribution Systems failure to restore offsite power given: seq=station blackout; remote; ev=post-i.e.; historical data Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-4 EF: 10 UCB: LCB: E: N:	1.0E-3 --- 3.8E-3 3.8E-5 0.100 263.100	ATime: 20:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.205,it.4 Origin: Training / Simulation Reference: 3-87 Vend/EqLvl:E0 PlantCode: GGS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0208111- 6- 1*	<p>Equipment Operator OPERATES the Electrical Distribution Systems failure to restore offsite power given: seq=station blackout; remote; ev=post-i.e.; historical data</p> <p>Mean: 3.0E-1 Median: 1.5E-1 EF: 7 UCB: 1.0E+0 LCB: 2.3E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.9E-1 Median: 1.5E-1 EF: --- UCB: 1.0E+0 LCB: 2.3E-2 E: 0.500 N: 3.300</p>	<p>2.9E-1 7 1.0E+0 2.3E-2 0.500 3.300</p>	<p>ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-87 Chap.IV,pg.205,it.4 Origin: Training / Simulation Reference: 3-87 Vend/EqLvl:EO PlantCode: GGS1</p>
0208111- 7- 1*	<p>Equipment Operator OPERATES the Electrical Distribution Systems Failure to request x-tie after SAT failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model</p> <p>Mean: 5.6E-2 Median: 3.5E-2 EF: 5 UCB: 1.8E-1 LCB: 7.0E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.6E-2 Median: 3.5E-2 EF: 5 UCB: 1.8E-1 LCB: 7.0E-3 E: 1.000 N: 28.500</p>	<p>5.6E-2 --- 1.8E-1 7.0E-3 1.000 28.500</p>	<p>ATime: 01:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1</p>
0208111- 8- 1*	<p>Equipment Operator OPERATES the Electrical Distribution Systems Failure to request x-tie after SAT failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model</p> <p>Mean: 6.8E-2 Median: 4.8E-2 EF: 4 UCB: 1.9E-1 LCB: 1.2E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 6.8E-2 Median: 4.8E-2 EF: 4 UCB: 1.9E-1 LCB: 1.2E-2 E: 1.500 N: 31.200</p>	<p>6.8E-2 --- 1.9E-1 1.2E-2 1.500 31.200</p>	<p>ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1</p>
0208111- 9- 1*	<p>Equipment Operator OPERATES the Electrical Distribution Systems Failure to request x-tie after SAT failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model</p> <p>Mean: 8.6E-2 Median: 6.9E-2 EF: 3 UCB: 2.1E-1 LCB: 2.3E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 8.6E-2 Median: 6.9E-2 EF: 3 UCB: 2.1E-1 LCB: 2.3E-2 E: 2.000 N: 28.900</p>	<p>8.6E-2 --- 2.1E-1 2.3E-2 2.000 28.900</p>	<p>ATime: 00:50:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0208111-10- 1*	Equipment Operator OPERATES the Electrical Distribution Systems Failure to request x-tie after SAT failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-1 EF: 3 UCB: LCB: E: N:	1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000	ATime: 00:40:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
02081 1-11- 1*	Equipment Operator OPERATES the Electrical Distribution Systems Failure to request x-tie after SAT failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.7E-1 Median: 1.6E-1 EF: 2 UCB: 3.2E-1 LCB: 8.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.6E-1 EF: 2 UCB: LCB: E: N:	1.7E-1 --- 3.2E-1 8.0E-2 6.000 37.500	ATi: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0208111-12- 1*	Equipment Operator OPERATES the Electrical Distribution Systems Failure to request x-tie after SAT failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 3.1E-1 Median: 2.8E-1 EF: 2 UCB: 5.6E-1 LCB: 1.4E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.8E-1 EF: 2 UCB: LCB: E: N:	3.1E-1 --- 5.6E-1 1.4E-1 6.000 21.400	ATime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0208111-13- 1*	Equipment Operator OPERATES the Electrical Distribution Systems Failure to request x-tie after SAT failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 5.4E-1 Median: 5.4E-1 EF: 1 UCB: 5.4E-1 LCB: 5.4E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.4E-1 EF: 1 UCB: LCB: E: N:	5.4E-1 --- 5.4E-1 5.4E-1 20.000 37.000	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0208111-14- 1*	Equipment Operator OPERATES the Electrical Distribution Systems Failure to request x-tie after SAT failure given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.9E-1 Median: 9.9E-1 EF: 1 UCB: 1.0E+0 LCB: 9.8E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.9E-1 EF: --- UCB: 1.0E+0 LCB: E: N:	9.9E-1 1 9.8E-1 20.000 20.200	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0208111-15- 1*	Equipment Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.9E-1 Median: 9.9E-1 EF: 1 UCB: 1.0E+0 LCB: 9.8E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.9E-1 EF: --- UCB: 1.0E+0 LCB: E: N:	9.9E-1 1 9.8E-1 20.000 20.200	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0208111-16- 1*	Equipment Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 5.4E-1 Median: 5.4E-1 EF: 1 UCB: 5.4E-1 LCB: 5.4E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.4E-1 EF: 1 UCB: LCB: E: N:	5.4E-1 --- 5.4E-1 20.000 37.000	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0208111-17- 1*	Equipment Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 3.1E-1 Median: 2.8E-1 EF: 2 UCB: 5.6E-1 LCB: 1.4E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.8E-1 EF: 2 UCB: LCB: E: N:	3.1E-1 --- 5.6E-1 6.000 21.400	ATime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0208111-18- 1*	Equipment Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.7E-1 Median: 1.6E-1 EF: 2 UCB: 3.2E-1 LCB: 8.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.6E-1 EF: 2 UCB: LCB: E: N:	1.7E-1 --- 3.2E-1 8.0E-2 6.000 37.500	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0208111-19- 1*	Equipment Operator OPEPATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-1 EF: 3 UCB: LCB: E: N:	1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000	ATime: 00:40:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0208111-20- 1*	Equipment Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 8.6E-2 Median: 6.9E-2 EF: 3 UCB: 2.1E-1 LCB: 2.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.9E-2 EF: 3 UCB: LCB: E: N:	8.6E-2 --- 2.1E-1 2.3E-2 2.000 28.900	ATime: 00:50:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0208111-21- 1*	Equipment Operator OPERATES the Electrical Distribution Systems Failure to restore BUS 151 locally after Rx trip given: emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.8E-2 Median: 4.8E-2 EF: 4 UCB: 1.9E-1 LCB: 1.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.8E-2 EF: 4 UCB: LCB: E: N:	6.8E-2 --- 1.9E-1 1.2E-2 1.500 31.200	ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, Pgs 24 & 25 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	HUCLARR calc		
0208113- 1- 1*	<p>Equipment Operator MAINTAINS the Electrical Distribution Systems operator fails to restore offsite power given:</p> <p>seq=losp; remote; ev=post ie,rop; op exp</p> <p>Mean: 5.0E-1 Median: 4.0E-1 EF: 3 UCB: 1.0E+0 LCB: 1.6E-1 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 4.7E-1 Median: 4.0E-1 EF: --- UCB: 1.0E+0 LCB: 1.6E-1 E: 3.000 N: 7.500</p>	<p>4.7E-1 3 1.6E-1 3.000 7.500</p>	<p>ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 3-86 chapter IV, page 188 Origin: Subjective Reference: 4-87 Vend/EqLvl:EO PlantCode: PBS2</p>
0208113- 2- 1*	<p>Equipment Operator MAINTAINS the Electrical Distribution Systems operator fails to restore offsite power given:</p> <p>seq=losp; remote; ev=post ie,rop; op exp</p> <p>Mean: 3.8E-1 Median: 3.0E-1 EF: 3 UCB: 1.0E+0 LCB: 9.0E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.9E-1 Median: 3.0E-1 EF: --- UCB: 1.0E+0 LCB: 9.0E-2 E: 2.000 N: 6.600</p>	<p>3.9E-1 3 9.0E-2 2.000 6.600</p>	<p>ATime: 02:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 3-86 chapter IV, page 188 Origin: Subjective Reference: 4-87 Vend/EqLvl:EO PlantCode: PBS2</p>
0208113- 3- 1*	<p>Equipment Operator MAINTAINS the Electrical Distribution Systems operator fails to restore offsite power given:</p> <p>seq=losp; remote; ev=post ie,rop; op exp</p> <p>Mean: 3.2E-1 Median: 2.0E-1 EF: 5 UCB: 1.0E+0 LCB: 4.0E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.2E-1 Median: 2.0E-1 EF: --- UCB: 1.0E+0 LCB: 4.0E-2 E: 1.000 N: 5.000</p>	<p>3.2E-1 5 4.0E-2 1.000 5.000</p>	<p>ATime: 04:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 3-86 chapter IV, page 188 Origin: Subjective Reference: 4-87 Vend/EqLvl:EO PlantCode: PBS2</p>
0208113- 4- 1*	<p>Equipment Operator MAINTAINS the Electrical Distribution Systems operator fails to restore offsite power given:</p> <p>seq=losp; remote; ev=post ie,rop; op exp</p> <p>Mean: 6.5E-2 Median: 4.0E-2 EF: 5 UCB: 2.0E-1 LCB: 8.0E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 6.5E-2 Median: 4.0E-2 EF: --- UCB: 2.0E-1 LCB: 8.0E-3 E: 1.000 N: 25.000</p>	<p>6.5E-2 5 8.0E-3 1.000 25.000</p>	<p>ATime: 08:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 3-85 chapter IV, page 188 Origin: Subjective Reference: 4-87 Vend/EqLvl:EO PlantCode: PBS2</p>

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0208113- 5- 1*	<p>Equipment Operator MAINTAINS the Electrical Distribution Systems operator fails to restore offsite power given:</p> <p>seq=losp; remote; ev=post ie,rop; op exp</p> <p>Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 E: 0.100 N: 100.000</p>	<p>2.7E-3 --- 1.0E-2 1.0E-4 0.100 100.000</p>	<p>ATime: 23:59:59 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 3-86 chapter IV, page 185 Origin: Subjective Reference: 4-87 Vend/EqLvl:E0 PlantCode: PBS2</p>
0208311- 1- 1*	<p>Equipment Operator OPERATES the DC Power System operator fails to restore DC battery from hardware failure given:</p> <p>seq=station blackout; remote; ev=post-i.e.,rop; historical data</p> <p>Mean: 3.8E-1 Median: 3.0E-1 EF: 3 UCB: 1.0E+0 LCB: 9.0E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.0E-1 Median: 3.0E-1 EF: --- UCB: 1.0E+0 LCB: 9.0E-2 E: 2.000 N: 6.600</p>	<p>3.9E-1 3 1.0E+0 9.0E-2 2.000 6.600</p>	<p>ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-87 Chap.IV,pg.204,it.2 Origin: Training / Simulation Reference: 4-87 Vend/EqLvl:E0 PlantCode: GGS1</p>
0208311- 2- 1*	<p>Equipment Operator OPERATES the DC Power System operator fails to restore DC battery from hardware failure given:</p> <p>seq=station blackout; remote; ev=post-i.e.,rop; historical data</p> <p>Mean: 2.0E-1 Median: 7.5E-2 EF: 10 UCB: 7.5E-1 LCB: 7.5E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 7.5E-2 Median: 7.5E-2 EF: 10 UCB: 7.5E-1 LCB: 7.5E-3 E: 0.100 N: 1.300</p>	<p>2.0E-1 --- 7.5E-1 7.5E-3 0.100 1.300</p>	<p>ATime: 04:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-87 Chap.IV,pg.204,it.2 Origin: Training / Simulation Reference: 4-87 Vend/EqLvl:E0 PlantCode: GGS1</p>
0208311- 3- 1*	<p>Equipment Operator OPERATES the DC Power System operator fails to recover DC battery common mode failure given:</p> <p>seq=station blackout; remote; ev=post-i.e.,rop; historical data</p> <p>Mean: 4.7E-1 Median: 3.8E-1 EF: 3 UCB: 1.0E+0 LCB: 1.4E-1 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.8E-1 Median: 3.8E-1 EF: --- UCB: 1.0E+0 LCB: 1.4E-1 E: 3.000 N: 8.000</p>	<p>4.5E-1 3 1.0E+0 1.4E-1 3.000 8.000</p>	<p>ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-87 Chap.IV,pg.204,it.1 Origin: Training / Simulation Reference: 4-87 Vend/EqLvl:E0 PlantCode: GGS1</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0208311- 4- 1*	Equipment Operator OPERATES the DC Power System operator fails to recover DC battery common mode failure given: seq=station blackout; remote; ev=post-i.e.,rop; historical data Mean: 3.8E-1 Median: 3.0E-1 EF: 3 UCB: 1.0E+0 LCB: 9.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-1 EF: --- UCB: LCB: E: N:	3.9E-1 3 1.0E+0 9.0E-2 2.000 6.600	ATime: 04:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.204,it.1 Origin: Training / Simulation Reference: 4-87 Vend/EqLvl:EO PlantCode: GGS1
0208311- 5- 1*	Equipment Operator OPERATES the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers, identified by labels only remote Seq=NA, Pre-I.E., Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 Pages 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
0208311- 6- 1*	Equipment Operator OPERATES the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers, identified by labels only remote Seq=NA, Pre-I.E., Therp Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: LCB: E: N:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: 00:00:00 PTime: 00:00:00 Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U	Document: 2-84 Page c-8, item 10 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: BWR
0208313- 1- 1*	Equipment Operator MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers, identified by labels only remote Seq=NA, Pre-I.E., Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

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Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			
		Raw	NUCLARR calc	PSFs	
0208313- 2- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers, identified by labels only remote Seq=NA, Pre-I.E., Therp</p> <p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300</p>	<p>1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U</p>	<p>Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/Eqlvl:EO PlantCode: ALLP</p>
0208313- 3- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers, identified by labels only remote Seq=NA, Pre-I.E., Therp</p> <p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400</p>	<p>2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U</p>	<p>Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/Eqlvl:EO PlantCode: ALLP</p>
0208313- 4- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions remote Seq=NA, Pre-I.E., Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/Eqlvl:EO PlantCode: ALLP</p>
0208314- 1- 1*	<p>Equipment Operator INSPECTS the DC Power System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions remote Seq=NA, Pre-I.E., Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/Eqlvl:EO PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLARR calc	PSFs	
0208411- 1- 1*	<p>Equipment Operator OPERATES the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers; identified by labels only remote Seq=NA, Pre-I.E., Expert Judgment</p> <p>Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300</p>	<p>8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg c-8, item 10 Origin: Psychological Scaling Reference: ----- Vend/EqLvl: E0 PlantCode: BWR</p>
0208411- 2- 1*	<p>Equipment Operator OPERATES the Plant AC Distribution System Operator fails to restore AC power by manually closing a breaker given: Operator manually closes breaker to restore AC power remote Seq=NA, Post-I.E., Therp</p> <p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 E: 2.000 N: 20.000</p>	<p>1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 3-84 pg 6-34, item 17 Origin: Simulation Modeling Reference: 1-83 Vend/EqLvl: E0 PlantCode: NEE3</p>
0208411- 3- 1*	<p>Equipment Operator OPERATES the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers, identified by labels only remote Seq=NA, Pre-I.E., Therp</p> <p>Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000</p>	<p>6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 2 Training: U</p>	<p>Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl: E0 PlantCode: ALLP</p>
0208411- 4- 1*	<p>Equipment Operator OPERATES the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers, identified by labels only remote Seq=NA, Pre-I.E., Therp</p> <p>Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000</p>	<p>6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 2 Training: U</p>	<p>Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl: E0 PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0208413- 1- 1*	<p>Equipment Operator MAINTAINS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq=NA, Pre-I.E., Therp</p> <p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300</p>	<p>1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U</p>	<p>Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0208413- 2- 1*	<p>Equipment Operator MAINTAINS the Plant AC Distribution System Operator fails to restore AC power by manually closing a breaker given: Operator manually closes breaker to restore AC power remote Seq=NA, Post-I.E., Therp</p> <p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 E: 2.000 N: 20.000</p>	<p>1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 3-84 pg 6-34, item 17 Origin: Simulation Modeling Reference: 1-83 Vend/EqLvl:EO PlantCode: NEE3</p>
0208413- 3- 1*	<p>Equipment Operator MAINTAINS the Plant AC Distribution System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions remote Seq=NA, Pre-I.E., Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0208413- 4- 1*	<p>Equipment Operator MAINTAINS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=NA, Pre-I.E., Therp</p> <p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.7E-4 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.7E-4 LCB: 5.7E-4 E: 2.000 N: 1176.400</p>	<p>2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U</p>	<p>Document: 1-83 pg 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0208413- 5- 1*	<p>Equipment Operator MAINTAINS the Plant AC Distribution System</p> <p>Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker</p> <p>Rather dense group of circuit breakers, identified by labels only</p> <p>remote Seq=NA, Pre-1.E., Therp</p> <p>Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3</p> <p>Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 6.2E-3</p> <p>Median: 5.0E-3</p> <p>EF: 3</p> <p>UCB: 1.5E-2</p> <p>LCB: 1.7E-3</p> <p>E: 2.000</p> <p>N: 400.000</p>	<p>6.2E-3</p> <p>---</p> <p>1.5E-2</p> <p>1.7E-3</p> <p>2.000</p> <p>400.000</p>	<p>ATime: 00:00:00</p> <p>PTime: 00:00:00</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: 1</p> <p>Stress: 1</p> <p>Supervision: U</p> <p>Tagging: 2</p> <p>Training: U</p>	<p>Document: 1-83</p> <p>pg 20-28, item 13</p> <p>Origin: Training / Simulation</p> <p>Reference: -----</p> <p>Vend/EqLvl:EO</p> <p>PlantCode: ALLP</p>
0208414- 1- 1*	<p>Equipment Operator INSPECTS the Plant AC Distribution System</p> <p>Subject improperly mates electrical connector given: Subject properly closes the circuit</p> <p>Non-specific, average plant conditions</p> <p>remote Seq=NA, Pre-1.E., Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3</p> <p>Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3</p> <p>Median: 3.0E-3</p> <p>EF: 3</p> <p>UCB: 9.0E-3</p> <p>LCB: 1.0E-3</p> <p>E: 2.000</p> <p>N: 666.600</p>	<p>3.8E-3</p> <p>---</p> <p>9.0E-3</p> <p>1.0E-3</p> <p>2.000</p> <p>666.600</p>	<p>ATime: 00:00:00</p> <p>PTime: 00:00:00</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: 1</p> <p>Stress: 1</p> <p>Supervision: U</p> <p>Tagging: U</p> <p>Training: U</p>	<p>Document: 1-83</p> <p>pg 20-28, item 13</p> <p>Origin: Training / Simulation</p> <p>Reference: -----</p> <p>Vend/EqLvl:EO</p> <p>PlantCode: ALLP</p>
0209511- 1- 1*	<p>Equipment Operator OPERATES the Emergency Core Cooling Systems</p> <p>Failure to request diesel fire pump after station blackout given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-1.E., Sandia Recovery Model</p> <p>Mean: 5.6E-1 Median: 5.6E-1 EF: 1 UCB: 5.6E-1 LCB: 5.6E-1</p> <p>Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.6E-1</p> <p>Median: 5.6E-1</p> <p>EF: 1</p> <p>UCB: 5.6E-1</p> <p>LCB: 5.6E-1</p> <p>E: 20.000</p> <p>N: 35.700</p>	<p>5.6E-1</p> <p>---</p> <p>5.6E-1</p> <p>5.6E-1</p> <p>20.000</p> <p>35.700</p>	<p>ATime: 00:01:00</p> <p>PTime: 00:00:00</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: U</p> <p>Stress: U</p> <p>Supervision: U</p> <p>Tagging: U</p> <p>Training: U</p>	<p>Document: 5-87</p> <p>Vol 2, pgs 29,30,31</p> <p>Origin: Analytic</p> <p>Reference: -----</p> <p>Vend/EqLvl:EO</p> <p>PlantCode: LSC1</p>
0209511- 2- 1*	<p>Equipment Operator OPERATES the Emergency Core Cooling Systems</p> <p>Failure to request diesel fire pump after station blackout given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-1.E., Sandia Recovery Model</p> <p>Mean: 2.5E-1 Median: 2.0E-1 EF: 3 UCB: 6.0E-1 LCB: 6.7E-2</p> <p>Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.5E-1</p> <p>Median: 2.0E-1</p> <p>EF: 3</p> <p>UCB: 6.0E-1</p> <p>LCB: 6.7E-2</p> <p>E: 2.000</p> <p>N: 10.000</p>	<p>2.5E-1</p> <p>---</p> <p>6.0E-1</p> <p>6.7E-2</p> <p>2.000</p> <p>10.000</p>	<p>ATime: 00:10:00</p> <p>PTime: 00:00:00</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: U</p> <p>Stress: U</p> <p>Supervision: U</p> <p>Tagging: U</p> <p>Training: U</p>	<p>Document: 5-87</p> <p>Vol 2, pgs 29,30,31</p> <p>Origin: Analytic</p> <p>Reference: -----</p> <p>Vend/EqLvl:EO</p> <p>PlantCode: LSC1</p>

* Data point is used in task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLARR calc	PSFs	
0209511- 3- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.6E-1 Median: 1.3E-1 EF: 3 UCB: 3.9E-1 LCB: 4.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.3E-1 EF: 3 UCB: LCB: E: N:	1.6E-1 --- 3.9E-1 4.3E-2 2.000 15.300	ATime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, pgs 29,30,31 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0209511- 4- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.4E-1 Median: 9.6E-2 EF: 4 UCB: 3.8E-1 LCB: 2.4E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.6E-2 EF: 4 UCB: LCB: E: N:	1.4E-1 --- 3.8E-1 2.4E-2 1.500 15.600	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, pgs 29,30,31 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0209511- 5- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.2E-1 Median: 7.6E-2 EF: 5 UCB: 3.8E-1 LCB: 1.5E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.6E-2 EF: 5 UCB: LCB: E: N:	1.2E-1 --- 3.8E-1 1.5E-2 1.000 13.100	ATime: 00:40:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, pgs 29,30,31 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0209511- 6- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.1E-1 Median: 6.3E-2 EF: 6 UCB: 3.8E-1 LCB: 1.1E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.3E-2 EF: 6 UCB: LCB: E: N:	1.1E-1 --- 3.8E-1 1.1E-2 1.000 15.800	ATime: 00:50:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, pgs 29,30,31 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0209511- 7- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.8E-2 Median: 5.4E-2 EF: 6 UCB: 3.2E-1 LCB: 9.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.4E-2 EF: 6 UCB: LCB: E: N:	9.8E-2 --- 3.2E-1 9.0E-3 1.000 18.500	ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, pgs 29,30,31 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0209511- 8- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.5E-2 Median: 4.7E-2 EF: 7 UCB: 3.3E-1 LCB: 6.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.7E-2 EF: 7 UCB: LCB: E: N:	9.5E-2 --- 3.3E-1 6.7E-3 0.500 10.600	ATime: 01:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, pgs 29,30,31 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0209511- 9- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.3E-2 Median: 4.2E-2 EF: 8 UCB: 3.4E-1 LCB: 5.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.2E-2 EF: 8 UCB: LCB: E: N:	9.3E-2 --- 3.4E-1 5.3E-3 0.500 11.900	ATime: 01:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, pgs 29,30,31 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0209511-10- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Failure to request diesel fire pump after station blackout given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 8.3E-2 Median: 3.4E-2 EF: 9 UCB: 3.1E-1 LCB: 3.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.4E-2 EF: 9 UCB: LCB: E: N:	8.3E-2 --- 3.1E-1 3.8E-3 0.500 14.700	ATime: 01:40:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, pgs 29,30,31 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0209511-11- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems failure to request diesel fire pump after station blackout given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.3E-2 Median: 3.8E-2 EF: 9 UCB: 3.4E-1 LCB: 4.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-2 EF: 9 UCB: 3.4E-1 LCB: 4.2E-3 E: 0.500 N: 13.100	9.3E-2 --- 3.4E-1 4.2E-3 0.500 13.100	ATime: 01:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, pgs 29,30,31 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0209511-12- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Excessive task duration results in poor judgement. given: 100% power: errors of intention; PSFs -> HMI= 9, S/R/K= 8, S.Cult= 8, motiv= 9, workload=11, commun= 7; remote; Post-IE; ROP; NRA=INTENT Mean: 4.1E-2 Median: 3.8E-2 EF: 2 UCB: 9.0E-2 LCB: 1.6E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 9.0E-2 LCB: 1.6E-2 E: 4.000 N: 105.400	4.4E-2 3.8E-2 2 9.0E-2 1.6E-2 4.000 105.400	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
0209511-13- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Excessive task demands result in poor judgement. given: 100% power: errors of intention; PSFs -> HMI= 8, S/R/K= 8, S.Cult= 8, motiv= 7, workload=13, commun=9; remote; Post-IE; ROP; NRA=INTENT Mean: 1.1E-1 Median: 9.2E-2 EF: 3 UCB: 2.9E-1 LCB: 2.9E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 2.9E-1 LCB: 2.9E-2 E: 2.000 N: 21.800	1.2E-1 9.2E-2 3 2.9E-1 2.9E-2 2.000 21.800	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
0209611- 1- 1*	Equipment Operator OPERATES the High Pressure Coolant Injection System aux operator fails to locally open air operated valved given: manually open valves to restore room cooling plant experiences total loss of instrument air seq=na; remote; ev=post event,poa; exper judge Mean: 1.0E-1 Median: 3.0E-2 EF: 13 UCB: 3.9E-1 LCB: 2.3E-3 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-2 EF: --- UCB: 3.9E-1 LCB: 2.3E-3 E: 0.100 N: 3.300	1.0E-1 3.0E-2 --- 3.9E-1 2.3E-3 0.100 3.300	ATime: 01:00:00 PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : 4 Supervision: U Tagging: U Training: U	Document: 2-84 page c-6, item 15 Origin: Psychological Scaling Reference: ----- Vend/EqLvl:EO PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0209711- 1- 1*	Equipment Operator OPERATES the High Pressure Core Spray System operator fails to restore NPCS pump room cooling given: seq=all; remote; ev=post ie,poa; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600	4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600	ATime: 20:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-87 chap.IV,pg.204,it.4 Origin: Subjective Reference: 4-87 Vend/EqLvl:EO PlantCode: GGST
0209811- 1- 1*	Equipment Operator OPERATES the Low Pressure Core Spray System operator fails to restore LPCS pump room cooling given: This HEP represents a limiting condition where increased time does not reduce the HEP; seq=all; remote; ev=post ie,poa; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600	4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600	ATime: 06:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-87 chap.IV,pg.205,it.2 Origin: Subjective Reference: 4-87 Vend/EqLvl:EO PlantCode: GGST
0209811- 2- 1*	Equipment Operator OPERATES the Low Pressure Core Spray System Failure to inject LP after RCIC failure given: Emergency drill on a simulator; 100% power Local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 1.0E+0 Median: 1.0E+0 EF: 1 UCB: 1.0E+0 LCB: 1.0E+0 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E+0 Median: 1.0E+0 EF: 1 UCB: 1.0E+0 LCB: 1.0E+0 E: 20.000 N: 20.000	1.0E+0 --- 1.0E+0 20.000 20.000	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, page 20 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0209811- 3- 1*	Equipment Operator OPERATES the Low Pressure Core Spray System Failure to inject LP after RCIC failure given: Emergency drill on a simulator; 100% power Local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 3.6E-1 Median: 3.3E-1 EF: 2 UCB: 6.6E-1 LCB: 1.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.6E-1 Median: 3.3E-1 EF: 2 UCB: 6.6E-1 LCB: 1.7E-1 E: 6.000 N: 18.100	3.6E-1 --- 6.6E-1 1.7E-1 6.000 18.100	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, page 20 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

* Data point used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLARR calc	PSFs	
0209811- 4- 1*	Equipment Operator OPERATES the Low Pressure Core Spray System Failure to inject LP after RCIC failure given: Emergency drill on a simulator; 100% power Local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.8E-1 Median: 9.8E-1 EF: 1 UCB: 1.0E+0 LCB: 9.6E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.8E-1 EF: --- UCB: 1.0E+0 LCB: E: 20.000 N: 20.400	9.8E-1 1 9.6E-1 20.000 20.400	ATime: 00:05:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, page 20 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0209811- 5- 1*	Equipment Operator OPERATES the Low Pressure Core Spray System Failure to inject LP after RCIC failure given: Emergency drill on a simulator; 100% power Local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.6E-2 Median: 2.7E-2 EF: 9 UCB: 2.4E-1 LCB: 3.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.7E-2 EF: 9 UCB: LCB: E: N:	6.6E-2 --- 2.4E-1 3.0E-3 0.500 18.500	ATime: 00:15:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, page 20 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0209911- 1- 1*	Equipment Operator OPERATES the Residual Heat Removal/Low Press Coolant Inject Syst operator fails to restore RHR pump room cooling given: seq=tw; remote; ev=post ie,poa; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-3 EF: 10 UCB: LCB: E: N:	4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600	ATime: 20:00:00 PTime: ----- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chap.IV,pp.206,tt.1 Origin: Subjective Reference: 4-87 Vend/EqLvl:EO PlantCode: GGST
0209911- 2- 1*	Equipment Operator OPERATES the Residual Heat Removal/Low Press Coolant Inject Syst Failure to initiate RHR after ATWS. given: Emergency drill on a simulator; 100% power. Local; Seq=N/A; Ev=Post; Sandia Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-3 EF: 7 UCB: LCB: E: N:	2.4E-3 --- 8.4E-3 1.7E-4 0.500 416.600	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MOCLARR calc		
0209911- 3- 1*	Equipment Operator OPERATES the Residual Heat Removal/Low Press Coolant Inject Syst Failure to initiate RHR after ATWS. given; Emergency drill on a simulator; 100% power. Local; seq=N/A; Ev=Post; Sandia Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.0E-2 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.0E-2 LCB: 1.1E-3 E: 1.590 N: 333.300 Supervision: U Tagging: U Training: U	6.4E-3 --- 1.0E-2 1.1E-3 1.590 333.300	Atime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0209911- 4- 1*	Equipment Operator OPERATES the Residual Heat Removal/Low Press Coolant Inject Syst Failure to initiate RHR after ATWS. given; Emergency drill on a simulator; 100% power. Local; seq=N/A; Ev=Post; Sandia Mean: 3.1E-2 Median: 2.0E-2 EF: 2 UCB: 5.6E-2 LCB: 1.4E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.1E-2 Median: 2.0E-2 EF: 2 UCB: 5.6E-2 LCB: 1.4E-2 E: 6.000 N: 274.200 Supervision: U Tagging: U Training: U	3.1E-2 --- 5.6E-2 1.4E-2 6.000 274.200	Atime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0209911- 5- 1*	Equipment Operator OPERATES the Residual Heat Removal/Low Press Coolant Inject Syst Failure to initiate RHR after ATWS. given; Emergency drill on a simulator; 100% power. Local; seq=NA, Post-1.E., Sandia Recovery Model Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 E: 20.000 N: 29.800 Supervision: U Tagging: U Training: U	6.7E-1 --- 6.7E-1 6.7E-1 20.000 29.800	Atime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0218113- 1- 1*	Equipment Operator MAINTAINS the Containment Atmosphere Monitoring System Common cause miscalibration of high drywell pressure sensors given; BWR4/WK1 Local; seq=N/A; ev=pre ASEP Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 1000.000 Supervision: U Tagging: U Training: U	2.7E-4 --- 1.0E-3 1.0E-5 1000.000	Atime: 00:00:00 PTime: ----- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP MUREG/CR-4772 Origin: Subjective Reference: ----- Vend/Eq.vl:EO PlantCode: PBS

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0218211- 1- 1*	Equipment Operator OPERATES the Feedwater Control System Violate procedure and devise own formula. given: 100% power; errors of intention; PSF, HMI - B, S/R/K - 10, S.Cult - 9 motiv - 9, workload - B, commun - 5; remote; pre-IE, HRA - INTENT Mean: 1.4E-2 Median: 8.7E-3 EF: 5 UCB: 4.7E-2 LCB: 1.6E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	1.5E-2 8.7E-3 5 4.7E-2 1.6E-3 1.000 115.300	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
0225411- 1- 1*	Equipment Operator OPERATES the Reactor Core Isolation Cooling System operator fails to restore RCIC pump room cooling given: seq=all; remote; ev=post ie,pos; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	4.0E-3 1.5E-3 10 1.5E-2 1.5E-4 0.100 66.600	ATime: 12:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-87 chp. IV, pg. 205, it. 6 Origin: Subjective Reference: 4-87 Vend/EqLvl:EO PlantCode: GGS1
0225411- 2- 1*	Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to initiate RCIC after station blackout. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 3.1E-2 Median: 2.8E-2 EF: 2 UCB: 5.6E-2 LCB: 1.4E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	3.1E-2 2.8E-2 2 5.6E-2 1.4E-2 6.000 214.200	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0225411- 3- 1*	Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to initiate RCIC after station blackout. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Prst; Sandia Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	6.4E-3 4.5E-3 4 1.8E-2 1.1E-3 1.500 333.300	ATime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0225411- 4- 1*	Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to initiate RCIC after station blackout. given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-3 EF: 7 UCB: LCB: E: N:	2.4E-3 --- 8.4E-3 1.7E-4 0.500 416.600	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0225411- 5- 1*	Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to initiate RCIC after station blackout given: Emergency drill on a simulator; 100% power Local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.7E-1 EF: 1 UCB: LCB: E: N:	6.7E-1 --- 6.7E-1 6.7E-1 20.000 29.800	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0225411- 7- 1*	Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to send B-man to open RCIC injection valve given: Emergency drill on a simulator; 100% power remote Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.5E-1 Median: 2.3E-1 EF: 2 UCB: 4.6E-1 LCB: 1.2E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.3E-1 EF: 2 UCB: LCB: E: N:	2.5E-1 --- 4.6E-1 1.2E-1 6.000 26.000	ATime: 00:05:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, pgs 21 & 22 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0225411- 8- 1*	Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to send B-man to open RCIC injection valve. given: Emergency drill on a simulator; 100% power. Remote; Seq=N/A; Ev=Post; Sandia Mean: 5.6E-2 Median: 3.9E-2 EF: 4 UCB: 1.6E-1 LCB: 9.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.9E-2 EF: 4 UCB: LCB: E: N:	5.6E-2 --- 1.6E-1 9.8E-3 1.500 38.400	ATime: 00:15:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 21,22 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

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Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0225411-9-1*	<p>Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to send B-man to open RCIC injection valve. given: Emergency drill on a simulator; 100% power. Remote; Seq=N/A; Ev=Post; Sandia</p> <p>Mean: 9.2E-2 Median: 8.4E-2 EF: 2 UCB: 1.7E-1 LCB: 4.2E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 9.2E-2 Median: 8.4E-2 EF: 2 UCB: 1.7E-1 LCB: 4.2E-2 E: 6.000 N: 71.400</p>	<p>9.2E-2 --- 1.7E-1 4.2E-2 6.000 71.400</p>	<p>ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-87 Vol. 2, page 21,22 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1</p>
0225411-10-1*	<p>Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to send B-man to open RCIC injection valve given: Emergency drill on a simulator; 100% power remote Seq=NA, Post-I.E., Sandia Recovery Model</p> <p>Mean: 7.8E-1 Median: 7.8E-1 EF: 1 UCB: 9.0E-1 LCB: 6.8E-1 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 7.8E-1 Median: 7.8E-1 EF: 1 UCB: 9.0E-1 LCB: 6.8E-1 E: 20.000 N: 25.600</p>	<p>7.8E-1 1 9.0E-1 6.8E-1 20.000 25.600</p>	<p>ATime: 00:01:00 PTime: 06:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-87 Vol 2, pgs 21 & 22 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1</p>
0225411-11-1*	<p>Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to reset RCIC isolation after DG1A loads given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model</p> <p>Mean: 2.5E-1 Median: 2.3E-1 EF: 2 UCB: 4.6E-1 LCB: 1.2E-1 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.5E-1 Median: 2.3E-1 EF: 2 UCB: 4.6E-1 LCB: 1.2E-1 E: 6.000 N: 26.000</p>	<p>2.5E-1 --- 4.6E-1 1.2E-1 6.000 26.000</p>	<p>ATime: 00:05:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-87 Vol 2, pgs 21 & 22 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1</p>
0225411-12-1*	<p>Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to reset RCIC isolation after DG1A loads. given: Emergency drill on a simulator; 100% power. Local; Seq=N/A; Ev=Post; Sandia</p> <p>Mean: 5.6E-2 Median: 3.9E-2 EF: 4 UCB: 1.6E-1 LCB: 9.8E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.6E-2 Median: 3.9E-2 EF: 4 UCB: 1.6E-1 LCB: 9.8E-3 E: 1.500 N: 38.400</p>	<p>5.6E-2 --- 1.6E-1 9.8E-3 1.500 38.400</p>	<p>ATime: 00:15:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-87 Vol. 2, page 21,22 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0225411-13- 1*	Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to reset RCIC isolation after DGIA loadn. given: Emergency drill on a simulator; 100% power. Local, Seq=N/A; Ev=Post; Sandia Mean: 9.2E-2 Median: 8.4E-2 EF: 2 UCB: 1.7E-1 LCB: 4.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.2E-2 Median: 8.4E-2 EF: 2 UCB: LCB: E: N:	9.2E-2 --- 1.7E-1 4.2E-2 6.000 71.400	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 21,22 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0225411-14- 1*	Equipment Operator OPERATES the Reactor Core Isolation Cooling System Failure to reset RCIC isolation after DGIA loads given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 7.8E-1 Median: 7.8E-1 EF: 1 UCB: 9.0E-1 LCB: 6.8E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.8E-1 EF: --- UCB: 9.0E-1 LCB: E: N:	7.8E-1 1 6.8E-1 20.000 25.600	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, pgs 21 & 22 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0226111- 1- 1*	Equipment Operator OPERATES the Standby Diesel Generator Systems Failure to request DGA investigation after DCA failn., given: DGO is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.4E-3 EF: 10 UCB: LCB: E: N:	9.1E-3 --- 3.4E-2 3.4E-4 0.100 29.400	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, page 23 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0226111- 2- 1*	Equipment Operator OPERATES the Standby Diesel Generator Systems Failure to request DGA investigation after DCA failure given: DGO is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.6E-1 Median: 6.6E-1 EF: 1 UCB: 6.6E-1 LCB: 6.6E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.6E-1 EF: 1 UCB: LCB: E: N:	6.6E-1 --- 6.6E-1 6.6E-1 20.000 30.300	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, page 23 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLARR calc	PSFs	
0226111- 3- 1*	<p>Equipment Operator OPERATES the Standby Diesel Generator Systems Failure to request DGA investigation after DCA failure given: DGO is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model</p> <p>Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.400</p>	<p>9.1E-3 ---</p>	<p>ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-87 Vol 2, page 23 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1</p>
0226111- 4- 1*	<p>Equipment Operator OPERATES the Standby Diesel Generator Systems Failure to recover DGIA after DCA trouble given: DGO is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model</p> <p>Mean: 6.6E-1 Median: 6.6E-1 EF: 1 UCB: 6.6E-1 LCB: 6.6E-1 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 6.6E-1 Median: 6.6E-1 EF: 1 UCB: 6.6E-1 LCB: 6.6E-1 E: 20.000 N: 30.300</p>	<p>6.6E-1 ---</p>	<p>ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-87 Vol 2, page 23 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1</p>
0226111- 5- 1*	<p>Equipment Operator OPERATES the Standby Diesel Generator Systems Failure to request DGIB repair after station blackout given: DGO is out of service & DGIB is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model</p> <p>Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.400</p>	<p>9.1E-3 ---</p>	<p>ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-87 Vol 2, page 23 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1</p>
0226111- 6- 1*	<p>Equipment Operator OPERATES the Standby Diesel Generator Systems Failure to request DGIB repair after station blackout given: DGO is out of service & DGIB is out of service local, Seq=NA, Post-I.E., Sandia Recovery Model</p> <p>Mean: 6.6E-1 Median: 6.6E-1 EF: 1 UCB: 6.6E-1 LCB: 6.6E-1 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 6.6E-1 Median: 6.6E-1 EF: 1 UCB: 6.6E-1 LCB: 6.6E-1 E: 20.000 N: 30.300</p>	<p>6.6E-1 ---</p>	<p>ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-87 Vol 2, page 23 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	WUCLARR calc		
0226111- 7- 1*	Equipment Operator OPERATES the Standby Diesel Generator Systems Failure to request DGO repair after station blackout given: DGO is out of service Local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.4E-3 Median: 10 EF: UCB: LCB: E: N:	9.1E-3 --- 3.4E-2 3.4E-4 0.100 29.400	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 23 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0226111- 8- 1*	Equipment Operator OPERATES the Standby Diesel Generator Systems Failure to request DGO repair after station blackout given: Emergency drill on a simulator; 100% power. Local; Seq=N/A; Ev=Post; Sandia Mean: 7.2E-1 Median: 6.6E-1 EF: 2 UCB: 1.0E+0 LCB: 4.4E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.6E-1 Median: 2 EF: UCB: LCB: E: N:	6.6E-1 --- 1.0E+0 4.4E-1 15.000 22.700	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 23 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0227311- 1- 1*	Equipment Operator OPERATES the Main Steam System Failure to close MAIVs after level 7 alarm given: Emergency drill on a simulator; 100% power Local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 3.5E-2 Median: 2.8E-2 EF: 3 UCB: 8.4E-2 LCB: 9.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.8E-2 Median: 3 EF: UCB: LCB: E: N:	3.5E-2 --- 8.4E-2 9.3E-3 2.000 71.400	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1
0227311- 2- 1*	Equipment Operator OPERATES the Main Steam System Failure to close MSIV after level 7 alarm given: Emergency drill on a simulator; 100% power. Seq=N/A; Ev=Post; Sandia Mean: 6.4E-3 Median: 4.5E-3 EF: 4 UCB: 1.8E-2 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.5E-3 Median: 4 EF: UCB: LCB: E: N:	6.4E-3 --- 1.8E-2 1.1E-3 1.500 333.300	ATime: 00:20:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol. 2, page 19 Origin: Analytic Reference: ----- Vend/Eq.vl:EO PlantCode: LSC1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0227311- 3- 1*	Equipment Operator OPERATES the Main Steam System Failure to close MSIVs after level 7 alarm given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 2.4E-3 Median: 1.2E-3 EF: 7 UCB: 8.4E-3 LCB: 1.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-3 EF: 7 UCB: LCB: E: N:	2.4E-3 --- 8.4E-3 1.7E-4 0.500 416.600	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0227311- 4- 1*	Equipment Operator OPERATES the Main Steam System Failure to close MSIVs after level 7 alarm given: Emergency drill on a simulator; 100% power local, Seq=NA, Post-I.E., Sandia Recovery Model Mean: 6.7E-1 Median: 6.7E-1 EF: 1 UCB: 6.7E-1 LCB: 6.7E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.7E-1 EF: 1 UCB: LCB: E: N:	6.7E-1 --- 6.7E-1 6.7E-1 20.000 29.800	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-87 Vol 2, page 19 Origin: Analytic Reference: ----- Vend/EqLvl:EO PlantCode: LSC1
0227313- 1- 1*	Equipment Operator MAINTAINS the Main Steam System aux op fails to restore PCS (power conversion system) given: seq=tq; remote; ev=post ie,rop; op exp Mean: 6.1E-1 Median: 5.6E-1 EF: 2 UCB: 1.0E+0 LCB: 3.1E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.6E-1 EF: --- UCB: 1.0E+0 LCB: E: N:	6.0E-1 2 3.1E-1 8.000 14.200	ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 3-86 chapter IV page 188 Origin: None Reference: 4-87 Vend/EqLvl:EO PlantCode: PBS2
0227313- 2- 1*	Equipment Operator MAINTAINS the Main Steam System aux op fails to restore PCS (power conversion system) given: seq=tq; remote; ev=post ie,rop; op exp Mean: 5.3E-2 Median: 2.0E-2 EF: 10 UCB: 2.0E-1 LCB: 2.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.0E-2 EF: 10 UCB: LCB: E: N:	5.3E-2 --- 2.0E-1 2.0E-3 0.100 5.000	ATime: 02:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 3-86 chapter IV page 188 Origin: None Reference: 4-87 Vend/EqLvl:EO PlantCode: PBS2

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0227313- 3- 1*	<p>Equipment Operator MAINTAINS the Main Steam System aux op fails to restore PCS (power conversion system) given:</p> <p>seq=tq; remote; ev=post ie,rop; op exp</p> <p>Mean: 1.0E-2 Median: 3.8E-3 EF: 10 UCB: 3.8E-2 LCA: 3.8E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-2 Median: 3.8E-3 EF: 10 UCB: 3.8E-2 LCB: 3.8E-4 E: 0.100 N: 26.300</p>	<p>1.0E-2 --- 3.8E-2 3.8E-4 0.100 26.300</p>	<p>ATime: 04:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 3-86 chapter IV page 188 Origin: None Reference: 4-87 Vend/EqLvl:EO PlantCode: PBS2</p>
0227313- 4- 1*	<p>Equipment Operator MAINTAINS the Main Steam System aux op fails to restore PCS (power conversion system) given:</p> <p>seq=tq; remote; ev=post ie,rop; op exp</p> <p>Mean: 1.0E-2 Median: 3.8E-3 EF: 10 UCB: 3.8E-2 LCB: 3.8E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-2 Median: 3.8E-3 EF: 10 UCB: 3.8E-2 LCB: 3.8E-4 E: 0.100 N: 26.300</p>	<p>1.0E-2 --- 3.8E-2 3.8E-4 0.100 26.300</p>	<p>ATime: 08:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 3-86 chapter IV page 188 Origin: None Reference: 4-87 Vend/EqLvl:EO PlantCode: PBS2</p>
0227313- 5- 1*	<p>Equipment Operator MAINTAINS the Main Steam System aux op fails to restore PCS (power conversion system) given:</p> <p>seq=tq; remote; ev=post ie,rop; op exp</p> <p>Mean: 6.9E-3 Median: 2.6E-3 EF: 10 UCB: 2.6E-2 LCB: 2.6E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 6.9E-3 Median: 2.6E-3 EF: 10 UCB: 2.6E-2 LCB: 2.6E-4 E: 0.100 N: 38.400</p>	<p>6.9E-3 --- 2.6E-2 2.6E-4 0.100 38.400</p>	<p>ATime: 23:59:59 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 3-86 chapter IV page 188 Origin: None Reference: 4-87 Vend/EqLvl:EO PlantCode: PBS2</p>
0231114- 1- 1*	<p>Equipment Operator INSPECTS the Process Sampling Systems Checkers performing QA tolerate a discrepancy. given: 100% power: errors of intention; PSF, HMI - 8, S/R/K - 10, S.Cult - 10 motiv - 9, workload -10, commun - 6;remote ;pre-IE, HRA - INTENT</p> <p>Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 E: 0.100 N: 8.300</p>	<p>3.2E-2 1.2E-2 10 1.2E-1 1.2E-3 0.100 8.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4</p>	<p>Document: 90--1 Table 2 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:EO PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		
		Raw	NUCLARR calc	PSFs
0304123- 1- 1*	Maintenance Technician MAINTAINS the Condensate Systems Common cause miscalibration of CST low level sensors given: BWR, no compelling signals, written verification assumed, no daily ck local; seq=N/A; ev=pre ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: 0.100 N: 4000.000	6.7E-5 ---	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U
0305523- 1- 1*	Maintenance Technician MAINTAINS the Containment Spray (RHR) System Common cause miscalibration of CST low level sensors given: BWR, no compelling signals, written verification assumed, no daily ck local; seq=N/A; ev=pre ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: 0.100 N: 4000.000	6.7E-5 ---	Document: 4-87 ASEP MUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl: MT PlantCode: PBS
0305720- 1- 1*	Maintenance Technician TESTS the Suppression Pool Support System SPM mode selector switch A not left in auto position given: independent verification seq=na; local; ev=pre ie,poa; therp Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.700	8.0E-3 ---	Document: 4-87 Origin: Subjective Reference: ----- Vend/EqLvl: MT PlantCode: PBS
0305720- 1- 1*	Maintenance Technician TESTS the Suppression Pool Support System SPM mode selector switch A not left in auto position given: independent verification seq=na; local; ev=pre ie,poa; therp Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.700	8.0E-3 ---	Document: 1-87 chapt IV, pg 200 #13 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: GGS1
0307120- 1- 1*	Maintenance Technician TESTS the Control Rod Drive Systems failure to restore valve after test/maintenance (CRD) given: pump test of CRD system plus independ. verification seq=na; remote; ev=pre ie,poa; therp Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300	8.0E-3 ---	Document: 1-87 chapt IV, pg 200 #1 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: GGS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0308320- 1- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0308320- 2- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker for dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=NA, Pre-I.E. Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0308320- 3- 1*	Maintenance Technician TESTS the DC Power System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions remote Seq=NA, Pre-I.E. Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg 20-28, item 3 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0308320- 4- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker for dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq=NA, Pre-I.E. Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-2 EF: 3 UCB: LCB: E: N:	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

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Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLARR calc	PSFs	
0308323- 1- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0308323- 2- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker for dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=NA, Pre-I.E. Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0308323- 3- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker for dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq=NA, Pre-I.E. Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-2 EF: 3 UCB: LCB: E: N:	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0308323- 4- 1*	Maintenance Technician MAINTAINS the DC Power System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions remote Seq=NA, Pre-I.E. Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg 20-28, item 3 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0308420- 1- 1*	Maintenance Technician TESTS the Plant AC Distribution System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions remote Seq=NA, Pre-I.E. Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg 20-28, item 3 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0308420- 2- 1*	Maintenance Technician TESTS the Plant AC Distribution System Subject selects wrong circuit breaker for dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=NA, Pre-I.E. Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0308420- 3- 1*	Maintenance Technician TESTS the Plant AC Distribution System Subject selects wrong circuit breaker for dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=NA, Pre-I.E. Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0308420- 4- 1*	Maintenance Technician TESTS the Plant AC Distribution System Subject selects wrong circuit breaker for dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq=NA, Pre-I.E. Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-2 EF: 3 UCB: LCB: E: N:	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0308423- 1- 1*	Maintenance Technician MAINTAINS the Plant AC Distribution System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions remote Seq=NA, Pre-I.E. Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600	3.8E-3 ---	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg 20-28, item 3 Origin: Training / Simulation Reference: ----- Vend/Equvl:MT PlantCode: ALLP
0308423- 2- 1*	Maintenance Technician MAINTAINS the Plant AC Distribution System Subject selects wrong circuit breaker for dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=NA, Pre-I.E. Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 ---	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/Equvl:MT PlantCode: ALLP
0308423- 3- 1*	Maintenance Technician MAINTAINS the Plant AC Distribution System Subject selects wrong circuit breaker for dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=NA, Pre-I.E. Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 ---	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/Equvl:MT PlantCode: ALLP
0308423- 4- 1*	Maintenance Technician MAINTAINS the Plant AC Distribution System Subject selects wrong circuit breaker for dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq=NA, Pre-I.E. Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 ---	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/Equvl:MT PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0309523- 2- 1*	Maintenance Technician MAINTAINS the Emergency Core Cooling Systems Common cause miscalibration of high drywell pressure sensors given: BWRG/WK1 local; seq=N/A; ev=pre; ASEP Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: 1.0E-4 Median: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 1000.000 N:	2.7E-4 --- 1.0E-3 1.0E-5 1000.000	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP MUREG/DB-4772 Origin: Subjective Reference: ---:---:--- Vend/Eq.vl:WT PlantCode: PBS
0309723- 1- 1*	Maintenance Technician MAINTAINS the High Pressure Core Spray System fail to restore HPCS pump to service when out for maintenance given: based on maintenance recovery values from [exp(t/19)] from WASH 1400 seq=tqv,tqur; remote; ev=post-i.e.,rop; Mean: 4.2E-1 Median: 3.4E-1 EF: 3 UCB: 1.0E+0 LCB: 1.2E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.4E-1 Median: --- UCB: 1.0E+0 LCB: 1.2E-1 E: 2.500 N: 7.300	4.2E-1 3 1.0E+0 1.2E-1 2.500 7.300	ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.204,ft.3 Origin: Subjective Reference: 1-75 Vend/Eq.vl:WT PlantCode: GGS1
0309723- 2- 1*	Maintenance Technician MAINTAINS the High Pressure Core Spray System fail to restore HPCS pump to service when out for maintenance given: based on maintenance recovery values from [exp(t/19)] from WASH 1400 seq=tqv,tqur; remote; ev=post-i.e.,rop; Mean: 2.7E-1 Median: 1.1E-1 EF: 9 UCB: 1.0E+0 LCB: 1.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-1 Median: --- UCB: 1.0E+0 LCB: 1.2E-2 E: 4.500 N: 33.300	2.7E-1 9 1.0E+0 1.2E-2 0.500 4.500	ATime: 20:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.204,ft.3 Origin: Subjective Reference: 1-75 Vend/Eq.vl:WT PlantCode: GGS1
0309623- 1- 1*	Maintenance Technician MAINTAINS the Low Pressure Core Spray System failure to restore LPCS pump A suction valve after test/maintenance given: independ. verification seq=na; remote; ev=pre ie,poa; therp Mean: 8.0E-3 Median: 3.0E-7 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.0E-3 Median: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: --- N: 0.100 33.300	8.0E-3 --- 0.100 33.300	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chapt IV, pg 200 #2 Origin: Subjective Reference: 4-87 Vend/Eq.vl:WT PlantCode: GGS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0315120- 1- 1*	Maintenance Technician TESTS the Instrumentation and Control Systems common mode miscalibration of level sensors (ESF) given: post maint test verification; indep verification seq=na; remote; ev=pre ie,poa; therp Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 E: N:	8.0E-4 --- 0.100 333.300	ATime: 23:59:59 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-17 chapt IV pg 200 #5 Origin: Subjective Reference: 4-87 Vend/EqLvl:MT PlantCode: GGS1
0315123- 1- 1*	Maintenance Technician MAINTAINS the Instrumentation and Control Systems maintenance tech miscalculates RX pressure instruments given: seq=na; remote; ev=pre ie,poa; therp Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: N:	2.7E-4 --- 0.100 1000.000	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 3-86 chapter IV, page 187 Origin: Subjective Reference: 4-87 Vend/EqLvl:MT PlantCode: PBS2
0318123- 1- 1*	Maintenance Technician MAINTAINS the Containment Atmosphere Monitoring System Common cause miscalibration of high drywell pressure sensors given: BWR4/MK1 local; seq=N/A; ev=pre; ASEP Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: N:	2.7E-4 --- 0.100 1000.000	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 Origin: Subjective Reference: ----- Vend/EqLvl:MT PlantCode: PBS
0324123- 1- 1*	Maintenance Technician MAINTAINS the Station Service Water System MT fails to calibrate contaminated spray actuation sensors properly given: seq=all; local; ev=pre-ie; 4-loop pwr (plant NSSS=Westinghouse) Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.0E-3 EF: --- UCB: 1.0E-2 LCB: 1.0E-4 E: N:	2.7E-3 10 0.100 100.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl:MT PlantCode: SNP1

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* Data point is used in Task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0325423- 1- 1*	Maintenance Technician MAINTAINS the Reactor Core Isolation Cooling System Common cause miscalibration of cst low level sensors given: BWR, no compelling signals, written verification assumed, no daily ck local; seq=N/A; ev=pre; ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: 0.100 N: 4000.000	6.7E-5 ---	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 Origin: Subjective Reference: ----- Vend/EqLvl: MT PlantCode: PBS
0325720- 1- 1*	Maintenance technician TESTS the Standby Liquid Control System maintenance tech fails to restore SLCS after test given: valves are color coded seq=na; remote; ev=pre ie,poa; therp Mean: 8.7E-3 Median: 7.0E-3 EF: 3 UCB: 2.0E-2 LCB: 2.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.7E-3 Median: 7.0E-3 EF: 3 UCB: 2.0E-2 LCB: 2.5E-3 E: 2.500 N: 357.100	8.6E-3 3	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 3-86 chapter IV, page 187 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: PBS2
0325720- 2- 1*	Maintenance Technician TESTS the Standby Liquid Control System failure to restore test suction valve after test given: post maint. test plus independ. verification seq=na; remote; ev=pre ie,poa; therp Mean: 2.4E-3 Median: 9.0E-4 EF: 10 UCB: 9.0E-3 LCB: 9.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.4E-3 Median: 9.0E-4 EF: 10 UCB: 9.0E-3 LCB: 9.0E-5 E: 0.100 N: 111.100	2.4E-3 ---	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chapt IV, pg 200 #12 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: GGS1
0325720- 3- 1*	Maintenance Technician TESTS the Standby Liquid Control System failure to restore both valves in SLC test return line after test given: 2 of 2 valves must be restored; HEP is combination of indiv. HEPs post maint. test plus independ. verification seq=na; remote; ev=pre ie,poa; therp Mean: 4.8E-3 Median: 1.8E-3 EF: 10 UCB: 1.8E-2 LCB: 1.8E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.8E-3 Median: 1.8E-3 EF: 10 UCB: 1.8E-2 LCB: 1.8E-4 E: 0.100 N: 55.500	4.8E-3 ---	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chapt IV, pg 200 #11 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: GGS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0400101- 1- 1*	Control Room Operator OPERATES the Air Systems operator fails to restore air given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.2E-2 Median: 6.0E-3 EF: 7 UCB: 4.2E-2 LCB: 8.6E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.0E-3 EF: 7 UCB: 4.2E-2 LCB: 8.6E-4 E: 0.500 N:	1.2E-2 --- 4.2E-2 8.6E-4 0.500 83.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 27 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0400201- 1- 1*	Control Room Operator OPERATES the Instrument Air System operator fails to establish instrument air to containment given: loss of feed ATWS, low amount of feedback needed, seq= ATWS, local, post-IE, POA, SLIM-MAUD, Mean: 2.1E-3 Median: 8.0E-4 EF: 10 UCB: 8.0E-3 LCB: 8.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.0E-4 EF: 10 UCB: 8.0E-3 LCB: 8.0E-5 E: 0.100 N:	2.1E-3 --- 8.0E-3 8.0E-5 0.100 125.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: 3 Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 1, task 38 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0400201- 2- 1*	Control Room Operator OPERATES the Instrument Air System Common mode: poor judgments becuz proc, P&ID & operat conv do not mtch given: 100% power: errors of intention; PSFs -> HMI=11, S/R/K=10, S.Cult= 9, motiv= 6, workload= 7, comm= 8; local; ; Pre-IE; HRA=INTENT Mean: 1.2E-1 Median: 9.2E-2 EF: 3 UCB: 2.9E-1 LCB: 2.9E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 2.9E-1 LCB: 2.9E-2 E: 2.000 N:	1.2E-1 9.2E-2 3 2.9E-1 2.9E-2 2.000 21.700	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 6 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ---:---:--- Vend/EqLvl: CRO PlantCode: ALLP
0400202- 1- 1*	Control Room Operator MONITORS the Instrument Air System Tolerate an out of range situation with potentially moderate consequence given: 100% power: errors of intention; PSFs -> HMI= 9, S/R/K=10, S.Cult=11, motiv= 8, workload= 9, comm= 7; local; ; pre-IE ; HRA=INTENT Mean: 1.1E-1 Median: 6.0E-2 EF: 6 UCB: 3.6E-1 LCB: 1.0E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 3.6E-1 LCB: 1.0E-2 E: 1.000 N:	1.1E-1 6.0E-2 6 3.6E-1 1.0E-2 1.000 16.600	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ---:---:--- Vend/EqLvl: CRO PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MECLARR calc		
0400203- 1- 1*	Control Room Operator DIAGNOSES the Instrument Air System Crews consult inappropriate resources in emergency. given: 100% power: errors of intention; PSFs -> HMI=10, S/R/K= 9, S-Cult= 8, motive 7, workload=10, command=9, local, Post-1E, ROP, HBA=INTENT Mean: 3.5E-2 Median: 1.6E-2 EF: 8 UCB: 1.3E-1 LCB: 1.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.5E-2 Median: 1.6E-2 EF: 8 UCB: 1.3E-1 LCB: 1.9E-3 E: 8 N: 31.8000	3.5E-2 1.6E-2 8	ATime: 00:00:00 PTime: 00:00:00 Experience: 3 Feedback: 0 Procedure: 5 Staffing: 0 Stress: 4 Supervision: 3 Tagging: 0 Training: 4	Document: 90--1 Origin: Table 2 Subjective Reference: ----- Vend/EqLvl: DR0 PlantCode: ALLP
0402101- 1- 1*	Control Room Operator OPERATES the Condensate Systems Inadequate communication results in improper actions. given: 100% power: errors of intention; PSFs -> HMI= 9, S/R/K= 8, S-Cult= 9, motive 8, workload= 9, command=13, local, Post-1E, ROP, HBA=INTENT Mean: 5.7E-2 Median: 2.6E-2 EF: 8 UCB: 2.0E-1 LCB: 3.3E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 5.7E-2 Median: 2.6E-2 EF: 8 UCB: 2.0E-1 LCB: 3.3E-3 E: 8 N: 19.400	5.6E-2 2.6E-2 8	ATime: 00:00:00 PTime: 00:00:00 Experience: 3 Feedback: 0 Procedure: 5 Staffing: 0 Stress: 3 Supervision: 3 Tagging: 0 Training: 4	Document: 90--1 Origin: Table 2 Subjective Reference: ----- Vend/EqLvl: DR0 PlantCode: ALLP
0404101- 1- 1*	Control Room Operator OPERATES the Condensate Systems fail to isolate condensers after station blackout given: operator busy trying to restore power seq=1, loss; local; ev-pos; therp Mean: 1.0E+0 Median: 1.0E+0 EF: 1 UCB: 1.0E+0 LCB: 1.0E+0 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E+0 Median: 1.0E+0 EF: 1 UCB: 1.0E+0 LCB: 1.0E+0 E: 1 N: 20.000	1.0E+0 1.0E+0 1.0E+0 20.000 20.000	ATime: 00:30:00 PTime: 00:30:00 Experience: 0 Feedback: 0 Procedure: 0 Staffing: 0 Stress: 0 Supervision: 0 Tagging: 0 Training: 0	Document: 2-86 Origin: chapter IV, page 206 Subjective Reference: 4-87 Vend/EqLvl: DR0 PlantCode: SPS1
0404101- 2- 1*	Control Room Operator OPERATES the Condensate Systems operator fails to establish condensate flow into the SG given: LOFM, ATMS, high communications, seq=ATMS, local, post-1E, PDA, Slim-Maud Mean: 8.9E-2 Median: 3.4E-2 EF: 10 UCB: 3.4E-1 LCB: 3.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.9E-2 Median: 3.4E-2 EF: 10 UCB: 3.4E-1 LCB: 3.4E-3 E: 10 N: 2.900	8.9E-2 3.4E-1 3.4E-3 0.100 2.900	ATime: 00:00:00 PTime: 00:00:00 Experience: 0 Feedback: 0 Procedure: 0 Staffing: 0 Stress: 0 Supervision: 0 Tagging: 0 Training: 0	Document: 2-86 Origin: group 3, test 28 Analytic Reference: 1-86 Vend/EqLvl: DR0 PlantCode: EPS

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0404101- 3- 1*	Control Room Operator OPERATES the Condensate Systems operator fails to establish FW flow from condensate system given: LOFW, ATWS, high am't of training req'd; seq=ATWS, local, post-IE, POA Slim-Maud Mean: 7.2E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.7E-3 EF: 10 UCB: LCB: E: N:	7.2E-3 --- 2.7E-2 2.7E-4 0.100 37.000	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 1 Supervision: U Tagging: U Training: 2	Document: 2-88 group 5, task 24 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0404101- 4- 1*	Control Room Operator OPERATES the Condensate Systems Operator fails to close main condensor isolation valves given: Seq = S80 - U1 Mean: 1.6E-1 Median: 5.9E-2 EF: 10 UCB: 5.9E-1 LCB: 5.9E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.9E-2 EF: 10 UCB: LCB: E: N:	1.6E-1 --- 5.9E-1 5.9E-3 0.100 1.700	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 27, Table 4.9 - 4 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: SPS1
0404101- 5- 1*	Control Room Operator OPERATES the Condensate Systems Operator fails to check mainsteam isolation & bypass valves closed given: LOFW, ATWS, mod. workload local; seq=ATWS; ev=post ie=POA; slim moud Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-3 EF: 10 UCB: LCB: E: N:	1.1E-2 --- 4.3E-2 4.3E-4 0.100 23.200	ATime: ---:--- PTime: ---:--- Experience: U Feedback: 3 Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0404102- 1- 1*	Control Room Operator MONITORS the Condensate Systems Operator fails to check mainsteam isolation & bypass valves closed given: LOFW, ATWS, mod. workload local; seq=ATWS; ev=post ie=POA; slim moud Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-3 EF: 10 UCB: LCB: E: N:	1.1E-2 --- 4.3E-2 4.3E-4 0.100 23.200	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0405101- 1- 1*	Control Room Operator OPERATES the Containment Systems Operator fails to recover CLCS actuation given: Skill-based action HEP; Seq = A1, S1, S2 Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 E: 0.100 N:	7.1E-3 2.7E-3 --- 2.7E-2 2.7E-4 0.100 37.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 7,8,9 Table 4.9 - 4 Origin: Subjective Reference: ----- Vend/EqLvl:CR0 PlantCode: SPST
0405101- 2- 1*	Control Room Operator OPERATES the Containment Systems Circumvent proc wth potential catastrophic conseq e.g.,major ISLOCA given: 100% power; errors of intention; PSFs -> HMI= 6, S/R/K= 9, S.Cult=11, motiv= 7,workload= 8,commun= 7;local;seq=ISLOCA;pre-IE ;HRA=INTENT Mean: 2.2E-2 Median: 2.1E-3 EF: 35 UCB: 7.5E-2 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 7.5E-2 LCB: 6.0E-5 E: N:	2.2E-2 2.1E-3 35 7.5E-2 6.0E-5 0.100 47.100	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:CR0 PlantCode: ALLP
0405103- 1- 1*	Control Room Operator DIAGNOSES the Containment Systems Competing goal states leads to wrong conclusion. given: 100% power; errors of intention; PSFs -> HMI= 6, S/R/K=11, S.Cult= 9, motiv= 9,workload=10,commun= 6;local;Post-IE;KOP;HRA=INTENT Mean: 5.5E-2 Median: 3.9E-2 EF: 4 UCB: 1.7E-1 LCB: 8.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 1.7E-1 LCB: 8.9E-3 E: N:	5.8E-2 3.9E-2 4 1.7E-1 8.9E-3 1.000 25.700	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:CR0 PlantCode: ALLP
0406301- 1- 1*	Control Room Operator OPERATES the Containment Isolation System operator fails to close 3 CSIS valves given: seq=all; local; ev=pre-ie; 4-loop pwr (plant N5SS=Westinghouse) Mean: 8.3E-5 Median: 3.1E-5 EF: 10 UCB: 3.1E-4 LCB: 3.1E-6 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: 10 UCB: 3.1E-4 LCB: 3.1E-6 E: N:	8.3E-5 3.1E-5 --- 3.1E-4 3.1E-6 0.100 3225.800	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl:CR0 PlantCode: SNP1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Source	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0406301- 2- 1*	Control Room Operator OPERATES the Containment Isolation System operator fails to reset containment isolate given: loss of feed ATWS, low amount of feedback needed, seq= ATWS, local, post-IE, POA, SLIM-MAUD, Mean: 6.9E-4 Median: 2.6E-4 EF: 10 UCB: 2.6E-3 LCB: 2.6E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.9E-4 Median: 2.6E-4 EF: 10 UCB: 2.6E-3 LCB: 2.6E-5 E: 0.100 N: 384.600	6.9E-4 --- 2.6E-3 2.6E-5 0.100 384.600	ATime: ---:---:--- PTime: ---:---:--- Experience: 1 Feedback: 3 Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U	Document: 2-88 group 1, task 32 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0406400- 1- 1*	Control Room Operator TESTS the Containment Spray System Operator fails to reopen valve in ECRS or CSRS system given: 4-loop PWR, Proc. not followed local; seq=all; ev=Pre Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
0406401- 1- 1*	Control Room Operator OPERATES the Containment Spray System failure to switchover CSS from injection to recirculation given: performed when RWST reaches low low level seq=local; local; ev=poa; therp Mean: 1.3E-3 Median: 4.9E-4 EF: 10 UCB: 4.9E-3 LCB: 4.9E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-3 Median: 4.9E-4 EF: 10 UCB: 4.9E-3 LCB: 4.9E-5 E: 0.100 N: 204.000	1.3E-3 --- 4.9E-3 4.9E-5 0.100 204.000	ATime: 00:15:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: 1 Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.197,ft.3 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SNP1
0406401- 2- 1*	Control Room Operator OPERATES the Containment Spray System operator fails to reopen valve in ECRS or CSRS system given: seq=all; local; ev=pre-ie, proc not followed; 4-loop pwr Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0406401- 3- 1*	Control Room Operator OPERATES the Containment Spray System operator fails to close RWST valve in CSIS given: seq=all; local; ev=pre-ie; 4-loop pwr (plant NSSS=Westinghouse) Mean: 1.1E-3 Median: 4.0E-4 EF: 10 UCB: 4.0E-3 LCB: 4.0E-5 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 1.1E-3 Median: 4.0E-4 EF: 10 UCB: 4.0E-3 LCB: 4.0E-5 E: 0.100 N: 250.000	1.1E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
0406401- 4- 1*	Control Room Operator OPERATES the Containment Spray System Operator fails to reopen valve in ECRS or CSRS system given: 4-loop PWR, Proc. not followed local; seq=all; ev=Pre Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300	8.0E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
0406401- 5- 1*	Control Room Operator OPERATES the Containment Spray System Circumvent proc wth potential catastrophic conseq e.g. major ISLOCA given: 100% power: errors of intention; PSFs -> HMI= 6, S/R/K= 9, S.Cult=11, motiv= 7, workload= 8, commun= 7; local; seq=ISLOCA; Post-IE; ROP; HRA=INTENT Mean: 2.2E-2 Median: 2.1E-3 EF: 35 UCB: 7.5E-2 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.2E-2 Median: 2.1E-3 EF: 35 UCB: 7.5E-2 LCB: 6.0E-5 E: 0.100 N: 47.100	2.2E-2 2.1E-3 35	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0406401- 6- 1*	Control Room Operator OPERATES the Containment Spray System Circumvent proc wth minor consequence e.g., a minor ISCOCA given: 100% power: errors of intention; PSFs -> HMI= 7, S/R/K= 9, S.Cult=10, motiv= 7, workload= 9, commun= 8; local; seq=ISLOCA; Post-IE; ROP; HRA=INTENT Mean: 2.2E-2 Median: 5.3E-3 EF: 16 UCB: 8.6E-2 LCB: 3.3E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.2E-2 Median: 5.3E-3 EF: 16 UCB: 8.6E-2 LCB: 3.3E-4 E: 0.100 N: 18.700	2.2E-2 5.3E-3 16	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 3	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0406402- 1- 1*	Control Room Operator MONITORS the Containment Spray System Operator fails to reopen valve in ECRS or CSRS system given: 4-loop PWR, Proc. not followed local; seq=all; ev=Pre Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 8.0E-3 Median: 1.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N:	8.0E-3 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/Eq/vl:CRD PlantCode: SWP1
0407101- 1- 1*	Control Room Operator OPERATES the Control Rod Drive Systems operator fails to insert rods given: loss of feed ATWS, low labeling requirements, seq= ATWS, local, post-IE, POA, SLIM-MAUD, calibration task, moderate monitoring Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000	2.7E-4 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 2, task 4 Origin: Simulation Modeling Reference: 1-86 Vend/Eq/vl:CRD PlantCode: CPS
0407103- 1- 1*	Control Room Operator DIAGNOSES the Control Rod Drive Systems Correct actions taken during the wrong plant evaluation. given: 100% power; errors of intention; PSFs -> HMI= 9, S/R/K= 9, S.Cult= 7, motiv= 8, workload=10, comm= 9; local; Post-IE;ROP;HRA=INTENT Mean: 1.0E-2 Median: 5.7E-3 EF: 6 UCB: 3.2E-2 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.0E-2 Median: 5.7E-3 EF: 6 UCB: 3.2E-2 LCB: 1.0E-3 E: 1.000 N: 176.700	9.9E-3 5.7E-3 6 ---	ATime: --- PTime: --- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/Eq/vl:CRD PlantCode: ALIP
0408101- 1- 1*	Control Room Operator OPERATES the Electrical Distribution Systems operator fails to restore site power given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation; 50/50 = success Mean: 2.7E-5 Median: 1.0E-5 EF: 10 UCB: 1.0E-4 LCB: 1.0E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-5 Median: 1.0E-5 EF: 10 UCB: 1.0E-4 LCB: 1.0E-6 E: 0.100 N: 10000.000	2.7E-5 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 30 Origin: Analytic Reference: 3-85 Vend/Eq/vl:CRD PlantCode: SBT1

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			PSFs	Document Information
		Raw	NUCLARR calc			
0408102- 1- 1*	Control Room Operator MONITORS the Electrical Distribution Systems operator fails to check power to PORV blocks given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, WAPPS simulation - 50 iterations Mean: 1.3E-2 Median: 8.0E-3 EF: 5 UCB: 4.0E-2 LCB: 1.6E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-2 Median: 8.0E-3 EF: 5 UCB: 4.0E-2 LCB: 1.6E-3 E: 1.000 N: 125.000	1.3E-2	---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 17 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0408102- 2- 1*	Control Room Operator MONITORS the Electrical Distribution Systems operator fails to verify power source given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, WAPPS simulation - 50 iterations Mean: 1.0E-2 Median: 8.0E-3 EF: 3 UCB: 2.4E-2 LCB: 2.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-2 Median: 8.0E-3 EF: 3 UCB: 2.4E-2 LCB: 2.7E-3 E: 2.000 N: 250.000	1.0E-2	---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 2B Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0408401- 1- 1*	Control Room Operator OPERATES the Plant AC Distribution System Operator fails to reconnect stub-bus after LOSP given: local; seq=LOSP; ev=Post ie=POA;Therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600	4.0E-3	---	ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 207 Origin: Simulation Modeling Reference: 4-87 Vend/EqLvl: CRO PlantCode: SNP1
0409100- 1- 1*	Control Room Operator TESTS the Emergency Core Cooling Systems operator fails to restore LPRS after test & maintenance given: seq=all; local; ev=pre-ie; 4-loop pw Mean: 4.3E-4 Median: 1.6E-4 EF: 10 UCB: 1.6E-3 LCB: 1.0E-5 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 4.3E-4 Median: 1.6E-4 EF: 10 UCB: 1.6E-3 LCB: 1.0E-5 E: 0.100 N: 625.000	4.3E-4	---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0409100- 2- 1*	Control Room Operator TESTS the Emergency Core Cooling Systems Operator fails to reopen valve in ECRS or CSRS system given: 4-loop PWR, proc. not followed local; seq=All; ev=Pre Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: LCB: E: N:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 35.300	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
0409101- 1- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems failure to isolate ECCS from RWST given: low RWST alarm seq=loc's; local & remote; ev=poa; therp Mean: 1.2E-3 Median: 4.5E-4 EF: 10 UCB: 4.5E-3 LCB: 4.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.5E-4 EF: 10 UCB: LCB: E: N:	1.2E-3 --- 4.5E-3 4.5E-5 0.100 222.200	ATime: 00:15:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: 1 Staffing: U Stress : 5 Supervision: U Tagging: U Training: U	Document: 2-87 chap. iv, pg. 197, it. 2 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SNP1
0409101- 2- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems operator fails to reopen valve in ECRS or CSRS system given: seq=all; local; ev=pre-ie, proc not followed; 4-loop pwr Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: LCB: E: N:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 35.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
0409101- 3- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems operator fails to align CSRS valves given: seq=all; local; ev=pre-ie; 4-loop pwr; proc not followed Mean: 8.8E-3 Median: 3.3E-3 EF: 10 UCB: 3.3E-2 LCB: 3.3E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.3E-3 EF: 10 UCB: LCB: E: N:	8.8E-3 --- 3.3E-2 3.3E-4 0.100 39.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0409101- 4- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems operator fails to trip SI during LOSP given: seq=losp; local; ev=post-ie,poa; therp Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 E: 0.100 N: 10.000	2.7E-2 ---	ATime: ---:---: PTime: ---:---: Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl:CRO PlantCode: YKR1
0409101- 5- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems operator fails to block SI signals given: loss of feed ATWS, low amount of feedback needed, seq= ATWS, local, post-IE, POA, SLIM-MAUD, Mean: 6.7E-4 Median: 2.5E-4 EF: 10 UCB: 2.5E-3 LCB: 2.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-4 EF: 10 UCB: 2.5E-3 LCB: 2.5E-5 E: 0.100 N: 400.000	6.7E-4 ---	ATime: ---:---: PTime: ---:---: Experience: U Feedback: 3 Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 1, task 26 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRO PlantCode: CPS
0409101- 6- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems operator fails to actuate SI given: loss of feed ATWS, low amount of feedback needed, seq= ATWS, local, post-IE, POA, SLIM-MAUD, Mean: 5.3E-4 Median: 2.0E-4 EF: 10 UCB: 2.0E-3 LCB: 2.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.0E-4 EF: 10 UCB: 2.0E-3 LCB: 2.0E-5 E: 0.100 N: 500.000	5.3E-4 ---	ATime: ---:---: PTime: ---:---: Experience: U Feedback: 3 Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 1, task 29 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRO PlantCode: CPS
0409101- 7- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems operator fails to reset S: given: loss of feed ATWS, low amount of feedback needed, seq= ATWS, local, post-IE, POA, SLIM-MAUD, Mean: 6.4E-4 Median: 2.4E-4 EF: 10 UCB: 2.4E-3 LCB: 2.4E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.4E-4 EF: 10 UCB: 2.4E-3 LCB: 2.4E-5 E: 0.100 N: 416.600	6.4E-4 ---	ATime: ---:---: PTime: ---:---: Experience: U Feedback: 3 Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 1, task 31 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRO PlantCode: CPS

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Value	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0409101-8-1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Operator fails to establish feed & bleed cooling given: Seq = ALL, L, XHE Mean: 1.9E-1 Median: 7.1E-2 EF: 10 UCB: 7.1E-1 LCB: 7.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.9E-1 Median: 7.1E-2 EF: 10 UCB: 7.1E-1 LCB: 7.1E-3 E: 0.100 N: 1.400	1.9E-1	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 1B Table 4.9 - 4 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: SPS1
0409101-9-1*	Control Room Operator OPERATES the Emergency Core Cooling System Operator fails to cross connect unit 2 CST given: Seq = SBO Mean: 1.7E-1 Median: 6.4E-2 EF: 10 UCB: 6.4E-1 LCB: 6.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.7E-1 Median: 6.4E-2 EF: 10 UCB: 6.4E-1 LCB: 6.4E-3 E: 0.100 N: 1.500	1.7E-1	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 2, Table 4.9 - 4 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: SPS1
0409101-10-1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Operator fails to establish feed & bleed cooling given: Seq = ALL L MECH Mean: 2.9E-2 Median: 1.1E-2 EF: 10 UCB: 1.1E-1 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.9E-2 Median: 1.1E-2 EF: 10 UCB: 1.1E-1 LCB: 1.1E-3 E: 0.100 N: 9.000	2.9E-2	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 1B Table 4.9 - 4 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: SPS1
0409101-11-1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Operator fails to reopen valve in ECRS or CSRS system given: 4-loop PWR, Proc. not followed local; seq=all; ev=Pre Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300	8.0E-3	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/EqLvl: CRO PlantCode: SMP1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0409101-12-1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Right conclus/wrong act path select. Capture seq based on resp:n set given: 100% power: errors of intention; PSFs -> HMI=11, S/R/K= 9, S.Cult= 6, motiv= 7, workload=11, comman= 8; local; Post-IE; ROP; HRA=INTENT Mean: 6.5E-2 Median: 2.9E-2 EF: 8 UCB: 2.2E-1 LCB: 3.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 6.2E-2 Median: 2.9E-2 EF: --- UCB: 2.2E-1 LCB: 3.9E-3 E: 0.500 N: 17.000	6.2E-2 2.9E-2 8 0.500 17.000	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0409101-10-1	Control Room Operator OPERATES the Emergency Core Cooling Systems Multiple fault situation. Crew solves the more minor fault. given: 100% power: errors of intention; PSFs -> HMI= 8, S/R/K=10, S.Cult= 7, motiv= 7, workload= 9, comman=11; local; Post-IE; ROP; HRA=INTENT Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.2E-2 Median: 1.2E-2 EF: --- UCB: 1.2E-1 LCB: 1.2E-3 E: 0.100 N: 8.300	3.2E-2 1.2E-2 10 0.100 8.300	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0409102- 1- 1*	Control Room Operator MONITORS the Emergency Core Cooling Systems operator fails to check fr. SCRS termination given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.4E-2 Median: 1.0E-2 EF: 4 UCB: 4.0E-2 LCB: 2.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.4E-2 Median: 1.0E-2 EF: 4 UCB: 4.0E-2 LCB: 2.5E-3 E: 1.500 N: 150.000	1.4E-2 1.0E-2 4 4.0E-2 2.5E-3 1.500 150.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 42 Origin: Analytic Reference: 3-95 Vend/EqLvl: CRO PlantCode: 53F
0409102- 2- 1*	Control Room Operator MONITORS the Emergency Core Cooling Systems Operator fails to reopen valve in ECRS or CSRS system given: 4-loop PWR, Proc. not followed local; seq=all; ev=Pre Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300	8.0E-3 3.0E-3 10 3.0E-2 3.0E-4 0.100 33.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/EqLvl: CRO PlantCode: SWP1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0409103- 1- 1*	Control Room Operator DIAGNOSES the Emergency Core Cooling Systems operator fails to check ECCS reinitiation criteria given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.6E-2 Median: 1.0E-2 EF: 5 UCB: 5.0E-2 LCB: 2.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.6E-2 Median: 1.0E-2 EF: 5 UCB: 5.0E-2 LCB: 2.0E-3 E: 1.000 N: 100.000	1.6E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 44 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0409103- 2- 1*	Control Room Operator DIAGNOSES the Emergency Core Cooling Systems Misdiagnose given like symptoms. Capture sequence based on stimuli given: 100% power: errors of intention; PSFs -> HMI=11, S/R/K= 1, S.Cult= 5, motiv= 8, workload=11, commun= 8; local; Post-IE; ROP; HRA=INTENT Mean: 6.9E-2 Median: 4.8E-2 EF: 4 UCB: 1.8E-1 LCB: 1.3E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 6.9E-2 Median: 4.8E-2 EF: 4 UCB: 1.8E-1 LCB: 1.3E-2 E: 1.500 N: 31.000	6.7E-2 4.8E-2 4 1.500 31.000	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0409103- 3- 1*	Control Room Operator DIAGNOSES the Emergency Core Cooling Systems Symptoms noticed, but incorrect interpretation. given: 100% power: errors of intention; PSFs -> HMI=11, S/R/K=11, S.Cult= 6, motiv= 8, workload=10, commun= 7; local; Post-IE; ROP; HRA=INTENT Mean: 3.3E-2 Median: 2.0E-2 EF: 5 UCB: 1.0E-1 LCB: 4.2E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.3E-2 Median: 2.0E-2 EF: 5 UCB: 1.0E-1 LCB: 4.2E-3 E: 1.000 N: 48.800	3.3E-2 2.0E-2 5 1.000 48.800	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0409201- 1- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to manually start pump C given: pumps A & B have failed seq=sd; local; ev=poa; therp Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 263.100	1.0E-3 ---	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 200 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPST

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0409201- 2- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to start HPI for feed and bleed given: seq=tml; local; ev=poa; therp Mean: 4.0E-4 Median: 1.5E-4 EF: 10 UCB: 1.5E-3 LCB: 1.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-4 EF: 10 UCB: LCB: E: N:	4.0E-4 --- 1.5E-3 1.5E-5 0.100 666.600	ATime: 00:45:00 PTime: 00:10:00 Experience: 1 Feedback: U Procedure: 1 Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 204 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1
0409201- 3- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to restore HPI (given AC restored) given: seal LOCA not present seq=after sbo; local; ev=poa; therp Mean: 1.1E-2 Median: 4.0E-3 EF: 10 UCB: 4.0E-2 LCB: 4.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.0E-3 EF: 10 UCB: LCB: E: N:	1.1E-2 --- 4.0E-2 4.0E-4 0.100 25.000	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 206 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1
0409201- 4- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to restore HPI (given AC restored) given: seal LOCA present seq=after sbo; local; ev=poa; therp Mean: 2.4E-2 Median: 9.0E-3 EF: 10 UCB: 9.0E-2 LCB: 9.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.0E-3 EF: 10 UCB: LCB: E: N:	2.4E-2 --- 9.0E-2 9.0E-4 0.100 11.100	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 206 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1
0409201- 5- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to open alternate injection path for HPI given: seq=s1d,s2d,s3d,tqd; local; ev=rop; therp Mean: 1.1E-3 Median: 4.0E-4 EF: 10 UCB: 4.0E-3 LCB: 4.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.0E-4 EF: 10 UCB: LCB: E: N:	1.1E-3 --- 4.0E-3 4.0E-5 0.100 250.000	ATime: 02:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 242 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0409201- 6- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to cross-connect HPI from other unit given: seq=s3d; remote + control room; ev=post ie,rop; therp Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-3 EF: 10 UCB: LCB: E: N:	2.7E-3 --- 1.0E-2 1.0E-4 0.100 100.000	ATime: 02:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 201 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1
0409201- 7- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to cross-connect HPI from other unit given: seq=td; remote + control room; ev=rop; therp Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-3 EF: 10 UCB: LCB: E: N:	2.7E-3 --- 1.0E-2 1.0E-4 0.100 100.000	ATime: 01:00:00 PTime: 00:20:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 201 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1
0409201- 8- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System fail to initiate feed and bleed given: seq=tml; local; ev=poa; therp Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: LCB: E: N:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: 00:45:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-87 chap. IV, pg. 197, it. 7 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SNP1
0409201- 9- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System fail to switchover HPI to HPR given: seq=loca's; local; ev=poa; therp Mean: 1.3E-3 Median: 4.9E-4 EF: 10 UCB: 4.9E-3 LCB: 4.9E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.9E-4 EF: 10 UCB: LCB: E: N:	1.3E-3 --- 4.9E-3 4.9E-5 0.100 204.000	ATime: 00:15:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: 1 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-87 chap. IV, pg. 197, it. 1 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SNP1

C-100

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0409201-10- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to open HPIS valv given: seq=all; local; ev=pre-ie; 4-loop pwr (plant NSSS=Westinghouse) Mean: 9.3E-3 Median: 3.5E-3 EF: 10 UCB: 3.5E-2 LCB: 3.5E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 9.3E-3 Median: 3.5E-3 EF: 10 UCB: 3.5E-2 LCB: 3.5E-4 E: 0.100 N: 28.500	9.3E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
0409201-11- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator inadvertently closes HPIS valve given: psf=poor instrument indications seq=all; local; ev=pre-ie; 4-loop pwr (plant NSSS=Westinghouse) Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 E: 0.100 N: 333.300	8.0E-4 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
0409201-12- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to restart bleed and feed pump (HPIP) given: seq=losp; local; ev=post-ie,poa; therp Mean: 1.4E-2 Median: 5.2E-3 EF: 10 UCB: 5.2E-2 LCB: 5.2E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.4E-2 Median: 5.2E-3 EF: 10 UCB: 5.2E-2 LCB: 5.2E-4 E: 0.100 N: 19.200	1.4E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: CRO PlantCode: YKR1
0409201-13- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to manually initiate SI given: seq=losp; local; ev=post-ie,poa; therp Mean: 1.0E-2 Median: 3.8E-3 EF: 10 UCB: 3.8E-2 LCB: 3.8E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-2 Median: 3.8E-3 EF: 10 UCB: 3.8E-2 LCB: 3.8E-4 E: 0.100 N: 26.600	1.0E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: CRO PlantCode: YKR1

C-101

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLARR calc	PSFs	
0409201-14- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator restarts the bleed and feed pumps improperly given: seq=all; local; ev=pre-ie; therp Mean: 1.4E-2 Median: 5.2E-3 EF: 10 UCB: 5.2E-2 LCB: 5.2E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: 1.4E-2 Median: 5.2E-3 EF: 10 UCB: 5.2E-2 LCB: 5.2E-4 E: 0.100 N: 19.200	1.4E-2 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : 1 Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: CRO PlantCode: YKR1
0409201-15- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator restarts the emergency bleed and feed improperly given: seq=all; local; ev=pre-ie; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600	4.0E-3 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : 1 Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: CRO PlantCode: YKR1
0409201-16- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System Operator fails to recover failure of HPT discharge motor op. valves given: Seq = S3 Mean: 8.5E-2 Median: 3.2E-2 EF: 10 UCB: 3.2E-1 LCB: 3.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.5E-2 Median: 3.2E-2 EF: 10 UCB: 3.2E-1 LCB: 3.2E-3 E: 0.100 N: 3.100	8.5E-2 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 16,17 Table 4.9-4 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: SPS1
0409201-17- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System Operator fails to recover failure of HPT discharge motor op. valves given: Skill-based action: HEP; Seq = S1, S2, S3 Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 E: 0.100 N: 37.500	7.1E-3 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 14,15,16,17 T. 4.9-4 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: SPS1

C-102

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0409201-18- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System Operator fails to cross connect HPI to unit 2 given: Seq = S3 Od H2; S3 Od H1 Mean: 5.2E-3 Median: 2.0E-3 EF: 10 UCB: 2.0E-2 LCB: 2.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.0E-3 EF: 10 UCB: LCB: E: N:	5.2E-3 --- 2.0E-2 2.0E-4 0.100 50.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 24, Table 4.9-4 Origin: Subjective Reference: ---:---:--- Vend/EqLvl: CRO PlantCode: SPS1
0409201-19- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System Operator fails to cross connect HPI to unit 2 given: Seq = S2 Od H2; S2 Od H1 Mean: 1.1E-2 Median: 4.1E-3 EF: 10 UCB: 4.1E-2 LCB: 4.1E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.1E-3 EF: 10 UCB: LCB: E: N:	1.1E-2 --- 4.1E-2 4.1E-4 0.100 24.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 23, Table 4.9-4 Origin: Subjective Reference: ---:---:--- Vend/EqLvl: CRO PlantCode: SPS1
0409201-20- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System Operator fails to cross connect HPI to unit 2 given: Seq = S3 D1; T7 D1 Mean: 9.1E-2 Median: 3.4E-2 EF: 10 UCB: 3.4E-1 LCB: 3.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.4E-2 EF: 10 UCB: LCB: E: N:	9.1E-2 --- 3.4E-1 3.4E-3 0.100 2.900	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 22, Table 4.9-4 Origin: Subjective Reference: ---:---:--- Vend/EqLvl: CRO PlantCode: SPS1
0409201-20- 2	Control Room Operator OPERATES the High Pressure Safety Injection System Operator fails to cross connect HPI to unit 2 given: Seq = S3 D1; T7 D1 Mean: 9.1E-2 Median: 3.4E-2 EF: 10 UCB: 3.4E-1 LCB: 3.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-3 EF: 10 UCB: LCB: E: N:	3.9E-3 --- 1.5E-2 1.5E-4 0.100 68.900	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 20, Table 4.9-4 Origin: Subjective Reference: ---:---:--- Vend/EqLvl: CRO PlantCode: SPS1

C-103

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		
		Raw	MUCLARR calc	PSFs
0409201-21- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System Operator fails to cross connect HPI to unit 2 given: Seq = S2 H1 S3 W3 H1 Mean: 3.9E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-3 EF: 10 UCB: LCB: E: N:	3.9E-3 --- 1.5E-2 1.5E-4 0.100 68.900	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U
0409201-22- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System Maint. tech fails to restore SIAS circuit breaker to closed position given: remote; seq=Loca; ev=post ie=POA;Therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-4 EF: 10 UCB: LCB: E: N:	2.0E-3 --- 7.5E-3 7.5E-5 0.100 133.300	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U
0409301- 1- 1*	Control Room Operator OPERATES the Residual Heat Removal/Low Press Safety Inject Syst Operator fails to align RHR to hot-leg recirculation given: SEQ=A,S1; LOCAL; EV=POA; THERP; Mean: 8.0E-5 Median: 3.0E-5 EF: 10 UCB: 3.0E-4 LCB: 3.0E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-5 EF: 10 UCB: LCB: E: N:	8.0E-5 --- 3.0E-4 3.0E-6 0.100 3333.300	ATime: 16:00:00 PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 4 Supervision: U Tagging: U Training: U
0409301- 2- 1*	Control Room Operator OPERATES the Residual Heat Removal/Low Press Safety Inject Syst failure to reconfigure LPR to hot leg recirculation given: switch.of 1 train of LPR from cold leg recirc. to hot leg recirc. will prevent long term boron buildup;seq=all; local & remote; ev=poa; therp Mean: 4.0E-5 Median: 1.5E-5 EF: 10 UCB: 1.5E-4 LCB: 1.5E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-5 EF: 10 UCB: LCB: E: N:	4.0E-5 --- 1.5E-4 1.5E-6 0.100 6666.600	ATime: 15:00:00 PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U

C-104

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0409301- 3- 1*	Control Room Operator OPERATES the Residual Heat Removal/Low Press Safety Inject Syst operator fails to start recirc (within the LPRS) given: seq=all; local; ev=pre-ie; 4-loop pwr; proc used incorrectly Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: LCB: E: N:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl:CRO PlantCode: SNP1
0409301- 4- 1*	Control Room Operator OPERATES the Residual Heat Removal/Low Press Safety Inject Syst Operator fails to align for hot leg recirculation given: Seq = A, S1 Mean: 1.1E-4 Median: 4.0E-5 EF: 10 UCB: 4.0E-4 LCB: 4.0E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.0E-5 EF: 10 UCB: LCB: E: N:	1.1E-4 --- 4.0E-4 4.0E-6 0.100 2500.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 25, Table 4.9 - 4 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:CRO PlantCode: SPS1
0409303- 1- 1*	Control Room Operator DIAGNOSES the Residual Heat Removal/Low Press Safety Inject Syst operator fails to realign the LPRS system for injection given: seq=all; local; ev=pre-ie; 4-loop pwr (plant NSSS=Westinghouse) Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: LCB: E: N:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl:CRO PlantCode: SNP1
0409303- 2- 1*	Control Room Operator DIAGNOSES the Residual Heat Removal/Low Press Safety Inject Syst operator fails to check RHR secure criteria given: SGTR(1 tube), highly motivated, middle shift, high supervisor expecta- tion; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.3E-2 Median: 7.0E-3 EF: 6 UCB: 4.2E-2 LCB: 1.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.0E-3 EF: 6 UCB: LCB: E: N:	1.3E-2 --- 4.2E-2 1.2E-3 1.000 142.800	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 31 Origin: Analytic Reference: 3-85 Vend/EqLvl:CRO PlantCode: SBK1

C-105

* Data point is used in Task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

C-106

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0411101- 1- 1*	Control Room Operator OPERATES the Feedwater Systems operator fails to shut FW MOVs and Baileys during LOSP given: seq=losp; local; ev=post-ie,poa; therp Mean: 1.0E-2 Median: 3.8E-3 EF: 10 UCB: 3.8E-2 LCB: 3.8E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-2 Median: 3.8E-3 EF: 10 UCB: 3.8E-2 LCB: 3.8E-4 E: 0.100 N: 26.600	1.0E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: CRO PlantCode: YKR1
0411101- 2- 1*	Control Room Operator OPERATES the Feedwater Systems operator fails to achieve delay heat removal via main feedwater given: seq=losp; local; ev=post-ie,poa; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600	4.0E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: CRO PlantCode: YKR1
0411101- 3- 1*	Control Room Operator OPERATES the Feedwater Systems operator fails to establish DHR via main FW system given: seq=losp; local; ev=post-ie,poa; therp; time available = several hours Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.8E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.8E-6 E: 0.100 N: 2631.500	1.0E-4 ---	ATime: 03:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: CRO PlantCode: YKR1
0411101- 4- 1*	Control Room Operator OPERATES the Feedwater Systems operator fails to achieve DHR by Power Conversion System given: seq=losp; local; ev=post-ie,poa; therp; multiple hardware failures Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 E: 0.100 N: 2659.500	1.0E-4 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: CRO PlantCode: YKR1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0411101- 5- 1*	Control Room Operator OPERATES the Feedwater Systems operator fails to isolate steam to TDEFW pump given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 7.1E-3 Median: 5.0E-3 EF: 4 UCB: 2.0E-2 LCB: 1.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.1E-3 Median: 5.0E-3 EF: 4 UCB: 2.0E-2 LCB: 1.3E-3 E: 1.500 N: 300.000	7.1E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 14 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0411101- 6- 1*	Control Room Operator OPERATES the Feedwater Systems Operator fails to check main steam isolation & bypass valves closed given: LOFW, ATWS, mod. workload local, Seq=ATWS, Post-I.E., POA, Slim Mand Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 E: 0.100 N: 23.200	1.1E-2 ---	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0411102- 1- 1*	Control Room Operator MONITORS the Feedwater Systems Operator fails to check mainsteam isolation & bypass valves closed given: LOFW, ATWS, mod. workload local; seq=ATWS; ev=post ie=POA; slim mand Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 E: 0.100 N: 23.200	1.1E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0411103- 1- 1*	Control Room Operator DIAGNOSES the Feedwater Systems operator fails to verify feed path given: LOFW, ATWS, moderat. workload, moderate fatigue, seq=ATWS, local, post-IE, POA Slim-Maud calibration task Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 E: 0.100 N: 2.000	1.3E-1 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 6, task 30 Origin: Simulation Modeling Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS

C-107

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0411201- 1- 1*	Control Room Operator OPERATES the Auxiliary Feedwater System operator fails to manually start aux feed given: seq=atws(tk); local; ev=poa; therp Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 263.100	1.0E-3 ---	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 4 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 203 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1
0411201- 2- 1*	Control Room Operator OPERATES the Auxiliary Feedwater System operator fails to cross-connect AFW from other unit given: seq=tml; remote + local; ev=poa; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600	4.0E-3 ---	ATime: 00:30:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 242 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1
0411201- 3- 1*	Control Room Operator OPERATES the Auxiliary Feedwater System operator fails to dispatch AI to successfully restore AFW flow given: high communications, LOFW, ATWS, seq=ATWS, local, post-IE, POA, SLIM-MAUD Mean: 4.2E-2 Median: 1.6E-2 EF: 10 UCB: 1.6E-1 LCB: 1.6E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.2E-2 Median: 1.6E-2 EF: 10 UCB: 1.6E-1 LCB: 1.6E-3 E: 0.100 N: 6.300	4.2E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 3, task 20 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0411201- 4- 1*	Control Room Operator OPERATES the Auxiliary Feedwater System operator fails to establish AFW flow to 1 SG given: LOFW, ATWS, moderate workload, seq=ATWS, local, post-IE, POA, Slim-Maud Mean: 4.8E-2 Median: 1.8E-2 EF: 10 UCB: 1.8E-1 LCB: 1.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.8E-2 Median: 1.8E-2 EF: 10 UCB: 1.8E-1 LCB: 1.8E-3 E: 0.100 N: 5.500	4.8E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 19 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0411201- 5- 1*	Control Room Operator OPERATES the Auxiliary Feedwater System Operator fails to cross connect AFW, transients given: Seq = T1 T2 T3 S2 S3 T7 Mean: 8.8E-2 Median: 3.3E-2 EF: 10 UCB: 3.3E-1 LCB: 3.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.8E-2 Median: 3.3E-2 EF: 10 UCB: 3.3E-1 LCB: 3.3E-3 E: 0.100 N: 3.000	6.8E-2 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 6, Table 4.9 - 4 Origin: Subjective Reference: --- Vend/EqLvl: CRO PlantCode: SPS1
0411201- 6- 1*	Control Room Operator OPERATES the Auxiliary Feedwater System Operator fails to cross connect AFW; Station blackout @ units 1 & 2 given: Seq = SBO - U1 U2 Mean: 2.0E-1 Median: 7.5E-2 EF: 10 UCB: 7.5E-1 LCB: 7.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.0E-1 Median: 7.5E-2 EF: 10 UCB: 7.5E-1 LCB: 7.5E-3 E: 0.100 N: 1.300	2.0E-1 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 5, Table 4.9 - 4 Origin: Subjective Reference: --- Vend/EqLvl: CRO PlantCode: SPS1
0411201- 7- 1*	Control Room Operator OPERATES the Auxiliary Feedwater System Operator fails to cross connect AFW; Station blackout @ unit 1 given: Seq = SBO - U1 Mean: 1.3E-1 Median: 4.8E-2 EF: 10 UCB: 4.8E-1 LCB: 4.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-1 Median: 4.8E-2 EF: 10 UCB: 4.8E-1 LCB: 4.8E-3 E: 0.100 N: 2.000	1.3E-1 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 4, Table 4.9 - 4 Origin: Subjective Reference: --- Vend/EqLvl: CRO PlantCode: SPS1
0411201- 8- 1*	Control Room Operator OPERATES the Auxiliary Feedwater System Operator fails to manually actuate AFW given: Skill-based action HEP; Seq = ALL Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 E: 0.100 N: 37.500	7.1E-3 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 3, Table 4.9-4 Origin: Subjective Reference: --- Vend/EqLvl: CRO PlantCode: SPS1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Row	MJCLARR calc		
0411201- 9- 1*	Control Room Operator OPERATES the Auxiliary Feedwater System Operator fails to terminate flow from AFW TDP steam line during SGTR given: HEP conditional on previous failure to depressurize; Seq = T7 Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.4E-3 EF: 10 UCB: LCB: E: N:	9.1E-3 --- 3.4E-2 3.4E-4 0.100 29.400	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 29, Table 4.9-4 Origin: Subjective Reference: --- Vend/EqLvl: CRO PlantCode: SPS1
0411202- 1- 1*	Control Room Operator MONITORS the Auxiliary Feedwater System operator fails to verify AFW flow given: LOFW, ATWS, high am't of training req'd; seq=ATWS, local, post-1E, POA Slim-Maud; look at flow for all 4 SGs Mean: 6.4E-3 Median: 2.4E-3 EF: 10 UCB: 2.4E-2 LCB: 2.4E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.4E-3 EF: 10 UCB: LCB: E: N:	6.4E-3 --- 2.4E-2 2.4E-4 0.100 41.600	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: 2	Document: 2-88 group 3, task 6 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0411203- 1- 1*	Control Room Operator DIAGNOSES the Auxiliary Feedwater System operator fails to restore AFWS after test & maintenance given: seq=all; local; ev=post-ie; 4-loop pwr (plant NSSS=Westinghouse) Mean: 2.9E-2 Median: 1.1E-2 EF: 10 UCB: 1.1E-1 LCB: 1.1E-3 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.1E-2 EF: 10 UCB: LCB: E: N:	2.9E-2 --- 1.1E-1 1.1E-3 0.100 9.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
0411301- 1- 1*	Control Room Operator OPERATES the Main Feedwater System operator fails to establish MFW flow to 1 SG given: LOFW, ATWS, high am't of training req'd; seq=ATWS, local, post-1E, POA Slim-Maud calib. task Mean: 5.3E-3 Median: 2.0E-3 EF: 10 UCB: 2.0E-2 LCB: 2.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.0E-3 EF: 10 UCB: LCB: E: N:	5.3E-3 --- 2.0E-2 2.0E-4 0.100 50.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : 1 Supervision: U Tagging: U Training: 2	Document: 2-88 group 5, task 23 Origin: Simulation Modeling Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0411301- 2- 1*	Control Room Operator OPERATES the Main Feedwater System Failure to restore main feed water given: Seq = 13 Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 E: 0.100 N: 37.500	7.1E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 26, Table 4.9-4 Origin: Subjective Reference: --- Vend/EqLvl: CRO PlantCode: SPS1
0411301- 3- 1*	Control Room Operator OPERATES the Main Feedwater System Operator fails to check mainsteam isolation & bypass valves closed given: LOFW, ATWS, mod. workload local; seq=ATWS; ev=post ie=POA; slim maud Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 E: 0.100 N: 23.200	1.1E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0411302- 1- 1*	Control Room Operator MONITORS the Main Feedwater System Operator fails to check mainsteam isolation & bypass valves closed given: LOFW, ATWS, mod. workload local; seq=ATWS; ev=post ie=POA; slim maud Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 E: 0.100 N: 23.200	1.1E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0414103- 1- 1*	Control Room Operator DIAGNOSES the Heating, Ventilation & Air Conditioning Systems operator fails to align CHRS valves given: seq=all; local; ev=pre-ie; 4-loop pwr; procedures available Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 E: 0.100 N: 166.600	1.6E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0415101- 1- 1*	Control Room Operator OPERATES the Instrumentation and Control Systems operator fails to adjust SG relief setpoint given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 9.7E-3 Median: 6.0E-3 EF: 5 UCB: 3.0E-2 LCB: 1.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.7E-3 Median: 6.0E-3 EF: 5 UCB: 3.0E-2 LCB: 1.2E-3 E: 1.000 N: 166.600	9.7E-3	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 3 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0415101- 2- 1*	Control Room Operator OPERATES the Instrumentation and Control Systems operator fails to restore normal charging given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 8.6E-3 Median: 6.0E-3 EF: 4 UCB: 2.4E-2 LCB: 1.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.6E-3 Median: 6.0E-3 EF: 4 UCB: 2.4E-2 LCB: 1.5E-3 E: 1.500 N: 250.000	8.6E-3	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 43 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0415101- 3- 1*	Control Room Operator OPERATES the Instrumentation and Control Systems operator fails to establish letdown given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 8.6E-3 Median: 6.0E-3 EF: 4 UCB: 2.4E-2 LCB: 1.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.6E-3 Median: 6.0E-3 EF: 4 UCB: 2.4E-2 LCB: 1.5E-3 E: 1.500 N: 250.000	8.6E-3	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 47 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0415101- 4- 1*	Control Room Operator OPERATES the Instrumentation and Control Systems operator fails to align CCP to VCT given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 5.5E-3 Median: 5.0E-3 EF: 2 UCB: 1.0E-2 LCB: 2.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 5.5E-3 Median: 5.0E-3 EF: 2 UCB: 1.0E-2 LCB: 2.5E-3 E: 6.000 N: 1200.000	5.5E-3	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 48 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0415101- 5- 1*	Control Room Operator OPERATES the Instrumentation and Control Systems operator fails to control RCS-SG leakage given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.4E-2 Median: 1.0E-2 EF: 4 UCB: 4.0E-2 LCB: 2.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.4E-2 Median: 1.0E-2 EF: 4 UCB: 4.0E-2 LCB: 2.5E-3 E: 1.500 N: 150.000	1.4E-2	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 49 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0415101- 6- 1*	Control Room Operator OPERATES the Instrumentation and Control Systems operator fails cont. attempts to es.. secondary heat sink in 1 SG given: high communications, LOFW, ATWS, seq=ATWS, local, post-IE, POA SLIM-MAUD calibration task Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 E: 0.100 N: 2.000	1.3E-1	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 3, task 36 Origin: Simulation Modeling Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0415101- 7- 1*	Control Room Operator OPERATES the Instrumentation and Control Systems operator fails to dispatch AO to successfully perform Rx trip local given: low communications, LOFW, ATWS, seq=ATWS, local, post-IE, POA SLIM-MAUD calibration task Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 E: 0.100 N: 100.000	2.7E-3	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 3, task 10 Origin: Simulation Modeling Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0415102- 1- 1*	Control Room Operator MONITORS the Instrumentation and Control Systems operator fails to check PORV closed given: SGTR(1 tube), high motivation, middle shift, high supervisor expectation, in PORV step seq; SGTR, local, post-IE, POA, MAPPS simulation-50 iterations Mean: 1.1E-2 Median: 9.0E-3 EF: 3 UCB: 2.7E-2 LCB: 3.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 9.0E-3 EF: 3 UCB: 2.7E-2 LCB: 3.0E-3 E: 2.000 N: 222.200	1.1E-2	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 20 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0415102- 2- 1*	Control Room Operator MONITORS the Instrumentation and Control Systems operator fails to check pressure & level of intact SG given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.1E-2 Median: 7.0E-3 EF: 5 UCB: 3.5E-2 LCB: 1.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.0E-3 EF: 5 UCB: 3.5E-2 LCB: 1.4E-3 E: 1.000 N:	1.1E-2 --- 3.5E-2 1.4E-3 1.000 142.800	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 26 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0415102- 3- 1*	Control Room Operator MONITORS the Instrumentation and Control Systems operator fails to check RSG press given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.3E-2 Median: 1.0E-2 EF: 3 UCB: 3.1E-2 LCB: 3.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 4 UCB: 4.0E-2 LCB: 2.5E-3 E: 1.500 N:	1.4E-2 --- 4.0E-2 2.5E-3 1.500 150.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 32 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0415102- 3- 2*	Control Room Operator MONITORS the Instrumentation and Control Systems operator fails to check RSG press given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.3E-2 Median: 1.0E-2 EF: 3 UCB: 3.1E-2 LCB: 3.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 6 UCB: 6.0E-2 LCB: 1.7E-3 E: 1.000 N:	1.8E-2 --- 6.0E-2 1.7E-3 1.000 100.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 34 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0415102- 4- 1*	Control Room Operator MONITORS the Instrumentation and Control Systems operator fails to check VCT makeup given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.4E-2 Median: 1.0E-2 EF: 4 UCB: 4.0E-2 LCB: 2.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 4 UCB: 4.0E-2 LCB: 2.5E-3 E: 1.500 N:	1.4E-2 --- 4.0E-2 2.5E-3 1.500 150.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 45 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0415102- 5- 1*	Control Room Operator MONITORS the Instrumentation and Control Systems operator fails to check charging status given: LOFW, ATWS, moderate labeling required, seq=ATWS, local, post-IE, POA SLIM-MAUD, moderate monitoring Mean: 8.3E-4 Median: 3.1E-4 EF: 10 UCB: 3.1E-3 LCB: 3.1E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.1E-4 EF: 10 UCB: LCB: E: N:	8.3E-4 --- 3.1E-3 3.1E-5 0.100 322.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 2, task Z2 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0415103- 1- 1*	Control Room Operator DIAGNOSES the Instrumentation and Control Systems operator fails to ensure a PORV block open given: SGTR(1 tube), high motivation, middle shift, high supervisor expectation, in PORV step seq; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 9.7E-3 Median: 6.0E-3 EF: 5 UCB: 3.0E-2 LCB: 1.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.0E-3 EF: 5 UCB: LCB: E: N:	9.7E-3 --- 3.0E-2 1.2E-3 1.000 166.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask Z5 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0415103- 2- 1*	Control Room Operator DIAGNOSES the Instrumentation and Control Systems operator fails to check letdown initiation criteria given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.6E-2 Median: 1.1E-2 EF: 4 UCB: 4.4E-2 LCB: 2.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-2 EF: 4 UCB: LCB: E: N:	1.6E-2 --- 4.4E-2 2.8E-3 1.500 136.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 46 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0415103- 3- 1*	Control Room Operator DIAGNOSES the Instrumentation and Control Systems operator fails to identify ruptured SG given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.6E-2 Median: 1.0E-2 EF: 5 UCB: 5.0E-2 LCB: 2.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 5 UCB: LCB: E: N:	1.6E-2 --- 5.0E-2 2.0E-3 1.000 100.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 2 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PS's	Document Information
		Raw	NUCLARR calc		
0415103- 4- 1*	Control Room Operator DIAGNOSES the Instrumentation and Control Systems operator fails to verify Rx trip given: LOFW,ATWS,moderate workload,low fatigue,seq=ATWS,local,post-IE,POA Slim-Maud Mean: 4.5E-3 Median: 1.7E-3 EF: 10 UCB: 1.7E-2 LCB: 1.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.5E-3 Median: 1.7E-3 EF: 10 UCB: 1.7E-2 LCB: 1.7E-4 E: 0.100 N: 58.800	4.5E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 6, task 2 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRO PlantCode: CPS
0415103- 5- 1*	Control Room Operator DIAGNOSES the Instrumentation and Control Systems operator fails to verify Rx subcritical given: LOFW,ATWS,low workload,moderate fatigue,seq=ATWS,local,post-IE,POA Slim-Maud Mean: 1.6E-2 Median: 5.9E-3 EF: 10 UCB: 5.9E-2 LCB: 5.9E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.6E-2 Median: 5.9E-3 EF: 10 UCB: 5.9E-2 LCB: 5.9E-4 E: 0.100 N: 16.900	1.6E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 6, task 16 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRO PlantCode: CPS
0415103- 6- 1*	Control Room Operator DIAGNOSES the Instrumentation and Control Systems operator fails to review Critical Safety Function status tree (CSFS) given: LOFW,ATWS,high am't of training req'd;seq=ATWS,local,post-IE,POA Slim-Maud calib. task; determine if red path on heat sink exists Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 E: 0.100 N: 2.000	1.3E-1 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 1 Supervision: U Tagging: U Training: 2	Document: 2-88 group 5, task 17 Origin: Simulation Modeling Reference: 1-86 Vend/EqLvl:CRO PlantCode: CPS
0415301- 1- 1*	Control Room Operator OPERATES the Engineered Safeguards Actuation and Logic System operator fails to manually activate CLCS given: try to condense steam in containment seq=a; local; ev=poa; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600	4.0E-3 ---	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 207 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: SPS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0415301- 2- 1*	Control Room Operator OPERATES the Engineered Safeguards Actuation and Logic System manually back up auto system (RMTS) given: RMTS=Recirc. mode transfer system seq=a; local; ev=poa; therp Mean: 2.5E-1 Median: 9.3E-2 EF: 10 UCB: 9.3E-1 LCB: 9.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.3E-2 EF: 10 UCB: LCB: E: N:	2.5E-1 --- 9.3E-1 9.3E-3 0.100 1.000	ATime: 00:05:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 4 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 207 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: SPS1
0415301- 3- 1*	Control Room Operator OPERATES the Engineered Safeguards Actuation and Logic System operator fails to manually back up auto system (RMTS) given: RMTS=Recirc. mode transfer system seq=s; local; ev=poa; therp Mean: 1.0E-1 Median: 3.8E-2 EF: 10 UCB: 3.8E-1 LCB: 3.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-2 EF: 10 UCB: LCB: E: N:	1.0E-1 --- 3.8E-1 3.8E-3 0.100 2.600	ATime: 00:09:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 4 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 207 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: SPS1
0415301- 4- 1*	Control Room Operator OPERATES the Engineered Safeguards Actuation and Logic System oper. fails to manually init. the safety inject. actuat. syst (SIAS) given: seq=loca; local; ev=post-ie,poa; therp; Mean: 4.7E-1 Median: 3.8E-1 EF: 3 UCB: 1.0E+0 LCB: 1.4E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-1 EF: --- UCB: LCB: E: N:	4.5E-1 3 1.0E+0 1.4E-1 3.000 8.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 4 Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl:CRO PlantCode: YKRT
0415301- 5- 1*	Control Room Operator OPERATES the Engineered Safeguards Actuation and Logic System Operator fails to recover SIS actuation failure given: Skill-based action HEP; Seq = S1 Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.7E-3 EF: 10 UCB: LCB: E: N:	7.1E-3 --- 2.7E-2 2.7E-4 0.100 37.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 46,47,48 Table 4.9-4 Origin: Subjective Reference: ----- Vend/EqLvl:CRO PlantCode: SPS1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0415301- 6- 1*	Control Room Operator OPERATES the Engineered Safeguards Actuation and Logic System Operator fails to recover RMT actuation failure given: Seq = A Mean: 1.7E-1 Median: 6.4E-2 EF: 10 UCB: 6.4E-1 LCB: 6.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.4E-2 EF: 10 UCB: LCB: E: N:	1.7E-1 6.4E-2 --- 6.4E-1 6.4E-3 0.100 1.500	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 43, Table 4.9-4 Origin: Simulation Modeling Reference: --- Vend/Equvl: CRO PlantCode: SPS1
0415301- 6- 2	Control Room Operator OPERATES the Engineered Safeguards Actuation and Logic System Operator fails to recover RMT actuation failure given: Seq = A Mean: 1.7E-1 Median: 6.4E-2 EF: 10 UCB: 6.4E-1 LCB: 6.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.4E-2 EF: 10 UCB: LCB: E: N:	1.7E-1 6.4E-2 --- 6.4E-1 6.4E-3 0.100 1.500	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 44, Table 4.9-4 Origin: Subjective Reference: --- Vend/Equvl: CRO PlantCode: SPS1
0415301- 7- 1*	Control Room Operator OPERATES the Engineered Safeguards Actuation and Logic System Operator fails to recover RMT actuation failure given: Seq = S1 Mean: 1.7E-1 Median: 6.4E-2 EF: 10 UCB: 6.4E-1 LCB: 6.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.4E-2 EF: 10 UCB: LCB: E: N:	1.7E-1 6.4E-2 --- 6.4E-1 6.4E-3 0.100 1.500	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 44, Table 4.9-4 Origin: Subjective Reference: --- Vend/Equvl: CRO PlantCode: SPS1
0415301- 8- 1*	Control Room Operator OPERATES the Engineered Safeguards Actuation and Logic System Operator fails to recover RMT actuation failure given: Seq = S2 Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.7E-3 EF: 10 UCB: LCB: E: N:	7.1E-3 2.7E-3 --- 2.7E-2 2.7E-4 0.100 37.500	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 45, Table 4.9-4 Origin: Subjective Reference: --- Vend/Equvl: CRO PlantCode: SPS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0415701- 1- 1*	Control Room Operator OPEKATES the Pressurizer Level Control System operator fails to isolate stuck open PORV given: PORV stuck open seq=tq,losp; local; ev=post ie,poa; therp Mean: 9.9E-2 Median: 3.7E-2 EF: 10 UCB: 3.7E-1 LCB: 3.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.9E-2 Median: 3.7E-2 EF: 10 UCB: 3.7E-1 LCB: 3.7E-3 E: 0.100 N: 2.700	9.9E-2 ---	ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 205 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: SPS1
0415701- 2- 1*	Control Room Operator OPERATES the Pressurizer Level Control System operator fails to isolate stuck open PORV given: PORV stuck open seq=tq(NO losp); local; ev=post ie,poa; therp Mean: 9.9E-3 Median: 3.7E-3 EF: 10 UCB: 3.7E-2 LCB: 3.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.9E-3 Median: 3.7E-3 EF: 10 UCB: 3.7E-2 LCB: 3.7E-4 E: 0.100 N: 27.000	9.9E-3 ---	ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 205 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: SPS1
0415801- 1- 1*	Control Room Operator OPERATES the Pressurizer Pressure Control System operator fails to open PORV to allow emergency boration given: seq=atws(tk); local; ev=poa; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600	4.0E-3 ---	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 4 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 203 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: SPS1
0415801- 2- 1*	Control Room Operator OPERATES the Pressurizer Pressure Control System operator fails to open PORV block valve given: diagnosis error (fails to recognize) seq=atws(tk); local; ev=poa; therp Mean: 2.5E-1 Median: 9.4E-2 EF: 10 UCB: 9.4E-1 LCB: 9.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.5E-1 Median: 9.4E-2 EF: 10 UCB: 9.4E-1 LCB: 9.4E-3 E: 0.100 N: 1.000	2.5E-1 ---	ATime: 00:02:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 4 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 203 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRO PlantCode: SPS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0415801- 3- 1*	Control Room Operator OPERATES the Pressurizer Pressure Control System operator fails to open PORV for feed and bleed operations given: seq=tml; local; ev=post ie,poa; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600	4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600	ATime: 00:45:00 PTime: 00:10:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 204 Origin: Subjective Reference: 4-87 Vend/Eqlvl:CRD PlantCode: SPS1
0415801- 4- 1*	Control Room Operator OPERATES the Pressurizer Pressure Control System operator fails to control primary pressure given: seq=losp; local; ev=post-ie,poa; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600	4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/Eqlvl:CRD PlantCode: YKR1
0415801- 5- 1*	Control Room Operator OPERATES the Pressurizer Pressure Control System operator fails to operate primary pressure control given: seq=losp; local; ev=post-ie,poa; therp; multiple hardware failures Mean: 1.0E-1 Median: 3.8E-2 EF: 10 UCB: 3.8E-1 LCB: 3.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-1 Median: 3.8E-2 EF: 10 UCB: 3.8E-1 LCB: 3.8E-3 E: 0.100 N: 2.600	1.0E-1 --- 3.8E-1 3.8E-3 0.100 2.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/Eqlvl:CRD PlantCode: YKR1
0415802- 1- 1*	Control Room Operator MONITORS the Pressurizer Pressure Control System operator fails to check PZR press < 2335 given: LOFW,ATWS,low workload,seq=ATWS,local,post-IE,POA,Slim-Moud calibration task Mean: 5.3E-3 Median: 2.0E-3 EF: 10 UCB: 2.0E-2 LCB: 2.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 5.3E-3 Median: 2.0E-3 EF: 10 UCB: 2.0E-2 LCB: 2.0E-4 E: 0.100 N: 50.000	5.3E-3 --- 2.0E-2 2.0E-4 0.100 50.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 9 Origin: Simulation Modeling Reference: 1-86 Vend/Eqlvl:CRD PlantCode: CPS

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0416101- 1- 1*	Control Room Operator OPERATES the Reactor Protection System operator fails to manually scram RX given: given automatic scram fails seq=atws(tk); local; ev=poa; therp Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 263.100	1.0E-3 ---	ATime: 00:02:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 4 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 203 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1
0416101- 2- 1*	Control Room Operator OPERATES the Reactor Protection System failure to manually trip RX given: still based action seq=atws; local; ev=poa; therp Mean: 1.1E-3 Median: 4.0E-4 EF: 10 UCB: 4.0E-3 LCB: 4.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-3 Median: 4.0E-4 EF: 10 UCB: 4.0E-3 LCB: 4.0E-5 E: 0.100 N: 250.000	1.1E-3 ---	ATime: 00:02:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 4 Supervision: U Tagging: U Training: U	Document: 2-87 chap. IV, pp. 197, it. 8 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SMP1
0416601- 1- 1*	Control Room Operator OPERATES the Steam Generator Water Level Control System operator fails to isolate SG BD and drains given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-1E, POA, MAPPS simulation - 50 iterations Mean: 8.9E-3 Median: 4.0E-3 EF: 8 UCB: 3.2E-2 LCB: 5.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.9E-3 Median: 4.0E-3 EF: 8 UCB: 3.2E-2 LCB: 5.0E-4 E: 0.500 N: 125.000	8.9E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 15 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0415602- 1- 1*	Control Room Operator MONITORS the Steam Generator Water Level Control System operator fails to check SG relief position given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-1E, POA, MAPPS simulation - 50 iterations Mean: 1.4E-2 Median: 7.0E-3 EF: 7 UCB: 4.9E-2 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.4E-2 Median: 7.0E-3 EF: 7 UCB: 4.9E-2 LCB: 1.0E-3 E: 0.500 N: 71.400	1.4E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 7 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0416602- 2- 1*	Control Room Operator MONITORS the Steam Generator Water Level Control System operator fails to check ruptured SG level given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 1.4E-2 Median: 7.0E-3 EF: 7 UCB: 4.9E-2 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.4E-2 Median: 7.0E-3 EF: 7 UCB: 4.9E-2 LCB: 1.0E-3 E: 0.500 N:	1.4E-2 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 16 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0416603- 1- 1*	Control Room Operator DIAGNOSES the Steam Generator Water Level Control System operator fails to identify faulty SGs given: LOFW, ATWS, look for symmetrical SG press., seq= ATWS, local, post-IE, POA, SLIM-MAUD, guard against inc. Rx, moderate label, require, high monitoring Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 E: 0.100 N:	2.1E-3 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 2, task 15 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0416603- 2- 1*	Control Room Operator DIAGNOSES the Steam Generator Water Level Control System operator fails to verify SG relief shuts given: SGTR(1 tube), hi motivation, hi supervisor expectation, given prev. step to ck. SG relief position, SGTR, local, post-IE, POA, MAPPS 50/50=success Mean: 2.7E-5 Median: 1.0E-5 EF: 10 UCB: 1.0E-4 LCB: 1.0E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-5 Median: 1.0E-5 EF: 10 UCB: 1.0E-4 LCB: 1.0E-6 E: 0.100 N:	2.7E-5 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 9 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0420101- 1- 1*	Control Room Operator OPERATES the Reactor Coolant Systems operator fails to perform RCS cooldown given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 5.0E-3 Median: 5.0E-3 EF: 5 UCB: 2.5E-2 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 5.0E-3 Median: 5.0E-3 EF: 5 UCB: 2.5E-2 LCB: 1.0E-3 E: 1.000 N:	8.1E-3 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 33 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0420101- 2- 1*	Control Room Operator OPERATES the Reactor Coolant Systems operator fails to depressurize RCS - spray given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 9.7E-3 Median: 6.0E-3 EF: 5 UCB: 3.0E-2 LCB: 1.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 6.0E-3 Median: 6.0E-3 EF: 5 UCB: 3.0E-2 LCB: 1.2E-3 E: 1.000 N: 166.600	9.7E-3 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 36 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0420101- 3- 1*	Control Room Operator OPERATES the Reactor Coolant Systems operator fails to depressurize RCS - PORV given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 7.1E-3 Median: 5.0E-3 EF: 4 UCB: 2.0E-2 LCB: 1.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 5.0E-3 Median: 5.0E-3 EF: 4 UCB: 2.0E-2 LCB: 1.3E-3 E: 1.500 N: 300.000	7.1E-3 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 38 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBK1
0420101- 4- 1*	Control Room Operator OPERATES the Reactor Coolant Systems operator fails to depressurize the RCS given: loss of feed ATWS, low amount of feedback needed, seq= ATWS, local, post-IE, POA, SLIM-MAUD, calibration task Mean: 1.3E-2 Median: 5.0E-3 EF: 10 UCB: 5.0E-2 LCB: 5.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 5.0E-3 Median: 5.0E-3 EF: 10 UCB: 5.0E-2 LCB: 5.0E-4 E: 0.100 N: 20.000	1.3E-2 ---	ATime: --- PTime: --- Experience: U Feedback: 3 Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-88 group 1, task 25 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0420101- 5- 1*	Control Room Operator OPERATES the Reactor Coolant Systems operator fails to maintain RCS heat removal given: LOFW, ATWS, moderate labeling required, seq=ATWS, local, post-IE, POA SLIM-MAUD, moderate monitoring, calibration task Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 E: 0.100 N: 10.000	2.7E-2 ---	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-88 group 2, task 35 Origin: Simulation Modeling Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Unit-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0420101- 6- 1*	Control Room Operator OPERATES the Reactor Coolant Systems operator fails to establish RCS bleed path given: LOFW,ATWS_high am't of training req'd;seq=ATWS,local,post-IE,PGA Slim-Maud Mean: 4.3E-2 Median: 1.6E-2 EF: 10 UCB: 1.6E-1 LCB: 1.6E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.6E-2 EF: 10 UCB: LCB: E: N:	4.3E-2 --- 1.6E-1 1.6E-3 0.100 6.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 1 Supervision: U Tagging: U Training: 2	Document: 2-88 group 5, task 34 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0420101- 7- 1*	Control Room Operator OPERATES the Reactor Coolant Systems Operator fails to depressurize/cool RCS given: Seq = S2, S3 Mean: 5.9E-2 Median: 2.2E-2 EF: 10 UCB: 2.2E-1 LCB: 2.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.2E-2 EF: 10 UCB: LCB: E: N:	5.9E-2 --- 2.2E-1 2.2E-3 0.100 4.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 38, Table 4.9-4 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: SPS1
0420101- 8- 1*	Control Room Operator OPERATES the Reactor Coolant Systems Operator fails to depressurize/cool RCS during SGTR given: Seq = T7 Mean: 7.7E-2 Median: 2.9E-2 EF: 10 UCB: 2.9E-1 LCB: 2.9E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.9E-2 EF: 10 UCB: LCB: E: N:	7.7E-2 --- 2.9E-1 2.9E-3 0.100 3.400	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 39, Table 4.9-4 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: SPS1
0420101- 9- 1*	Control Room Operator OPERATES the Reactor Coolant Systems Operator fails to depressurize/cool RCS during T7 D1 given: Seq = T7 D1 Mean: 4.4E-1 Median: 4.0E-1 EF: 2 UCB: 1.0E+0 LCB: 1.6E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.0E-1 EF: --- UCB: LCB: E: N:	4.7E-1 2 1.0E+0 1.6E-1 3.000 7.400	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 40, Table 4.9-4 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: SPS1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0420101-10-1*	Control Room Operator OPERATES the Reactor Coolant Systems Operator fails to depressurize RCS in recovery PW SGTB Given: MEP conditional upon previous failure to depressurize; Seq = 17 Mean: 3.7E-2 Median: 1.4E-2 EF: 10 UCB: 5 UCB-1 LCB: 1.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.4E-2 Median: 10 UCB: LCB: E: N:	3.7E-2 --- 1.4E-1 1.4E-3 0.100 7.100	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Vend/Eq.vl: DR0 Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 41, Table 4.9-4 Origin: Subjective Reference: --- Vend/Eq.vl: DR0 PlantCode: SPS1
0420101-11-1*	Control Room Operator OPERATES the Reactor Coolant Systems Operator fails to close RCS PORV block valve Given: Skill-based action REP; Seq = ALL Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-3 Median: 10 UCB: LCB: E: N:	7.1E-3 --- 2.7E-2 2.7E-4 0.100 37.500	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Vend/Eq.vl: DR0 Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 33, Table 4.9-4 Origin: Subjective Reference: --- Vend/Eq.vl: DR0 PlantCode: SPS1
0420101-12-1*	Control Room Operator OPERATES the Reactor Coolant Systems Operator fails to depressurize RCS during SBO Given: Seq = SBO Mean: 1.2E-1 Median: 4.4E-2 EF: 10 UCB: 4.4E-1 LCB: 4.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.4E-2 Median: 10 UCB: LCB: E: N:	1.2E-1 --- 4.4E-1 4.4E-3 0.100 2.200	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Vend/Eq.vl: DR0 Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 31, Table 4.9-4 Origin: Subjective Reference: --- Vend/Eq.vl: DR0 PlantCode: SPS1
0420102-1-1*	Control Room Operator MONITORS the Reactor Coolant Systems operator fails to check RCS subcooling Given: SGTB(1 tube), highly motivated, middle shift, high supervisor expectation; SGTB, local, post-IE, PQA, WPPS simulation - 50 iterations Mean: 1.3E-2 Median: 8.0E-3 EF: 5 UCB: 4.0E-2 LCB: 1.6E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.0E-3 Median: 5 UCB: LCB: E: N:	1.3E-2 --- 4.0E-2 1.6E-3 1.000 125.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Vend/Eq.vl: DR0 Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 35 Origin: Analytic Reference: 3-85 Vend/Eq.vl: DR0 PlantCode: SBR1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

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Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	McLARR calc		
0420102- 2- 1*	Control Room Operator MONITORS the Reactor Coolant Systems operator fails to check RCS pressure given: SGTR(1 tube), highly motivated, middle shift, high supervisor expecta- tion; SGTR, local, post-IE, POA, MAPPs simulation - 50 iterations Mean: 1.0E-2 Median: 0.0E-3 EF: 3 UCB: 2.4E-2 LCB: 2.7E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.0E-3 EF: 3 UCB: LCB: E: N:	1.0E-2 --- 2.4E-2 2.7E-3 2.000 250.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 41 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBR1
0420102- 3- 1*	Control Room Operator MONITORS the Reactor Coolant Systems operator fails to check RCS temperature for increase in reactivity given: loss of feed ATWS, task to monitor reactivity, seq= ATWS, local, post- IE, POA, SLIM-MAUD, moderate labelling requirements, high monitoring Mean: 4.0E-4 Median: 1.5E-4 EF: 10 UCB: 1.5E-3 LCB: 1.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-4 EF: 10 UCB: LCB: E: N:	4.0E-4 --- 1.5E-3 1.5E-5 0.100 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 2, task 13 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0420102- 4- 1*	Control Room Operator MONITORS the Reactor Coolant Systems operator fails to check RCS temperature given: LOFW, ATWS, moderate labeling required, seq=ATWS, local, post-IE, POA SLIM-MAUD, high monitoring, core exit thermocouple, RCS hotleg decrease Mean: 2.5E-3 Median: 9.3E-4 EF: 10 UCB: 9.3E-3 LCB: 9.3E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.3E-4 EF: 10 UCB: LCB: E: N:	2.5E-3 --- 9.3E-3 9.3E-5 0.100 107.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 2, task 38 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0420102- 5- 1*	Control Room Operator MONITORS the Reactor Coolant Systems operator fails to check for adequate secondary heat sink given: LOFW, ATWS, moderate labeling required, seq=ATWS, local, post-IE, POA SLIM-MAUD, high monitoring Mean: 1.2E-2 Median: 4.6E-3 EF: 10 UCB: 4.6E-2 LCB: 4.6E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.6E-3 EF: 10 UCB: LCB: E: N:	1.2E-2 --- 4.6E-2 4.6E-4 0.100 21.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 2, task 37 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0420103- 1- 1*	Control Room Operator DIAGNOSES the Reactor Coolant Systems Operator fails to check RCP trip criteria given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, PDM, MAPPS stimulation - 50 iterations Mean: 1.6E-2 Median: 9.0E-3 EF: 6 UCB: 5.4E-2 LCB: 1.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.0E-3 Median: 6 EF: UCB: LCB: E: N:	1.6E-2 --- 5.4E-2 1.5E-3 1.000 111.100	ATime: ---:---:--- ptime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-86 subtask 1 Origin: Analytic Reference: 3-85 Vend/Eq.vl:CR0 PlantCode: SBR1
0420103- 2- 1*	Control Room Operator DIAGNOSES the Reactor Coolant Systems operator fails to check if secondary heat sink required given: LOFW,ATWS,low workload,seqf,MS,local,post-IE,PDM,Slim-Mead Mean: 2.1E-2 Median: 7.9E-3 EF: 10 UCB: 7.9E-2 LCB: 7.9E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.9E-3 Median: 10 EF: UCB: LCB: E: N:	2.1E-2 --- 7.9E-2 7.9E-4 0.100 12.600	ATime: ---:---:--- ptime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress: 1 Supervision: U Tagging: U Training: U	Document: 2-86 group 4, task 18 Origin: Analytic Reference: 1-86 Vend/Eq.vl:CR0 PlantCode: CPS
0420301- 1- 1*	Control Room Operator OPERATES the Chemical And Volume Control System operator fails to perform emergency boration given: diagnosis errors nor considered seqratw(kt); local; evpos; therp; Mean: 1.2E-2 Median: 4.5E-3 EF: 10 UCB: 4.5E-2 LCB: 4.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.5E-3 Median: 10 EF: UCB: LCB: E: N:	1.2E-2 --- 4.5E-2 4.5E-4 0.100 22.200	ATime: 00:10:00 ptime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 4 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 203 Origin: Subjective Reference: 4-87 Vend/Eq.vl:CR0 PlantCode: SPS1
0420301- 2- 1*	Control Room Operator OPERATES the Chemical And Volume Control System failure to initiate emergency boration given: seqratw; local; evpos; therp; Mean: 5.1E-3 Median: 1.9E-3 EF: 10 UCB: 1.9E-2 LCB: 1.9E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.9E-3 Median: 10 EF: UCB: LCB: E: N:	5.1E-3 --- 1.9E-2 1.9E-4 0.100 52.600	ATime: 00:10:00 ptime: 00:01:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.197,tt.9 Origin: Subjective Reference: 4-87 Vend/Eq.vl:CR0 PlantCode: SMP1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0420301- 3- 1*	Control Room Operator OPERATES the Chemical And Volume Control System operator fails to accomplish rapid boration of RCS given: LOFW,ATWS,assure centrifugal chrg. pumps run.,mod. workload,open bor. valve,verify bor. flow;seq=ATWS,local,post-1E,POA,Slim-Maud Mean: 1.8E-2 Median: 6.7E-3 EF: 10 UCB: 6.7E-2 LCB: 6.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.7E-3 EF: 10 UCB: LCB: E: N:	1.8E-2 --- 6.7E-2 6.7E-4 0.100 14.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 8 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRD PlantCode: CPS
0420301- 4- 1*	Control Room Operator OPERATES the Chemical And Volume Control System Operator fails to correctly emergency borate given: Seq = ATWS Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-3 EF: 10 UCB: LCB: E: N:	2.7E-3 --- 1.0E-2 1.0E-4 0.100 100.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 34, Table 4.9-4 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:CRD PlantCode: SPS1
0420303- 1- 1*	Control Room Operator DIAGNOSES the Chemical And Volume Control System operator fails to verify dilution paths are isolated given: LOFW,ATWS,low workload,low fatigue,seq=ATWS,local,post-1E,POA Slim-Maud Mean: 2.5E-2 Median: 9.3E-3 EF: 10 UCB: 9.3E-2 LCB: 9.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.3E-3 EF: 10 UCB: LCB: E: N:	2.5E-2 --- 9.3E-2 9.3E-4 0.100 10.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 6, task 12 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRD PlantCode: CPS
0421301- 1- 1*	Control Room Operator OPERATES the Spent Fuel Pit Cooling System failure: to transfer spent fuel pit cooling loads to unit 2 CCW train given: seq=all; unk; ev=poa; therp Mean: 5.1E-4 Median: 1.9E-4 EF: 10 UCB: 1.9E-3 LCB: 1.9E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.9E-4 EF: 10 UCB: LCB: E: N:	5.1E-4 --- 1.9E-3 1.9E-5 0.100 526.300	ATime: 01:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.197,it.6 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRD PlantCode: SNP1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0422101- 1- 1*	Control Room Operator OPERATES the Turbine Systems operator fails to manually trip turbine given: seq=atws(tk); local; ev=poa; therp Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-4 EF: 10 UCB: LCB: E: N:	1.0E-3 --- 3.8E-3 3.8E-5 0.100 263.100	ATime: 00:01:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: 4 Supervisor: U Tagging: U Training: U	Document: 2-86 chapter IV, page 203 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1
0422103- 1- 1*	Control Room Operator DIAGNOSES the Turbine System: operator fails to verify turbine trip given: LOFW, ATWS, low workload, low fatigue, seq=ATWS, local, post-1E, POA Slim-Maud calibration task Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-3 EF: 10 UCB: LCB: E: N:	2.7E-3 --- 1.0E-2 1.0E-4 0.100 100.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-88 group 6, task 5 Origin: Simulation Modeling Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0422202- 1- 1*	Control Room Operator MONITORS the Extraction Steam System Tolerate an out of range situation with potentially minor consequence given: 100% power; errors of intention; PSFs -> HMI= 9, S/R/K= 9, S.Cult=10, motiv= 7, workload= 9, commun= 7; local; pre-1E ;HRA=INTENT Mean: 4.1E-2 Median: 1.9E-2 EF: 8 UCB: 1.5E-1 LCB: 2.3E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 1.5E-1 LCB: 2.3E-3 E: N:	4.2E-2 1.9E-2 8 --- 2.3E-3 0.500 26.900	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ---:---:--- Vend/EqLvl: CRO PlantCode: ALLP
0423301- 1- 1*	Control Room Operator OPERATES the Component Cooling Water System operator fails to realign HPI service water given: to bypass plugged strainer seq=tqd; remote; ev=rop; therp Mean: 1.0E-1 Median: 3.8E-2 EF: 10 UCB: 3.8E-1 LCB: 3.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-2 EF: 10 UCB: LCB: E: N:	1.0E-1 --- 3.8E-1 3.8E-3 0.100 2.600	ATime: 00:10:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 207 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1

* Data point is used in Task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0423301- 2- 1*	Control Room Operator OPERATES the Component Cooling Water System failure to supply CCW to RHR heat exchangers given: seq=all; local; evmpoa; therp Mean: 6.9E-6 Median: 1.9E-6 EF: 14 UCB: 1.9E-5 LCB: 1.0E-7 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.9E-6 EF: 10 UCB: LCB: E: N:	5.0E-6 --- 1.9E-5 1.0E-7 0.100 52631.500	ATime: 01:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.197,it.4 Origin: Subjective Reference: 4-87 Vend/EqLvl:CR0 PlantCode: SNP1
0423301- 3- 1*	Control Room Operator OPERATES the Component Cooling Water System Operator fails to cool RCP seals during station blackout given: Seq = SBO - U1 Mean: 2.8E-1 Median: 1.3E-1 EF: 8 UCB: 1.0E+0 LCB: 1.6E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.3E-1 EF: --- UCB: LCB: E: N:	2.8E-1 --- 8 1.0E+0 1.6E-2 0.500 4.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 42, Table 4.9 - 4 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:CR0 PlantCode: SPS1
0423501- 1- 1*	Control Room Operator OPERATES the Nuclear Service Water System Operator fails to align CPC SW to Unit 2 given: Seq = ALL Mean: 1.6E-1 Median: 5.9E-2 EF: 10 UCB: 5.9E-1 LCB: 5.9E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.9E-2 EF: 10 UCB: LCB: E: N:	1.6E-1 --- 10 5.9E-1 5.9E-3 0.100 1.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 11, Table 4.9 - 4 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:CR0 PlantCode: SPS1
0429101- 1- 1*	Control Room Operator OPERATES the Main Steam System operator isolates SG MOV and Bailey improperly given: seq=all; local; evmpre-ie; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-3 EF: 10 UCB: LCB: E: N:	4.0E-3 --- 10 1.5E-2 1.5E-4 0.100 66.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 1 Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl:CR0 PlantCode: YR1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0429101- 2- 1*	Control Room Operator OPERATES the Main Steam System operator inadvertently isolates the SG given: seq=ll; local; ev=pre-ie; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-3 EF: 10 UCB: LCB: E: N:	4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 1 Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: CRO PlantCode: YKRT
0429101- 3- 1*	Control Room Operator OPERATES the Main Steam System operator fails to isolate main SL given: SGTR(1 tube), highly motivated, middle shift, high supervisor expectation; SGTR, local, post-IE, POA, MAPPS simulation - 50 iterations Mean: 5.0E-3 Median: 4.0E-3 EF: 3 UCB: 1.2E-2 LCB: 1.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.0E-3 EF: 3 UCB: LCB: E: N:	5.0E-3 --- 1.2E-2 1.3E-3 2.000 500.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 4 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBRT
0429101- 4- 1*	Control Room Operator OPERATES the Main Steam System operator fails to isolate main SL alt given: SGTR(1 tube), high motiv., mid. shift, high supervisor expectation, given fail to iso. main SL; SGTR, local, post-IE, POA, MAPPS sim. 50/50=success Mean: 2.7E-5 Median: 1.0E-5 EF: 10 UCB: 1.0E-4 LCB: 1.0E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-5 EF: 10 UCB: LCB: E: N:	2.7E-5 --- 1.0E-4 1.0E-6 0.100 10000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 1-88 subtask 6 Origin: Analytic Reference: 3-85 Vend/EqLvl: CRO PlantCode: SBRT
0429101- 5- 1*	Control Room Operator OPERATES the Main Steam System operator fails to depressurize at least 1 SG to 545 psi given: LOFW, ATWS, moderate workload, seq=ATWS, local, post-IE, POA, Slim-Max calibration task Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.0E-2 EF: 10 UCB: LCB: E: N:	1.3E-1 --- 5.0E-1 5.0E-3 0.100 2.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 27 Origin: Simulation Modeling Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0429101- 6- 1*	Control Room Operator OPERATES the Main Steam System Operator fails to terminate flow from stuck open SG PORV given: HEP conditional on previous failure to depressurize; Seq = T7 Mean: 8.5E-2 Median: 3.2E-2 EF: 10 UCB: 3.2E-1 LCB: 3.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.2E-2 EF: 10 UCB: LCB: E: N:	8.5E-2 --- 3.2E-1 3.2E-3 0.100 3.100	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 2B, Table 4.9 - 4 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:CR0 PlantCode: SPS1
0504113- 1- 1*	Equipment Operator MAINTAINS the Condensate Systems Common cause miscalibration of CST low level sensors given: BWR, no compelling signals, written verification assumed, no daily ck local; seq=N/A; ev=pre ASEP Mean: 1.8E-4 Median: 6.7E-5 EF: 10 UCB: 6.7E-4 LCB: 6.6E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 6.7E-5 EF: 10 UCB: LCB: E: N:	1.8E-4 --- 6.7E-4 6.6E-6 0.100 1503.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP MUREG/CR-4772 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:ED PlantCode: PBS
0506113- 1- 1*	Equipment Operator MAINTAINS the Containment/Reactor Building Penetration System Common cause miscalibration of high drywell pressure sensors given: BWR4/MK1, BWR/Source local; seq=N/A; ev=pre ASEP Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-4 EF: 10 UCB: LCB: E: N:	2.7E-4 --- 1.0E-3 1.0E-5 0.100 1000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP MUREG/CR-4772 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:ED PlantCode: PBS
0508311- 1- 1*	Equipment Operator OPERATES the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers, identified by labels only Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl:ED PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND /AW DATA

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Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0508311- 2- 1*	<p>Equipment Operator O/SKATES the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers; identified by labels only remote Seq:N/A, Pre-I.E., Expert Judgment</p> <p>Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300</p>	<p>6.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. c-8, item 10 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: BWR</p>
0508313- 1- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job Action:remote; Seq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1175.400</p>	<p>2.1E-3 --- 5.1E-3 5.7E-4 2.000 1175.400</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: 1 Training: U</p>	<p>Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0508313- 2- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq:N/A, Pre-I.E., Therp</p> <p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300</p>	<p>1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 3 Training: U</p>	<p>Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0508313- 3- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions Action:rewote; Seq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0508314- 1- 1*	Equipment Operator INSPECTS the DC Power System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions Action: remote; Seq.: N/A; Pre-I.E.; Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.0E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg 20-28, item 13 Origin: Training / Simulation Reference: --- Vend/EqLvl: E0 PlantCode: ALLP
0508411- 1- 1*	Equipment Operator OPERATES the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers; identified by labels only remote Seq=N/A, Pre-I.E., Expert Judgment Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: LCB: E: N:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: 00:00:00 PTime: 00:00:00 Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U	Document: 2-84 pg. c-8, item 10 Origin: Subjective Reference: --- Vend/EqLvl: E0 PlantCode: BWR
0508411- 2- 1*	Equipment Operator OPERATES the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Rather dense group of circuit breakers; identified by labels only remote Seq=N/A, Pre-I.E., Expert Judgment Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: --- Vend/EqLvl: E0 PlantCode: ALLP
0508411- 5- 1*	Equipment Operator OPERATES the Plant AC Distribution System Operator fails to restore AC power by manually closing a breaker given: Operator manually closes breaker to restore AC power remote Seq=NA, Post-I.E., Therp Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-1 EF: 3 UCB: LCB: E: N:	1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 3 Stress: 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg 6-34, item 17 Origin: Simulation Modeling Reference: 1-83 Vend/EqLvl: E0 PlantCode: NEE3

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0508413- 1- 1*	Equipment Operator MAINTAINS the Plant AC Distribution System Operator fails to restore AC power by manually closing a breaker given: Operator manually closes breaker to restore AC power remote Seq=NA, Post-I.E., Therp Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-1 EF: 3 UCB: LCB: E: N:	1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg 6-34, item 17 Origin: Simulation Modeling Reference: 1-83 Vend/EqLvl:EO PlantCode: NEE3
0508413- 2- 1*	Equipment Operator MAINTAINS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq=N/A, Pre-I.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-2 EF: 3 UCB: LCB: E: N:	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
0508413- 3- 1*	Equipment Operator MAINTAINS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
0508413- 4- 1*	Equipment Operator MAINTAINS the Plant AC Distribution System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0508414- 1- 1*	Equipment Operator INSPECTS the Plant AC Distribution System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg 20-28, item 15 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
0509111- 1- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Excessive task duration results in poor judgement given: 100% power: errors of intention; PSFs -> HMI= 9, S/R/K= 8, S.Cult= 8, motiv= 9,workload=11,commun= 7;remote;Post-IE;ROP;HRA=INTENT Mean: 4.1E-2 Median: 3.8E-2 EF: 2 UCB: 9.0E-2 LCB: 1.6E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 9.0E-2 LCB: 1.6E-2 E: N:	4.4E-2 3.8E-2 2 9.0E-2 1.6E-2 4.000 105.400	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
0509111- 2- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Excessive task demands result in poor judgement. given: 100% power: errors of intention; PSFs -> HMI= 8, S/R/K= 8, S.Cult= 8, motiv= 7,workload=13,commun= 9;remote;Post-IE;ROP;HRA=INTENT Mean: 1.1E-1 Median: 9.2E-2 EF: 3 UCB: 2.9E-1 LCB: 2.9E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 2.9E-1 LCB: 2.9E-2 E: N:	1.2E-1 9.2E-2 3 2.9E-1 2.9E-2 2.000 21.800	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
0509113- 1- 1*	Equipment Operator MAINTAINS the Emergency Core Cooling Systems Common cause miscalibration of CST low level sensors given: BWR, no compelling signals, written verification assumed, no daily ck2 I=al; seq=N/A; ev=pre ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-5 EF: 10 UCB: LCB: E: N:	6.7E-5 --- 2.5E-4 2.5E-6 0.100 4000.000	ATime: ---:---:--- PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: PBS

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0511113- 1- 1*	<p>Equipment Operator MAINTAINS the Feedwater Systems Common cause miscalibration of CST low level sensors given: BWR, no compelling signals, written verification assumed, no daily ck local; seq=N/A; ev=pre ASEP</p> <p>Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: 0.100 N: 4000.000</p>	<p>6.7E-5 --- 2.5E-4 2.5E-6 0.100 4000.000</p>	<p>ATime: ---:---:--- PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: PBS</p>
0520111- 1- 1*	<p>Equipment Operator OPERATES the Reactor Coolant Systems Violate procedure and devise own formul. given: 100% power; errors of intention; PSFs -> HMI= 8, S/R/K=10, S.Cult= 9, motiv= 9, workload= 8, commu= 5; remote; ;Post-IE;WRA=INTENT</p> <p>Mean: 1.4E-2 Median: 8.7E-3 EF: 5 UCB: 4.7E-2 LCB: 1.6E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: --- Median: 8.7E-3 EF: --- UCB: 4.7E-2 LCB: 1.6E-3 E: 1.000 N: 115.300</p>	<p>1.5E-2 8.7E-3 5 4.7E-2 1.6E-3 1.000 115.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4</p>	<p>Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0531114- 1- 1*	<p>Equipment Operator INSPECTS the Process Sampling Systems Checkers performing QA tolerate a discrepancy. given: 100% power; errors of intention; PSFs -> HMI= 8, S/R/K=10, S.Cult=10, motiv= 9, workload=10, commu= 6; remote; ;Pre -IE;WRA=INTENT</p> <p>Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: --- Median: 1.2E-2 EF: --- UCB: 1.2E-1 LCB: 1.2E-3 E: 0.100 N: 8.300</p>	<p>3.2E-2 1.2E-2 10 1.2E-1 1.2E-3 0.100 8.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4</p>	<p>Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0604123- 1- 1*	<p>Maintenance Technician MAINTAINS the Condensate Systems Common cause miscalibration of CST low level sensors given: BWR, no compelling signals, written verification assumed, no daily ck local; seq=N/A; ev=pre ASEP</p> <p>Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: 0.100 N: 4000.000</p>	<p>6.7E-5 --- 2.5E-4 2.5E-6 0.100 4000.000</p>	<p>ATime: ---:---:--- PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 4-87 Origin: Subjective Reference: ----- Vend/EqLvl:MT PlantCode: PBS</p>

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Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0605123- 1- 1*	Maintenance Technician MAINTAINS the Containment Systems Common cause miscalibration of high drywell pressure sensors given: SWR4/MK1, SWR/Source local; seq=N/A; ev=pre ASEP Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000	2.7E-4 ---	ATime: ---:---:--- PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: --- Vend/EqLvl: MT PlantCode: PBS
0606420- 1- 1*	Maintenance Technician TESTS the Containment Spray System maintenance tech fails to restore valve after pump test given: normal conditions seq=pump test; local; ev=pre-initiating; therp Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 E: 0.100 N: 100.000	2.7E-3 ---	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: 1 Training: U	Document: 2-86 chapter IV, page 193 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: SPS1
0608320- 1- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. A specific number of tags issued for each job. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: --- Vend/EqLvl: MT PlantCode: ALLP
0608320- 2- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq=N/A, Pre-I.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 ---	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: --- Vend/EqLvl: MT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0608320- 3- 1*	Maintenance Technician TESTS the DC Power System Subject improperly mates electrical connector given: Subject properly closes the circuit Non-specific, average plant conditions Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 3 N:	3.8E-3 9.0E-3 1.0E-3 2.000 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 Pg 20-28, item 3 Origin: Training / Simulation Reference: ---:---:--- Vend/Eq.vl:NT PlantCode: ALLP
0608320- 4- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. A specific number of tags issued for each job. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ---:---:--- Vend/Eq.vl:NT PlantCode: ALLP
0608321- 1- 1*	Maintenance Technician CHECKS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ---:---:--- Vend/Eq.vl:NT PlantCode: ALLP
0608323- 1- 5*	Maintenance Technician MAINTAINS the DC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 Pg 20-28, item 3 Origin: Training / Simulation Reference: ---:---:--- Vend/Eq.vl:NT PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0608323- 1- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. A specific number of tags issued for each job. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 ---	Atime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:NT PlantCode: ALLP
0608323- 3- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq:N/A, Pre-I.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-2 EF: 3 UCB: LCB: 5.0E-3 E: 2.000 N: 135.300	1.9E-2 ---	Atime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:NT PlantCode: ALLP
0608323- 4- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. A specific number of tags issued for each job. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 ---	Atime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:NT PlantCode: ALLP
0608323- 5- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000	6.2E-3 ---	Atime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:NT PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0608420- 1- 1*	<p>Maintenance Technician TESTS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. A specific number of tags issued for each job. Action:remote; Seq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400</p>	<p>2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U</p>	<p>Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP</p>
0608420- 2- 1*	<p>Maintenance Technician TESTS the Plant AC Distribution System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Seq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Pg 20-28, item 3 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP</p>
0608420- 3- 1*	<p>Maintenance Technician TESTS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. A specific number of tags issued for each job. Action:remote; Seq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400</p>	<p>2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U</p>	<p>Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP</p>
0608420- 4- 1*	<p>Maintenance Technician TESTS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq=N/A, Pre-I.E., Therp</p> <p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300</p>	<p>1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U</p>	<p>Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0608421- 1- 1*	Maintenance Technician CHECKS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000	6.2E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:NT PlantCode: ALLP
0608423- 1- 1*	Maintenance Technician MAINTAINS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. A specific number of tags issued for each job. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:NT PlantCode: ALLP
0608423- 2- 1*	Maintenance Technician MAINTAINS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. A specific number of tags issued for each job. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:NT PlantCode: ALLP
0608423- 3- 1*	Maintenance Technician MAINTAINS the Plant AC Distribution System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600	3.8E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 Pg 20-28, item 3 Origin: Training / Simulation Reference: ----- Vend/EqLvl:NT PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLEAR calc		
0608423- 4- 1*	Maintenance Technician MAINTAINS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given; Subject selects correct circuit breaker tags are used but record keeping is inadequate remote Seq:NA, Pre-1.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.5E-2 Median: 3 EF: UCB: LCB: E: N:	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 Pg. 20-28, Item 11 Origin: Training / Simulation Reference: ----- Vend/Eq.vl:WT PlantCode: ALLP
0608423- 5- 1*	Maintenance Technician MAINTAINS the Plant AC Distribution System Subject selects wrong circuit breaker from dense group given; Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Seq:N/A; Pre-1.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 5.0E-3 Median: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 Pg 20-28, Item 11 Origin: Training / Simulation Reference: ----- Vend/Eq.vl:WT PlantCode: ALLP
0609123- 1- 1*	Maintenance Technician MAINTAINS the Emergency Core Cooling Systems maintenance tech fails to calibrate RUST sensors properly given; common cause/redundant trains/ECCS seq:NA; local; ev-PI; therp Mean: 2.9E-4 Median: 1.1E-4 EF: 10 UCB: 1.1E-3 LCB: 1.1E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-4 Median: 10 EF: UCB: LCB: E: N:	2.9E-4 --- 1.1E-3 1.1E-5 0.100 900.000	ATime: 00:00:00 PTime: ----- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: 1 Training: U	Document: 2-86 chapter IV, page 193 Origin: Subjective Reference: 4-87 Vend/Eq.vl:WT PlantCode: SPS1
0609123- 2- 1*	Maintenance Technician MAINTAINS the Emergency Core Cooling Systems failure to remove refueling cavity drain plug after refueling given; plug prevents ECCS water from draining to sump multiple verifications provided by procedures seq:local's; remote; evpre-1e,poa; therp Mean: 9.8E-6 Median: 3.4E-6 EF: 11 UCB: 3.4E-5 LCB: 3.0E-7 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.4E-6 Median: 10 EF: UCB: LCB: E: N:	9.8E-6 --- 3.4E-5 3.0E-7 0.100 29411.700	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: 1 Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-87 chapp.IV,pg.196, fr.1 Origin: Subjective Reference: 4-87 Vend/Eq.vl:WT PlantCode: SMP1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0609123- 3- 1*	Maintenance Technician MAINTAINS the Emergency Core Cooling Systems Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1, BWR/Source Local; Seq=N/A; Ev=Pre; ASEP Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-4 EF: 10 UCB: LCB: E: N:	2.7E-4 --- 1.0E-3 1.0E-5 0.100 1000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl: NT PlantCode: PBS
0609320- 1- 1*	Maintenance Technician TESTS the Residual Heat Removal/Low Press Safety Inject Syst fail to restore IPI manual valve from test & maintenance given: seq=loca's; remote; ev=pre-ie,poa; therp Mean: 2.9E-5 Median: 1.1E-5 EF: 10 UCB: 1.1E-4 LCB: 1.1E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-5 EF: 10 UCB: LCB: E: N:	2.9E-5 --- 1.1E-4 1.1E-6 0.1e0 9090.900	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.196,it.2 Origin: Subjective Reference: 4-87 Vend/EqLvl: NT PlantCode: SNF1
0611123- 1- 1*	Maintenance Technician MAINTAINS the Feedwater Systems Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1, BWR/Source Local; Seq=N/A; Ev=Pre; ASEP Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-4 EF: 10 UCB: LCB: E: N:	2.7E-4 --- 1.0E-3 1.0E-5 0.100 1000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl: NT PlantCode: PBS
0615323- 1- 1*	Maintenance Technician MAINTAINS the Engineered Safeguards Actuation and Logic System maint. tech fails to calibrate SIAS-A pressure detector properly given: seq=loca; remote; ev=post-ie,poa; therp; Mean: 3.2E-3 Median: 1.2E-3 EF: 10 UCB: 1.2E-2 LCB: 1.2E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-3 EF: 10 UCB: LCB: E: N:	3.2E-3 --- 1.2E-2 1.2E-4 0.100 83.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: NT PlantCode: YK1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0615323- 2- 1*	Maintenance Technician MAINTAINS the Engineered Safeguards Actuation and Logic System maint. tech fails to calibrate 2 SIAS pressure detectors given: seq=loca; remote; ev=post-ie,poa; therp; Mean: 1.3E-4 Median: 4.9E-5 EF: 10 UCB: 4.9E-4 LCB: 4.9E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-4 Median: 4.9E-5 EF: 10 UCB: 4.9E-4 LCB: 4.9E-6 E: 0.100 N: 2040.800	1.3E-4 --- 4.9E-4 4.9E-6 0.100 2040.800	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db fil: Origin: Subjective Reference: 2-82 Vend/EqLvl: MT PlantCode: YXR1
0623320- 1- 1*	Maintenance Technician TESTS the Component Cooling Water System fail to restore CCW manual valve from test & maintenance given: seq=all; remote; ev=pre-ie; therp Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.8E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.8E-6 E: 0.100 N: 2631.500	1.0E-4 --- 3.8E-4 3.8E-6 0.100 2631.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.196,it.3 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: SNP1
0623520- 1- 1*	Maintenance Technician TESTS the Nuclear Service Water System fail to restore service water manual valve from test & maintenance given: seq=all; remote; ev=pre-ie; therp Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 E: 0.100 N: 333.300	8.0E-4 --- 3.0E-3 3.0E-5 0.100 333.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.196,it.6 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: SNP1
0623520- 2- 1*	Maintenance Technician TESTS the Nuclear Service Water System fail to restore service water air operated valve from test & maint. given: seq=all; remote; ev=pre-ie; therp Mean: 2.9E-5 Median: 1.1E-5 EF: 10 UCB: 1.1E-4 LCB: 1.1E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.9E-5 Median: 1.1E-5 EF: 10 UCB: 1.1E-4 LCB: 1.1E-6 E: 0.100 N: 9090.900	2.9E-5 --- 1.1E-4 1.1E-6 0.100 9090.900	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.196,it.5 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: SNP1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	HUCLARR calc		
0700201- 1- 1*	Control Room Operator OPERATES the Instrument Air System Common mode: poor judgments becuz proc, P&IDs/operat convent do not mtch given: 100% power: errors of intention; PSFs -> HMI=11, S/R/K=10, S.Cult= 9, motiv= 6, workload= 7, commu= 8; local; ;Pre -IE;HRA=INTENT Mean: 1.1E-1 Median: 9.2E-2 EF: 3 UCB: 2.9E-1 LCB: 2.9E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.2E-1 Median: 9.2E-2 EF: --- UCB: 2.9E-1 LCB: 2.9E-2 E: 2.000 N: 21.800	1.2E-1 9.2E-2 3 2.9E-1 2.9E-2 2.000 21.800	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 6 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 1 Origin: Subjective Reference: --- Vend/EquLvl: CRJ PlantCode: ALLP
0700202- 1- 1*	Control Room Operator MONITORS the Instrument Air System Tolerate an out of range situation with potentially moderate consequ given: 100% power: errors of intention; PSFs -> HMI= 9, S/R/K=10, S.Cult=11, motiv= 3, workload= 9, commu= 7; remote; ;Pre -IE;HRA=INTENT Mean: 1.1E-1 Median: 6.0E-2 EF: 6 UCB: 3.6E-1 LCB: 1.0E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: --- Median: --- EF: --- UCB: 3.6E-1 LCB: 1.0E-2 E: 1.000 N: 16.600	1.1E-1 6.0E-2 6 3.6E-1 1.0E-2 1.000 16.600	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: --- Vend/EquLvl: CRJ PlantCode: ALLP
0700203- 1- 1*	Control Room Operator DIAGNOSES the Instrument Air System Crews consult inappropriate resources in emergency. given: 100% power: errors of intention; PSFs -> HMI=10, S/R/K= 9, S.Cult= 8, motiv= 7, workload=10, commu= 9; local; Post-IE;ROP;HRA=INTENT Mean: 3.5E-2 Median: 1.6E-2 EF: 8 UCB: 1.3E-1 LCB: 1.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: --- Median: --- EF: --- UCB: 1.3E-1 LCB: 1.9E-3 E: 0.500 N: 31.800	3.6E-2 1.6E-2 8 1.3E-1 1.9E-3 0.500 31.800	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: --- Vend/EquLvl: CRJ PlantCode: ALLP
0702101- 1- 1*	Control Room Operator OPERATES the Communication Systems Inadequate communication results in improper actions. given: 100% power: errors of intention; PSFs -> HMI= 9, S/R/K= 8, S.Cult= 9, motiv= 8, workload= 9, commu=13; local; Post-IE;ROP;HRA=INTENT Mean: 5.7E-2 Median: 2.6E-2 EF: 8 UCB: 2.0E-1 LCB: 3.3E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: --- Median: --- EF: --- UCB: 2.0E-1 LCB: 3.3E-3 E: 0.500 N: 19.400	5.6E-2 2.6E-2 8 2.0E-1 3.3E-3 0.500 19.400	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: --- Vend/EquLvl: CRJ PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0704101- 1- 1*	Control Room Operator OPERATES the Condensate Systems Operator fails to check main steam isolation & bypass valves closed. given: LOFW, ATWS, mod. workload Local; Seq=ATWS; Ev=Post; IE=POA; Slim Maud Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-3 EF: 10 UCB: LCB: E: N:	1.1E-2 --- 4.3E-2 4.3E-4 0.100 23.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0704102- 1- 1*	Control Room Operator MONITORS the Condensate Systems Operator fails to check main steam isolation & bypass valves closed. given: LOFW, ATWS, mod. workload Local; Seq=ATWS; Ev=Post; IE=POA; Slim Maud Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-3 EF: 10 UCB: LCB: E: N:	1.1E-2 --- 4.3E-2 4.3E-4 0.100 23.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0705101- 1- 1*	Control Room Operator OPERATES the Containment Systems Circumvent proc with potential catastrophic conseq e.g. major ISLOCA given: 100% power: errors of intention; PSFs -> HMI= 6, S/R/K= 9, S.Cult=11, motiv= 7, workload= 8, comm= 7; local; seq=ISLOCA; Pre -IE; HRA=INTENT Mean: 2.2E-2 Median: 2.1E-3 EF: 35 UCB: 7.5E-2 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 7.5E-2 LCB: 6.0E-5 E: N:	2.2E-2 2.1E-3 35 --- 6.0E-5 0.100 47.100	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 96--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0705103- 1- 1*	Control Room Operator DIAGNOSES the Containment Systems Competing goal states leads to wrong conclusion. given: 100% power: errors of intention; PSFs -> HMI= 6, S/R/K=11, S.Cult= 9, motiv= 9, workload=10, comm= 6; local; Post-IE; ROP; HRA=INTENT Mean: 5.5E-2 Median: 3.9E-2 EF: 4 UCB: 1.7E-1 LCB: 8.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 1.7E-1 LCB: 8.9E-3 E: N:	5.5E-2 3.9E-2 4 --- 8.9E-3 1.000 25.700	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values Raw	MECLARR calc	PSFs	Document Information
0706401- 1- 1*	Control Room Operator OPERATES the Containment Spray System Circumvent proc with minor consequence e.g., a minor ISCOA given: 100% power; errors of intention; PSFs -> HMI= 7, S/R/K= 9, S.Cult=10, motive: 7, workload= 9, comm= 8; local; seq=ISLOCA, Post-1E, ROP; RBA=INTENT Mean: 2.2E-2 Median: 5.3E-3 EF: 16 UCB: 8.6E-2 LCB: 3.3E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	2.2E-2 5.3E-3 16 8.6E-2 3.3E-4 0.100 18.700	Atime: --- PTime: --- Experience: 3 Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 3	Document: 90-11 Table 2 Origin: Subjective Reference: --- Vend/Eq.vl:OR0 PlantCode: ALLP
0706401- 2- 1*	Control Room Operator OPERATES the Containment Spray System Circumvent proc with potential catastrophic conseq e.g. major ISLOCA given: 100% power; errors of intention; PSFs -> HMI= 6, S/R/K= 9, S.Cult=11, motive: 7, workload= 8, comm= 7; local; seq=ISLOCA, Post-1E, ROP; RBA=INTENT Mean: 2.2E-2 Median: 2.1E-3 EF: 35 UCB: 7.5E-2 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	2.2E-2 2.1E-3 35 7.5E-2 6.0E-5 0.100 47.100	Atime: --- PTime: --- Experience: 3 Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 90-11 Table 2 Origin: Subjective Reference: --- Vend/Eq.vl:OR0 PlantCode: ALLP
0708501- 1- 1*	Control Room Operator OPERATES the Plant AC Power System Operator fails to reconnect stub-bus after LOSP. given: Local; Seq=LOSP; Ev=Post; 1E=POB; THERP Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	4.0E-3 1.5E-3 10 1.5E-2 1.5E-4 0.100 66.600	Atime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-86 Chapter IV, pg 207 Origin: Simulation Modeling Reference: 1-87 Vend/Eq.vl:OR0 PlantCode: SPS1
0709100- 1- 1*	Control Room Operator TESTS the Emergency Core Cooling Systems Operator fails to reopen valve in ECRS or CSRS system. given: 4-loop PAR, Proc. not followed. Local; Seq=All; Ev=Pre Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	8.0E-3 3.0E-3 10 3.0E-2 3.0E-4 0.100 33.300	Atime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/Eq.vl:OR0 PlantCode: SPS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MCCLARR calc		
0709101-1-1*	Control Room Operator OPERATES the Emergency Core Cooling Systems operator fails to realign ESP valve Given: seq=small loca; local; evpost=ie,poa; inep-grm; 2-loop per plant Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-2 Median: 10 EF: UCB: LCB: E: M:	2.7E-2 --- 1.0E-1 1.0E-3 0.100 10.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/Eq.vl:CR0 PlantCode: COM1
0709101-2-1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Operator fails to reopen valve in ECRS or CSRS system. Given: 4-loop PWR, Proc. not followed. Local; Seq=ALL; Ev=Pre Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 3.0E-3 Median: 10 EF: UCB: LCB: E: M:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/Eq.vl:CR0 PlantCode: SMP1
0709101-3-1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Multiple fault situation, crew solves the more minor fault. Given: 100% power; 6.rv.s of intention; PSFs -> RWI=8, S/R/K=10, S.Cult=7, motive 7,workload=9,comm=11;local;Post-IE;ROP;MRA=INTENT Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.2E-1 Median: 1.2E-3 EF: UCB: LCB: E: M:	3.2E-2 1.2E-2 10 0.100 8.300	ATime: --- PTime: --- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: --- Vend/Eq.vl:CR0 PlantCode: ALLP
6709101-4-1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Right conclur-arong act path select. Capture seq based on respon set Given: 100% power; errors of intention; PSFs -> RWI=11, S/R/K=9, S.Cult=6, motive=7,workload=11,comm=8;local;Post-IE;ROP;MRA=INTENT Mean: 6.5E-2 Median: 2.9E-2 EF: 8 UCB: 2.2E-1 LCB: 3.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.2E-1 Median: 5.9E-3 EF: UCB: LCB: E: M:	6.2E-2 2.9E-2 8 0.500 17.000	ATime: --- PTime: --- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: --- Vend/Eq.vl:CR0 PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUC/ARR calc		
0709102- 1- 1*	Control Room Operator MONITORS the Emergency Core Cooling Systems Operator fails to reopen valve in ECRS or CSRS system. given: 4-loop PWR, Proc. not followed. Local; Seq=ALL; Ev=Pre Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N:	8.0E-3 ---	Atime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-B1 Vend/EqLv: CRO PlantCode: SWP1
0709103- 1- 1*	Control Room Operator DIAGNOSES the Emergency Core Cooling Systems Misdiagnose given like symptoms. Capture sequence based on stimuli. given: 100% power; errors of intention; PSFs -> HMI=11, S/R/K= 1 S.Cult= 5, motiv= 8, workload=11, comm= 3; local; Post-IE; ROP; HRA=INTENT Mean: 6.9E-2 Median: 4.8E-2 EF: 4 UCB: 1.8E-1 LCB: 1.3E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 6.9E-2 Median: 4.8E-2 EF: 4 UCB: 1.8E-1 LCB: 1.3E-2 E: 1.500 N: 31.000	6.7E-2 4.8E-2 4 ---	Atime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLv: CRO PlantCode: ALLP
0709103- 2- 1*	Control Room Operator DIAGNOSES the Emergency Core Cooling Systems Symptoms noticed, but incorrect interpretation. given: 100% power; errors of intention; PSFs -> HMI=11, S/R/K= 11 S.Cult= 6, motiv= 8, workload=10, comm= 7; local; Post-IE; ROP; HRA=INTENT Mean: 3.3E-2 Median: 2.0E-2 EF: 5 UCB: 1.0E-1 LCB: 4.2E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.3E-2 Median: 2.0E-2 EF: 5 UCB: 1.0E-1 LCB: 4.2E-3 E: 1.000 N: 48.000	3.3E-2 2.0E-2 5 ---	Atime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLv: CRO PlantCode: ALLP
0709201- 1- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to start RPIS (given small loca) given: seq=sm, loca w/scram; local; ev=post-ie, poa; irep-grm; 2-loop pwr plant Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 E: 0.100 N: 10.000	2.7E-2 ---	Atime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-54 Vend/EqLv: CRO PlantCode: CCN1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0709201- 2- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System Maint tech fails to restore SIAS circuit breaker to closed position given: Action: remote; Seq=LCOA; Post-I.E., POA, Therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N: 133.330	2.0E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Simulation Modeling Reference: 2-82 Vend/EqLvl: CRO PlantCode: YKR1
0711101- 1- 1*	Control Room Operator OPERATES the Feedwater Systems operator fails to increase SG flow given: seq=all; local; ev=pre-ic_pos; therp; 2-loop pwr plant Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 E: 0.100 N: 10.000	2.7E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl: CRO PlantCode: CCN1
0711101- 2- 1*	Control Room Operator OPERATES the Feedwater Systems Operator fails to check main steam isolation & bypass valves closed. given: LOFW, ATWS, mod. workload LOCAL; Seq=ATWS; Ev=POST; IE=POA; SLIM MAUD Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 E: 0.100 N: 23.200	1.1E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
0711102- 1- 1*	Control Room Operator MONITORS the Feedwater Systems Operator fails to check main steam isolation & bypass valves closed. given: LOFW, ATWS, mod. workload LOCAL; Seq=ATWS; Ev=POST; IE=POA; SLIM MAUD Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 E: 0.100 N: 23.200	1.1E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document information
		Raw	MUCLARR calc		
0711301- 1- 1*	Control Room Operator OPERATES the Main Feedwater System Operator fails to check main steam isolation & bypass valves closed given: LOFW, ATWS, mod. workload Action:local, Seq=ATWS; Post-I.E., POA, Slim Mand Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-3 EF: 10 UCB: LCB: E: N:	1.1E-2 --- 4.3E-2 4.3E-4 0.100 23.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl:CRO PlantCode: CPS
0711302- 1- 1*	Control Room Operator MONITORS the Main Feedwater System Operator fails to check main steam isolation & bypass valves closed given: LOFW, ATWS, mod. workload Action:local, Seq=ATWS; Post-I.E., POA, Slim Mand Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-3 EF: 10 UCB: LCB: E: N:	1.1E-2 --- 4.3E-2 4.3E-4 0.100 23.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl:CRO PlantCode: CPS
0711401- 1- 1*	Control Room Operator OPERATES the Auxiliary/Emergency Feedwater System operator fails to operate cross feed from AFW unit 2 given: seq=all; local; ev=pre-ie,poa; therp; 2-loop pwr plant Mean: 2.7E-1 Median: 1.0E-1 EF: 10 UCB: 1.0E+0 LCB: 1.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-1 EF: 10 UCB: LCB: E: N:	2.7E-1 --- 1.0E+0 1.0E-2 0.100 1.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl:CRO PlantCode: CCN1
0711401- 2- 1*	Control Room Operator OPERATES the Auxiliary/Emergency Feedwater System operator fails to lock out the AFW pump given: seq=all; local; ev=pre-ie,poa; therp; 2-loop plant Mean: 1.1E-1 Median: 4.0E-2 EF: 10 UCB: 4.0E-1 LCB: 4.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.0E-2 EF: 10 UCB: LCB: E: N:	1.1E-1 --- 4.0E-1 4.0E-3 0.100 2.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl:CRO PlantCode: CCN1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0711401- 3- 1*	Control Room Operator OPERATES the Auxiliary/Emergency Feedwater System operator fails to increase SG flc given: seq=sg failure w/losp; local; ev=post-ie,poa; irep-grm; 2-loop pwr plant Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 E: 0.100 N: 10.000	2.7E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl: CRO PlantCode: CCN1
0720301- 1- 1*	Control Room Operator OPERATES the Chemical And Volume Control System operator fails to start boration given: seq=atws; local; ev=post-ie,poa; irep-grm; 2-loop pwr plant; 20-30min.avail Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 E: 0.100 N: 2.000	1.3E-1 ---	ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 4 Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl: CRO PlantCode: CCN1
0722202- 1- 1*	Control Room Operator MONITORS the Extraction Steam System Tolerate an out of range situation with potentially minor consequences given: 100% power; errors of intention; PSFs -> HMI= 9, S/R/K= 9, S.Cult=10, motiv= 7, workload= 9, commun= 7; local; Pre -IE; HRA=INTENT Mean: 4.1E-2 Median: 1.9E-2 EF: 8 UCB: 1.5E-1 LCB: 2.3E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 4.1E-2 Median: 1.9E-2 EF: 8 UCB: 1.5E-1 LCB: 2.3E-3 E: 0.500 N: 26.900	4.2E-2 1.9E-2 8	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
0723101- 1- 1*	Control Room Operator OPERATES the Water Systems operator fails to open the service water system valve given: seq=small loca; local; ev=post-ie,poa; irep-grm; 2-loop pwr plant Mean: 2.7E-1 Median: 1.0E-1 EF: 10 UCB: 1.0E+0 LCB: 1.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-1 Median: 1.0E-1 EF: 10 UCB: 1.0E+0 LCB: 1.0E-2 E: 0.100 N: 1.000	2.7E-1 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl: CRO PlantCode: CCN1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0804113- 1- 1*	Equipment Operator MAINTAINS the Condensate Systems Common cause miscalibration of CST low level sensors. given: BWR, no compelling signals, written verification assumed, no daily ck. LOCAL; Seq=N/A; Ev=Pre; ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-5 EF: 10 UCB: LCB: E: N:	6.7E-5 2.5E-5 --- 2.5E-4 2.5E-6 0.100 4000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:EO PlantCode: PBS
0805113- 1- 1*	Equipment Operator MAINTAINS the Containment Systems Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1, BWR/Source LOCAL; Seq=N/A; Ev=Pre; ASEP Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-4 EF: 10 UCB: LCB: E: N:	2.7E-4 1.0E-4 --- 1.0E-3 1.0E-5 0.100 1000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:EO PlantCode: PBS
0808311- 1- 1*	Equipment Operator OPERATES the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers; identified by labels only. Action=remote; SQ.:N/A; Pre-I.E.; Expert Judgment Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: LCB: E: N:	8.0E-3 3.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U	Document: 2-87 pg. C-8, item 10 Origin: Psychological Scaling Reference: ---:---:--- Vend/EqLvl:EO PlantCode: BWR
0808311- 2- 1*	Equipment Operator OPERATES the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 5.0E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl:EO PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0808313- 1- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0808313- 2- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq=N/A, Pre-I.E., Therp</p> <p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300</p>	<p>1.9E-2 ---</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U</p>	<p>Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0808313- 3- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. A specific number of tags issued for each job. Action:remote; Seq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400</p>	<p>2.1E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U</p>	<p>Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0808314- 1- 1*	<p>Equipment Operator INSPECTS the DC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-Specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0808511- 1- 1*	Equipment Operator OPERATES the Plant AC Power System aux operator fails to align diesel generator given: seq=losp; remote; ev=post-ie,poa; irep-grm; 2-loop pwr plant Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 10 UCB: LCB: E: N:	2.7E-2 --- 1.0E-1 1.0E-3 0.100 10.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl:EO PlantCode: CCN1
0808511- 2- 1*	Equipment Operator OPERATES the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: LCB: E: N:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: BWR
0808511- 3- 1*	Equipment Operator OPERATES the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Seq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
0808511- 4- 1*	Equipment Operator OPERATES the Plant AC Power System Operator fails to restore AC power by manually closing a breaker given: Operator manually closes breaker to restore AC power Action:remote; Seq.:N/A; Post-I.E., Therp Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-1 EF: 3 UCB: LCB: E: N:	1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 Pg 6-34, item 17 Origin: Simulation Modeling Reference: 1-83 Vend/EqLvl:EO PlantCode: NEE3

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0808513- 1- 1*	<p>Equipment Operator MAINTAINS the Plant AC Power System Operator fails to restore AC power by manually closing a breaker given: Operator manually closes breaker to restore AC power</p> <p>Action:remote; Seq.:N/A; Post-I.E., Therp</p> <p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 E: 2.000 N: 20.000</p>	<p>1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 3-84 Pg 6-34, item 17 Origin: Simulation Modeling Reference: 1-83 Vend/EqLvl:EO PlantCode: NEE3</p>
0808513- 2- 1*	<p>Equipment Operator MAINTAINS the Plant AC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-Specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0808513- 3- 1*	<p>Equipment Operator MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. A specific number of tags issued for each job. Action:remote; Seq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400</p>	<p>2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U</p>	<p>Document: 1-83 Pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0808513- 4- 1*	<p>Equipment Operator MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker Tags are used but record keeping is inadequate remote Seq=N/A, Pre-I.E., Therp</p> <p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300</p>	<p>1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U</p>	<p>Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

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Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0808514- 1- 1*	Equipment Operator INSPECTS the Plant AC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-Specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E.; Therp	Mean: Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N:	3.8E-3 --- --- 1.0E-3 2.000 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg. 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
	Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED				
0809111- 1- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Excessive task demands result in poor judgement. given: 100% power: errors of intention; PSFs -> HMI= 8, S/R/K= 8 S.Cult= 8, motiv= 7,workload=13,commun= 9;remote;Post-IE;ROP;HRA=INTENT	Mean: Median: EF: --- UCB: 2.9E-1 LCB: 2.9E-2 E: N:	1.2E-1 9.2E-2 3 2.9E-1 2.9E-2 2.000 21.800	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
	Mean: 1.1E-1 Median: 9.2E-2 EF: 3 UCB: 2.9E-1 LCB: 2.9E-2 Error type: COMMISSION Recovery: NOT CONSIDERED				
0809111- 2- 1*	Equipment Operator OPERATES the Emergency Core Cooling Systems Excessive task duration results in poor judgement. given: 100% power: errors of intention; PSFs -> HMI= 9, S/R/K= 8 S.Cult= 8, motiv= 9,workload=11,commun= 7;remote;Post-IE;ROP;HRA=INTENT	Mean: Median: EF: --- UCB: 9.0E-2 LCB: 1.6E-2 E: N:	4.4E-2 3.8E-2 2 9.0E-2 1.6E-2 4.000 105.400	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
	Mean: 4.1E-2 Median: 3.8E-2 EF: 2 UCB: 9.0E-2 LCB: 1.6E-2 Error type: COMMISSION Recovery: NOT CONSIDERED				
0809113- 1- 1*	Equipment Operator MAINTAINS the Emergency Core Cooling Systems Common cause miscalibration of CST low level sensors. given: BWR, no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP	Mean: Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: N:	6.7E-5 --- --- 2.5E-4 2.5E-6 0.100 4000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: PBS
	Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED				

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0811113- 1- 1*	<p>Equipment Operator MAINTAINS the Feedwater Systems Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1, BWR/Source Local; Seq=N/A; Ev=Pre; ASEP</p> <p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000</p>	<p>2.7E-4 1.0E-3 1.0E-5 0.100 1000.000</p>	<p>ATime: ---:---:--- PTime: - :---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: PBS</p>
0820111- 1- 1*	<p>Equipment Operator OPERATES the Reactor Coolant Systems Violate procedure and devise own formul. given: 100% power: errors of intention; PSFs -> HMI= 8, S/R/K= 10 S.Cult= 9, motiv= 9, workload= 8, commun= 5; remote; Pre -IE; HRA=INTENT</p> <p>Mean: 1.4E-2 Median: 8.7E-3 EF: 5 UCB: 4.7E-2 LCB: 1.6E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.5E-2 Median: 8.7E-3 EF: --- UCB: 4.7E-2 LCB: 1.6E-3 E: 1.000 N: 115.300</p>	<p>1.5E-2 8.7E-3 5 4.7E-2 1.6E-3 1.000 115.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4</p>	<p>Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
0829113- 1- 1*	<p>Equipment Operator MAINTAINS the Main Steam System Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1, BWR/Source Local; Seq=N/A; Ev=Pre; ASEP</p> <p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000</p>	<p>2.7E-4 1.0E-3 1.0E-5 0.100 1000.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: PBS</p>
0831114- 1- 1*	<p>Equipment Operator INSPECTS the Process Sampling Systems Checkers performing QA tolerate a discrepancy. given: 100% power: errors of intention; PSFs -> HMI= 8, S/R/K= 10 S.Cult=10, motiv= 9, workload=10, commun= 6; remote; Pre -IE; HRA=INTENT</p> <p>Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.2E-2 Median: 1.2E-2 EF: --- UCB: 1.2E-1 LCB: 1.2E-3 E: 0.100 N: 8.300</p>	<p>3.2E-2 1.2E-2 10 1.2E-1 1.2E-3 0.100 8.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4</p>	<p>Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0904123- 1- 1*	Maintenance Technician MAINTAINS the Condensate Systems Common cause miscalibration of CST low level sensors. given: BWR, no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: 0.100 N: 4000.000	6.7E-5 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl: MT PlantCode: PBS
0905123- 1- 1*	Maintenance Technician MAINTAINS the Containment Systems Common cause miscalibration of high dywell pressure sensors. given: BWR4/MK1, BWR/Source Local; Seq=N/A; Ev=Pre; ASEP Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000	2.7E-4 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl: MT PlantCode: PBS
0908320- 1- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl: MT PlantCode: ALLP
0908320- 2- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 ---	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervisor: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl: MT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
0908320- 3- 1*	Maintenance Technician TESTS the DC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-Specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg. 20-28, item 13 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl:MT PlantCode: ALLP
0908320- 4- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl:MT PlantCode: ALLP
0908321- 1- 1*	Maintenance Technician CHECKS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects current circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl:MT PlantCode: ALLP
0908323- 1- 1*	Maintenance Technician MAINTAINS the DC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg 20-28, item 3 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl:MT PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0908323- 2- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0908323- 3- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0908323- 4- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0908323- 5- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects current circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0908520- 1- 1*	Maintenance Technician TESTS the Plant AC Power System maintenance tech fails to restore diesel generator after test given: seq=losp; remote; ev=pre-ie,poa; irep-grm; 2-loop pwr plant Mean: 1.3E-3 Median: 5.0E-4 EF: 10 UCB: 5.0E-3 LCB: 5.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.0E-4 EF: 10 UCB: LCB: E: N:	1.3E-3 --- 5.0E-3 5.0E-5 0.100 200.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl:MT PlantCode: CCN1
0908520- 2- 1*	Maintenance Technician TESTS the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-2 EF: 3 UCB: LCB: E: N:	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl:MT PlantCode: ALLP
0908520- 3- 1*	Maintenance Technician TESTS the Plant AC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl:MT PlantCode: ALLP
0908520- 4- 1*	Maintenance Technician TESTS the Plant AC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg 20-28, item 3 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl:MT PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0908520- 5- 1*	Maintenance Technician TESTS the Plant AC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0908521- 1- 1*	Maintenance Technician CHECKS the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects current circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
0908523- 1- 1*	Maintenance Technician MAINTAINS the Plant AC Power System maintenance tech fails to restore AC (via generators) after testing given: seq=all; local; ev=pre-ie,poa; therp; 2-loop plant Mean: 1.3E-2 Median: 5.0E-3 EF: 10 UCB: 5.0E-2 LCB: 5.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.0E-3 EF: 10 UCB: LCB: E: N:	1.3E-2 --- 5.0E-2 5.0E-4 0.100 20.000	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl:MT PlantCode: CCN1
0908523- 2- 1*	Maintenance Technician MAINTAINS the Plant AC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg 20-28, item 3 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLATR calc		
0908523- 3- 1*	Maintenance Technician MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl: MT PlantCode: ALLP
0908523- 4- 1*	Maintenance Technician MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl: MT PlantCode: ALLP
0908523- 5- 1*	Maintenance Technician MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action: remote; Sq.: N/A; Pre-I.E.; Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl: MT PlantCode: ALLP
0908523- 6- 1*	Maintenance Technician MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects current circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action: remote; Sq.: N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl: MT PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0909123- 1- 1*	Maintenance Technician MAINTAINS the Emergency Core Cooling Systems Common cause miscalibration of CST low level sensors. given: BWR, no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-5 EF: 10 UCB: LCB: E: N:	6.7E-5 --- 2.5E-4 2.5E-6 0.100 4000.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: --- Vend/EqLvl:MT PlantCode: PBS
0911123- 1- 1*	Maintenance Technician MAINTAINS the Feedwater Systems Common cause miscalibration of CST low level sensors. given: BWR, no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-5 EF: 10 UCB: LCB: E: N:	6.7E-5 --- 2.5E-4 2.5E-6 0.100 4000.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: --- Vend/EqLvl:MT PlantCode: PBS
0911420- 1- 1*	Maintenance Technician TESTS the Auxiliary/Emergency Feedwater System maintenance tech fails to restore APW after testing given: seq=all; local; ev=pre-ie,poa; therp; 2-loop pwr plant Mean: 5.3E-4 Median: 2.0E-4 EF: 10 UCB: 2.0E-3 LCB: 2.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.0E-4 EF: 10 UCB: LCB: E: N:	5.3E-4 --- 2.0E-3 2.0E-5 0.100 500.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl:MT PlantCode: CCN1
0911423- 1- 1*	Maintenance Technician MAINTAINS the Auxiliary/Emergency Feedwater System maintenance tech fails to test/restore APW pump after testing given: seq=all; remote; ev=pre-ie,poa; therp; 2-loop pwr plant Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 10 UCB: LCB: E: N:	2.7E-2 --- 1.0E-1 1.0E-3 0.100 10.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl:MT PlantCode: CCN1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
0911423- 2- 1*	Maintenance Technician MAINTAINS the Auxiliary/Emergency Feedwater System maintenance tech fails to maintain AFW given: seq=afw fail. w/scram;remote;ev=post-ie,poa;irep-grm;2-loop pwr plant Mean: 1.1E-1 Median: 4.0E-2 EF: 10 UCB: 4.0E-1 LCB: 4.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-1 Median: 4.0E-2 EF: 10 UCB: 4.0E-1 LCB: 4.0E-3 E: 0.100 N: 2.500	1.1E-1 --- 4.0E-1 4.0E-3 0.100 2.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl: MT PlantCode: CCN1
0929123- 1- 1*	Maintenance Technician MAINTAINS the Main Steam System Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1, BWR/Source Local; Seq=N/A; Ev=Pre; ASEP Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000	2.7E-4 --- 1.0E-3 1.0E-5 0.100 1000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ---:---:--- Vend/EqLvl: MT PlantCode: PBS
1000101- 1- 1*	Control Room Operator OPERATES the Air Systems operator fails to restore power to load shed 1A compressors given: operator restores power to air compressor after loss of offsite power due to offsite grid failure Ample amount of time Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 E: 0.100 N: 8.300	3.2E-2 --- 1.2E-1 1.2E-3 0.100 8.300	ATime: 02:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 18 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: NEE3
1000101- 1- 2	Control Room Operator OPERATES the Air Systems operator fails to restore power to load shed 1A compressors given: operator restores power to air compressor after loss of offsite power due to offsite grid failure Ample amount of time Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 E: 0.100 N: 55.500	4.8E-3 --- 1.8E-2 1.8E-4 0.100 55.500	ATime: 12:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 18 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: NEE3

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1000101- 2- 1*	Control Room Operator OPERATES the Air Systems operator fails to restore power to load shed IA compressors given: operator restores power to air compressor after loss of offsite power due to onsite switchyard failure Ample amount of time Mean: 8.3E-2 Median: 3.1E-2 EF: 10 UCB: 3.1E-1 LCB: 3.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.1E-2 EF: 10 UCB: LCB: E: N:	8.3E-2 --- 3.1E-1 3.1E-3 0.100 3.200	ATime: 02:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 18 Origin: Subjective Reference: 1-83 Vend/Eqlvl:CRO PlantCode: NEE3
1000101- 2- 2	Control Room Operator OPERATES the Air Systems operator fails to restore power to load shed IA compressors given: operator restores power to air compressor after loss of offsite power due to onsite switchyard failure Ample amount of time Mean: 8.3E-2 Median: 3.1E-2 EF: 10 UCB: 3.1E-1 LCB: 3.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.1E-3 EF: 10 UCB: LCB: E: N:	2.2E-2 --- 8.1E-2 8.1E-4 0.100 12.300	ATime: 12:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 18 Origin: Subjective Reference: 1-83 Vend/Eqlvl:CRO PlantCode: NEE3
1000201- 1- 1	Control Room Operator OPERATES the Instrument Air System operator fails to recover instrument air given: instrument air available Ample amount of time Mean: 1.1E-1 Median: 4.0E-2 EF: 10 UCB: 4.0E-1 LCB: 4.0E-3 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-1 EF: 3 UCB: LCB: E: N:	3.8E-1 --- 9.0E-1 1.0E-1 2.000 6.600	ATime: 02:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 5 Origin: Subjective Reference: 1-83 Vend/Eqlvl:CRO PlantCode: NEE3
1000201- 1- 2*	Control Room Operator OPERATES the Instrument Air System operator fails to recover instrument air given: instrument air available Ample amount of time Mean: 1.1E-1 Median: 4.0E-2 EF: 10 UCB: 4.0E-1 LCB: 4.0E-3 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 4.0E-2 EF: 10 UCB: LCB: E: N:	1.1E-1 --- 4.0E-1 4.0E-3 0.100 2.500	ATime: 06:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 5 Origin: Subjective Reference: 1-83 Vend/Eqlvl:CRO PlantCode: NEE3

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSTs	Document Information
		Raw	NUCLARR calc		
1000201- 1- 3	Control Room Operator OPERATES the Instrument Air System operator fails to recover instrument air given: instrument air available Ample amount of time Mean: 1.1E-1 Median: 4.0E-2 EF: 10 UCB: 4.0E-1 LCB: 4.0E-3 Error type: COMMISSION Recovery: CONSIDERED	Mean: 6.4E-3 Median: 2.4E-3 EF: 10 UCB: 2.4E-2 LCB: 2.4E-4 E: 0.100 N: 41.600	6.4E-3	ATime: 12:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 5 Origin: Subjective Reference: 1-83 Vend/EqLvl:CRD PlantCode: NEE3
1000201- 2- 1*	Control Room Operator OPERATES the Instrument Air System Cmmn mode:Poor jdgmnts becuz proc/P&IDs/operat convent. do not match given: 100% power: errors of intention; PSFs -> HMI=11, S/R/K=10; S.Cult= 9, motiv= 6,workload= 7,commun= 8;local;Pre -1E;HRA=INTENT Mean: 1.1E-1 Median: 9.2E-2 EF: 3 UCB: 2.9E-1 LCB: 2.9E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.2E 1 Median: 9.2E-2 EF: 3 UCB: 2.9E-1 LCB: 2.9E-2 E: 2.000 N: 21.800	1.2E 1	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 6 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:CRD PlantCode: ALLP
1000202- 1- 1*	Control Room Operator MONITORS the Instrument Air System Tolerate an out of range situation with potentially moderate consequ given: 100% power: errors of intention; PSFs -> HMI= 9, S/R/K=10, S.Cult=11, motiv= 8,workload= 9,commun= 7;remote;Pre -1E;HRA=INTENT Mean: 1.1E-1 Median: 6.0E-2 EF: 6 UCB: 3.6E-1 LCB: 1.0E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.1E-1 Median: 6.0E-2 EF: 6 UCB: 3.6E-1 LCB: 1.0E-2 E: 1.000 N: 16.600	1.1E-1	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:CRD PlantCode: ALLP
1000203- 1- 1*	Control Room Operator DIAGNOSES the Instrument Air System Crews consult inappropriate resources in emergency. given: 100% power: errors of intention; PSFs -> HMI=10, S/R/K= 9 S.Cult= 8, motiv= 7,workload=10,commun= 9;local;Post -1E;ROP;HRA=INTENT Mean: 3.5E-2 Median: 1.6E-2 EF: 8 UCB: 1.3E-1 LCB: 1.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.6E-2 Median: 1.6E-2 EF: 8 UCB: 1.3E-1 LCB: 1.9E-3 E: 0.500 N: 31.800	3.6E-2	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:CRD PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1002101- 1- 1*	Control Room Operator OPERATES the Communication Systems Inadequate communication results in improper actions. given: 100% power: errors of intention; PSFs -> HMI= 9, S/R/K= 8, S.Cult= 9, motiv= 8, workload= 9, commun=13; local; Post-IE; ROP; HRA=INTENT Mean: 5.7E-2 Median: 2.6E-2 EF: 8 UCB: 2.0E-1 LCB: 3.3E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 5.6E-2 Median: 2.6E-2 EF: --- UCB: 2.0E-1 LCB: 3.3E-3 E: 0.500 N: 19.400	5.6E-2 2.6E-2 8 2.0E-1 3.3E-3 0.500 19.400	ATime: ---:--- PTime: ---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
1004101- 1- 1*	Control Room Operator OPERATES the Condensate Systems Operator fails to check mainsteam isolation & bypass valves closed. given: LOFW, ATWS, mod. workload. Local; Seq=ATWS; Ev=Post; ie=POA; Slim Maud Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.3E-3 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 E: 0.100 N: 23.200	1.1E-2 4.3E-3 10 4.3E-2 4.3E-4 0.100 23.200	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
1004102- 1- 1*	Control Room Operator MONITORS the Condensate Systems Operator fails to check mainsteam isolation & bypass valves closed. given: LOFW, ATWS, mod. workload. Local; Seq=ATWS; Ev=Post; ie=POA; Slim Maud Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.3E-3 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 E: 0.100 N: 23.200	1.1E-2 4.3E-3 10 4.3E-2 4.3E-4 0.100 23.200	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
1005101- 1- 1*	Control Room Operator OPERATES the Containment Systems Circumvent proc wth potential catastrophic conseq e.g. major ISLOCA given: 100% power: errors of intention, PSF, HMI= 6, S/R/K= 9, S.Cult= 11 motiv = 7, workload= 8, commun= 7; local; seq=ISLOCA; pre-IE, HRA= INTENT Mean: 2.2E-2 Median: 2.1E-3 EF: 35 UCB: 7.5E-2 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 2.1E-3 EF: --- UCB: 7.5E-2 LCB: 6.0E-5 E: 0.100 N: 47.100	2.2E-2 2.1E-3 35 7.5E-2 6.0E-5 0.100 47.100	ATime: ---:--- PTime: ---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1005103- 1- 1*	Control Room Operator DIAGNOSES the Containment Systems Competing goal states leads to wrong conclusion given: 100% power: errors of intention; PSF, HMI= 6, S/R/K= 11, S.Cult= 9 motiv= 9, workload=10, commun= 6; local ;Post-IE,ROP;HRA= INTENT Mean: 5.5E-2 Median: 3.9E-2 EF: 4 UCB: 1.7E-1 LCB: 8.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 1.7E-1 LCB: 8.9E-3 E: N:	5.8E-2 3.9E-2 4 1.000 25.700	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
1006801- 1- 1*	Control Room Operator OPERATES the Reactor Building Spray System Operator fails to terminate RB spray given: Operator terminates RB spray During small break LOCA Mean: 5.0E-1 Median: 5.0E-1 EF: 1 UCB: 5.0E-1 LCB: 5.0E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.0E-1 EF: 1 UCB: LCB: E: N:	5.0E-1 --- 5.0E-1 5.0E-1 20.000 40.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg 6-33, item 1 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: NEE3
1007103- 1- 1*	Control Room Operator DIAGNOSES the Control Rod Drive Systems Correct actions taken during the wrong plant evaluation. given: 100% power: errors of intention; PSFs -> HMI= 9, S/R/K= 9, S.Cult= 7, motiv= 8, workload=10, commun= 9; local; Post-IE; rop; HRA= INTENT Mean: 1.0E-2 Median: 5.7E-3 EF: 6 UCB: 3.2E-2 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 3.2E-2 LCB: 1.0E-3 E: N:	9.9E-3 5.7E-3 6 3.2E-2 1.0E-3 1.000 176.700	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
1008501- 1- 1*	Control Room Operator OPERATES the Plant AC Power System Operator fails to reconnect stub-bus after LOSP given: Local; Seq=LOSP; Ev=Post; ie=POA; THERP Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-3 EF: 10 UCB: LCB: E: N:	4.0E-3 1.5E-3 --- 1.5E-2 1.5E-4 0.100 66.600	ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, pg. 207 Origin: Simulation Modeling Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1009100- 1- 1*	Control Room Operator TESTS the Emergency Core Cooling Systems Operator fails to reopen valve in ECRS or CSRS system. given: 4-loop PWR, proc. not followed. Local; Seq=ALL; Ev=Pre; Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
1009101- 1- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Operator fails to refill BWST after SGTR given: Operator fills BWST Mean: 5.0E-1 Median: 5.0E-1 EF: 1 UCB: 5.0E-1 LCB: 5.0E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 5.0E-1 Median: 5.0E-1 EF: 1 UCB: 5.0E-1 LCB: 5.0E-1 E: 20.000 N:	5.0E-1 --- 5.0E-1 5.0E-1 20.000 40.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg 6-34, item 14 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: MEE3
1009101- 2- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Operator fails to reopen valve in ECRS or CSRS system. given: 4-loop PWR, proc. not followed. Local; Seq=ALL; Ev=Pre; Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
1009101- 3- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Right conclus/wrong act path select. Capture seq based on respon set given: 100% power: errors of intention; PSFs -> MMI=11, S/R/K= 9, S.Cult= 6, motiv= 7, workload=11, comm= 8; local; Post-IE; ROP; H?A= INTENT Mean: 6.5E-2 Median: 2.9E-2 EF: 8 UCB: 2.2E-1 LCB: 3.9E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 6.5E-2 Median: 2.9E-2 EF: 8 UCB: 2.2E-1 LCB: 3.9E-3 E: 0.500 N:	6.2E-2 2.9E-2 8 --- 2.2E-1 3.9E-3 0.500 17.000	ATime: --- PTime: --- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: --- Vend/EqLvl: CRO PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1009101- 4- 1*	Control Room Operator OPERATES the Emergency Core Cooling Systems Multiple fault situation, crew solves the more minor fault. given: 100% power: errors of intention; PSFs -> HMI= 8, S/R/K= 10; S.Cult=10, motiv= 7, workload= 9, commun=11; local; Post-IE; ROP; HRA=INTENT Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: COMMISSION Recovery: NOY CONSIDERED	Mean: 3.2E-2 Median: 1.2E-2 EF: --- UCB: 1.2E-1 LCB: 1.2E-3 E: 0.100 N: 8.300	3.2E-2 1.2E-2 10 0.100 8.300	Atime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
1009102- 1- 1*	Control Room Operator MONITORS the Emergency Core Cooling Systems Operator fails to reopen valve in ECRS or CSRS system. given: 4-loop PWR, proc. not followed. Local; Seq=ALL; Ev=Pre; Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300	8.0E-3 3.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	Atime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
1009103- 1- 1*	Control Room Operator DIAGNOSES the Emergency Core Cooling Systems Misdiagnose given like symptoms. Capture sequence based on stimuli. given: 100% power: errors of intention; PSFs -> HMI=11, S/R/K= 1, S.Cult= 5, motiv= 8, workload=11, commun= 8; local; Post-IE; ROP; HRA=INTENT Mean: 7.1E-2 Median: 5.0E-2 EF: 4 UCB: 1.8E-1 LCB: 1.4E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 7.1E-2 Median: 5.0E-2 EF: --- UCB: 1.8E-1 LCB: 1.4E-2 E: 1.500 N: 29.900	6.8E-2 5.0E-2 4 1.8E-1 1.4E-2 1.500 29.900	Atime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
1009103- 2- 1*	Control Room Operator DIAGNOSES the Emergency Core Cooling Systems Symptoms noticed, but incorrect interpretation. given: 100% power: errors of intention; PSFs -> HMI=11, S/R/K=11, S.Cult= 6, motiv= 8, workload=10, commun= 7; local; Post-IE; ROP; HRA=INTENT Mean: 3.3E-2 Median: 2.0E-2 EF: 5 UCB: 1.0E-1 LCB: 4.2E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.3E-2 Median: 2.0E-2 EF: --- UCB: 1.0E-1 LCB: 4.2E-3 E: 1.000 N: 48.800	3.3E-2 2.0E-2 5 1.0E-1 4.2E-3 1.000 48.800	Atime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1009201- 1- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to maintain HPI cooling (feed and bleed) given: maintain core cooling after loss of FW Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 10 UCB: LCB: E: N:	2.7E-2 --- 1.0E-1 1.0E-3 0.100 10.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 4 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 3 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: WEE3
1009201- 2- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to initiate HPR after small LOCA given: operator initiates HPR after small LOCA Ample amount of time Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: LCB: E: N:	8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300	ATime: 02:00:00 PTime: 00:05:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 2a Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: WEE3
1009201- 2- 2	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to initiate HPR after small LOCA given: operator initiates HPR after small LOCA Ample amount of time Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-4 EF: 10 UCB: LCB: E: N:	8.0E-4 --- 3.0E-3 3.0E-5 0.100 333.300	ATime: 12:00:00 PTime: 00:05:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 2a Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: WEE3
1009201- 3- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to provide RCP seal injection from SSF given: operator establishes RCP seal injection within 30 min. of losing seal cooling via HPI Ample amount of time Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-1 EF: 3 UCB: LCB: E: N:	1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 11 Stress : 5 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 11 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: WEE3

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1009201- 4- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to allow standby HPI pump to remain idle given: operator restores pump cooling before starting HPI pump until restoration of cooling pump Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 Error type: COMMISSION Recovery: CONSIDERED	Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 E: 0.100 N: 2.000	1.3E-1 --- 5.0E-1 5.0E-3 0.100 2.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 19 Origin: Subjective Reference: 1-83 Vend/Eqlvl: CRO PlantCode: NEE3
1009201- 5- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to recover HPI pump cooling before pump failure given: operator restores pump cooling before pump fails given actuation of ES due to small break LOCA Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 E: 0.100 N: 2.000	1.3E-1 --- 5.0E-1 5.0E-3 0.100 2.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 24 Origin: Subjective Reference: 1-83 Vend/Eqlvl: CRO PlantCode: NEE3
1009201- 6- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System operator fails to recover LPSW to the HPI pumps given: seq=sd,tmqd; remote; ev=post ie,rop; exper judge Mean: 1.1E-1 Median: 4.0E-2 EF: 10 UCB: 4.0E-1 LCB: 4.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-1 Median: 4.0E-2 EF: 10 UCB: 4.0E-1 LCB: 4.0E-3 E: 0.100 N: 2.500	1.1E-1 --- 4.0E-1 4.0E-3 0.100 2.500	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 10 Origin: Subjective Reference: 1-83 Vend/Eqlvl: CRO PlantCode: NEE3
1009201- 7- 1*	Control Room Operator OPERATES the High Pressure Safety Injection System Maint tech fails to restore SIAS circuit breaker to closed position given: remote, Seq=LOCA, Post-I.E., POA, Therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N: 133.300	2.0E-3 --- 7.5E-3 7.5E-5 0.100 133.300	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Simulation Modeling Reference: 2-82 Vend/Eqlvl: CRO PlantCode: YKR1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1009301- 1- 1*	Control Room Operator OPERATES the Decay Heat Removal/Core Flooding System operator fails to locally open suction valves given: operator establishes decay heat removal to permit initiation of DHR given failure of valve motor operators Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 E: 2.000 N:	1.3E-1 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 16 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: WEE3
1009401- 1- 1*	Control Room Operator OPERATES the Decay Heat Removal/Low Press Safety Inject System operator fails to throttle injection valves to prevent pump runout given: operator maintains NPSH during LPR for large break LOCA Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N:	8.0E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 12 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: WEE3
1009401- 2- 1*	Control Room Operator OPERATES the Decay Heat Removal/Low Press Safety Inject System operator fails to achieve LPR after large break LOCA given: operator establishes low pressure recirculation Mean: 1.3E-2 Median: 5.0E-3 EF: 10 UCB: 5.0E-2 LCB: 5.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-2 Median: 5.0E-3 EF: 10 UCB: 5.0E-2 LCB: 5.0E-4 E: 0.100 N:	1.3E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 13 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: WEE3
1011101- 1- 1*	Control Room Operator OPERATES the feedwater Systems operator fails to recover feedwater given: operator successfully establishes feedwater flow one alternative available Ample amount of time Mean: 5.0E-1 Median: 5.0E-1 EF: 1 UCB: 5.0E-1 LCB: 5.0E-1 Error type: COMMISSION Recovery: CONSIDERED	Mean: 5.0E-1 Median: 5.0E-1 EF: 1 UCB: 5.0E-1 LCB: 5.0E-1 E: 20.000 N:	5.0E-1 ---	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 4 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 4 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: WEE3

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1011101- 2- 1*	Control Room Operator OPERATES the Feedwater Systems operator fails to recover feedwater given: operator successfully establishes feedwater flow two alternatives available Ample amount of time Mean: 3.8E-1 Median: 3.0E-1 EF: 3 UCB: 9.0E-1 LCB: 1.0E-1 Error type: COMMISSION Recovery: CONSIDERED	Mean: 3.8E-1 Median: 3.0E-1 EF: 3 UCB: 9.0E-1 LCB: 1.0E-1 E: 2.000 N:	3.8E-1 ---	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 4 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: NEE3
1011101- 3- 1*	Control Room Operator OPERATES the Feedwater Systems operator fails to recover feedwater given: operator successfully establishes feedwater flow three alternatives available Ample amount of time Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: COMMISSION Recovery: CONSIDERED	Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 E: 2.000 N: 20.000	1.3E-1 ---	ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 4 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: NEE3
1011101- 4- 1*	Control Room Operator OPERATES the Feedwater Systems op fails to init aux serv water from the standby shutdown facility given: human portion seq=tml; remote; ev=post ie,poa; exper judge Ample amount of time Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 E: 0.100 N: 100.000	2.7E-3 ---	ATime: 12:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg 6-34, item 20 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: NEE3
1011101- 5- 1*	Control Room Operator OPERATES the Feedwater Systems Operator fails to check main steam isolation & bypass valves closed. given: LOFW, ATWS, mod. workload Local; Seq=ATWS; Ev=Post; IE=POA; Slim Maud Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 E: 0.100 N: 23.200	1.1E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLEAR cslc		
1011102- 1- 1*	Control Room Operator MONITORS the Feedwater Systems Operator fails to check mainsteam isolation & bypass valves closed given: LOFW, ATWS, mod. workload Local; Seq=ATWS; Ev=Post; *?=POA; Slim Maud Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-3 EF: 10 UCB: LCB: E: N:	1.1E-2 --- 1.3E-2 4.3E-4 0.100 23.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl:CRO PlantCode: CPS
1011301- 1- 1*	Control Room Operator OPERATES the Main Feedwater System Operator fails to check main steam isolation & bypass valves closed given: LOFW, ATWS, mod. workload local, Seq=ATWS, Post-I.E., POA, Slim Mand Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-3 EF: 10 UCB: LCB: E: N:	1.1E-2 --- 4.3E-2 4.3E-4 0.100 23.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl:CRO PlantCode: CPS
1011302- 1- 1*	Control Room Operator MONITORS the Main Feedwater System Operator fails to check main steam isolation & bypass valves closed given: LOFW, ATWS, mod. workload local, Seq=ATWS, Post-I.E., POA, Slim Mand Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-3 EF: 10 UCB: LCB: E: N:	1.1E-2 --- 4.3E-2 4.3E-4 0.100 23.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Subjective Reference: 1-86 Vend/EqLvl:CRO PlantCode: CPS
1011401- 1- 1*	Control Room Operator OPERATES the Emergency Feedwater System operator fails to recover feedwater from other unit or the SSF given: operator aligns alternate feedwater flow after loss of EFW at 2-6 hrs due to loss of instrument air and offsite power Mean: 2.7E-1 Median: 1.0E-1 EF: 10 UCB: 1.0E+0 LCB: 1.0E-2 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-1 EF: 10 UCB: LCB: E: N:	2.7E-1 --- 1.0E+0 1.0E-2 0.100 1.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 6 Origin: Subjective Reference: 1-83 Vend/EqLvl:CRO PlantCode: NEE3

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document information
		Raw	NUCLARR calc		
1011401- 2- 1*	Control Room Operator OPERATES the Emergency Feedwater System operator fails to maintain suction supply to TDP given: operator provides adequate suction to TDP Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 E: 0.100 N: 10.000	2.7E-2 --- 1.0E-1 1.0E-3 0.100 10.000	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 7 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: NEE3
1025191- 1- 1*	Control Room Operator OPERATES the Water Systems op fails to init aux serv water from the standby shutdown facility given: human portion seq=tml; remote; ev=post ie,poa; exper judge Ample amount of time Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 E: 0.100 N: 100.000	2.7E-3 --- 1.0E-2 1.0E-4 0.100 100.000	ATime: 12:00:00 PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg 6-34, item 20 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: NEE3
1023601- 1- 1*	Control Room Operator OPERATES the Low Pressure Service Water System operator fails to recover LPSW from another unit given: operator restores HPI pump cooling before failure of HPI pumps Mean: 3.5E-2 Median: 1.3E-2 EF: 10 UCB: 1.3E-1 LCB: 1.3E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.5E-2 Median: 1.3E-2 EF: 10 UCB: 1.3E-1 LCB: 1.3E-3 E: 0.100 N: 7.600	3.5E-2 --- 1.3E-1 1.3E-3 0.100 7.600	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 9 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: NEE3
1104113- 1- 1*	Equipment Operator MAINTAINS the Condensate Systems Common cause miscalibration of CST low level sensors. given: BWR, no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: 0.100 N: 4000.000	6.7E-5 --- 2.5E-4 2.5E-6 0.100 4000.000	ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl: EO PlantCode: PBS

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	APPLICABLE calc		
1105113- 1- 1*	<p>Equipment Operator MAINTAINS the Containment Systems Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1, BWR/Source Local; Seq=N/A; Ev=Pre; ASEP</p> <p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000</p>	<p>2.7E-4 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ---:---:--- Vend/EqLvl: E1 PlantCode: 981</p>
1108311- 1- 1*	<p>Equipment Operator OPERATES the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Sq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000</p>	<p>6.2E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 2 Training: U</p>	<p>Document: 1-83 pg 20-28, item 1: Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl: E0 PlantCode: ALLP</p>
1108311- 2- 1*	<p>Equipment Operator OPERATES the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers; identified by labels only. Action:remote; Sq.:N/A; Pre-I.E.; Expert Judgment</p> <p>Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300</p>	<p>8.0E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. C-8, item 10 Origin: Subjective Reference: ---:---:--- Vend/EqLvl: E0 PlantCode: UN</p>
1108313- 1- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E., Therp</p> <p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300</p>	<p>1.9E-2 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 3 Training: U</p>	<p>Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl: E0 PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARP calc		
1108313- 2- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp</p> <p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.660</p>	<p>2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.660</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 1 Training: U</p>	<p>Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
1108313- 1- 1*	<p>Equipment Operator MAINTAINS the DC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pr.:I.E.; Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 1 Training: U</p>	<p>Document: 1-83 pg. 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
1108314- 1- 1*	<p>Equipment Operator INSPECTS the DC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
1108511- 1- 1*	<p>Equipment Operator OPERATES the Plant AC Power System Operator fails to restore AC power by manually closing a breaker given: Operator manually closes breaker to restore AC power remote, Seq=NA, Post-I.E., Therp</p> <p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 E: 2.000 N: 20.000</p>	<p>1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000</p>	<p>ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 3-84 pg 6-34, item 17 Origin: Simulation Modeling Reference: 1-83 Vend/EqLvl:EO PlantCode: NEE3</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1108511- 2- 1*	<p>Equipment Operator OPERATES the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action: remote; Sq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000</p>	<p>6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 2 Training: U</p>	<p>Document: 1-83 pg 20-28, item 11 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl: E0 PlantCode: ALLP</p>
1108511- 3- 1*	<p>Equipment Operator OPERATES the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers; identified by labels only. Action: remote; Sq.:N/A; Pre-I.E.; Expert Judgment</p> <p>Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300</p>	<p>8.0E-3 --- 3.0E-2 3.0E-4 0.100 33.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. C-8, item 10 Origin: Subjective Reference: ---:---:--- Vend/EqLvl: E0 PlantCode: BWR</p>
1108513- 1- 1*	<p>Equipment Operator MAINTAINS the Plant AC Power System Operator fails to restore AC power by manually closing a breaker given: Operator manually closes breaker to restore AC power remote, Sq=N/A, Post-I.E., Therp</p> <p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 E: 2.000 N: 20.000</p>	<p>1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 3-84 pg 6-34, item 17 Origin: Simulation Modeling Reference: 1-83 Vend/EqLvl: E0 PlantCode: NEE3</p>
1108513- 2- 1*	<p>Equipment Operator MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp</p> <p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400</p>	<p>2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 1 Training: U</p>	<p>Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ---:---:--- Vend/EqLvl: E0 PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1108513- 3- 1*	<p>Equipment Operator MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E., Therp</p> <p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300</p>	<p>1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 3 Training: U</p>	<p>Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/Eq/vl:EO PlantCode: ALLP</p>
1108513- 4- 1*	<p>Equipment Operator MAINTAINS the Plant AC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/Eq/vl:EO PlantCode: ALLP</p>
1108514- 1- 1*	<p>Equipment Operator INSPECTS the Plant AC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E.; Therp</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-28, item 13 Origin: Training / Simulation Reference: ----- Vend/Eq/vl:EO PlantCode: ALLP</p>
1109111- 1- 1*	<p>Equipment Operator OPERATES the Emergency Core Cooling Systems Excessive task duration results in poor judgement. given: 100% power; errors of intention; PSFs -> HMI= 9, S/R/K= 8, S.Cult= 8, motiv= 9, workload=11, comm= 7; remote; Post-IE; ROP; HRA=INTENT</p> <p>Mean: 4.1E-2 Median: 3.8E-2 EF: 2 UCB: 9.0E-2 LCB: 1.6E-2 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.1E-2 Median: 3.8E-2 EF: 2 UCB: 9.0E-2 LCB: 1.6E-2 E: 4.000 N: 105.400</p>	<p>4.4E-2 3.8E-2 --- 9.0E-2 1.6E-2 4.000 105.400</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress: 4 Supervision: 3 Tagging: U Training: 4</p>	<p>Document: 90--1 Table 2 Origin: Subj ective Reference: ----- Vend/Eq/vl:EO PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1109111- 2- 1*	<p>Equipment Operator OPERATES the Emergency Core Cooling Systems Excessive task demands results in poor judgement. given: 100% power; errors of intention; PSFs -> HMI= 8, S/R/K= 8, S.Cult= 8, motiv= 7, workload=13, commun= 9; remote; Post-IE; ROP; HRA=INTENT</p> <p>Mean: 1.1E-1 Median: 9.2E-2 EF: 3 UCB: 2.9E-1 LCB: 2.9E-2 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.2E-1 Median: 9.2E-2 EF: --- 3 UCB: 2.9E-1 LCB: 2.9E-2 E: 2.000 N: 21.800</p>	<p>1.2E-1 9.2E-2 3 2.9E-1 2.9E-2 2.000 21.800</p>	<p>ATime: ---:--- PTime: ---:--- Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress : 4 Supervision: 3 Tagging: U Training: 4</p>	<p>Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
1109113- 1- 1*	<p>Equipment Operator MAINTAINS the Emergency Core Cooling Systems Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1, BWR/Source Local; Seq=N/A; Ev=Pre; ASEP</p> <p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000</p>	<p>2.7E-4 1.0E-4 10 1.0E-3 1.0E-5 0.100 1000.000</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: PBS</p>
1109411- 5- 1*	<p>Equipment Operator OPERATES the Decay Heat Removal/Low Press Safety Inject System EO3 doesn't remember to close DM 21 & 23 given: In startup; currently in shutdown mode 4 or 5: SBS Remote; seq=ISLOCA-DIT-SU-B; ev=pre; THERP</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 3.0E-3 3 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: ---:--- PTime: ---:--- Experience: 1 Feedback: U Procedure: U Staffing: U Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-90 Pg E-36, Table 9 Origin: Subjective Reference: 20- 7 Vend/EqLvl:EO PlantCode: DBS1</p>
1111113- 1- 1*	<p>Equipment Operator MAINTAINS the Feedwater Systems Common cause miscalibration of CST low level sensors. given: Bwr, no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP</p> <p>Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: 0.100 N: 4000.000</p>	<p>6.7E-5 2.5E-5 10 2.5E-4 2.5E-6 0.100 4000.000</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: PBS</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLARR calc	PSFs	
1118313- 1- 1*	<p>Equipment Operator MAINTAINS the Safety Features Actuation System Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1, BWR/Source Local; Seq=N/A; Ev=Pre; ASEP</p> <p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000</p>	<p>2.7E-4 8.7E-3 5 4.7E-2 1.6E-3 1.000 115.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: PBS</p>
1120111- 1- 1*	<p>Equipment Operator OPERATES the Reactor Coolant Systems Violate procedure and devise own formula. given: 100% power; errors of intention; PSFs -> HMI=8, S/R/K=10, S.Cult=9, motiv=9, workload=8, comman=5; remote; ;Pre -IE;HRA=INTENT</p> <p>Mean: 1.4E-2 Median: 8.7E-3 EF: 5 UCB: 4.7E-2 LCB: 1.6E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.4E-2 Median: 8.7E-3 EF: 5 UCB: 4.7E-2 LCB: 1.6E-3 E: 1.000 N: 115.300</p>	<p>1.5E-2 8.7E-3 5 4.7E-2 1.6E-3 1.000 115.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 6</p>	<p>Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>
1130113- 1- 1*	<p>Equipment Operator MAINTAINS the Steam Systems Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1, BWR/Source Local; Seq=N/A;</p> <p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000</p>	<p>2.7E-4 8.7E-3 5 4.7E-2 1.6E-3 1.000 115.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: PBS</p>
1131114- 1- 1*	<p>Equipment Operator INSPECTS the Process Sampling Systems Checkers performing QA tolerate a discrepancy. given: 100% power; errors of intention; PSFs -> HMI=8, S/R/K=10, S.Cult=10, motiv=9, workload=10, comman=6; remote; ;Pre -IE;HRA=INTENT</p> <p>Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 E: 0.100 N: 8.300</p>	<p>3.2E-2 1.2E-2 10 1.2E-1 1.2E-3 0.100 8.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 4</p>	<p>Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLARR calc	PSFs	
1204123- 1- 1*	Maintenance Technician MAINTAINS the Condensate Systems Common cause miscalibration of CST low level sensors. given: BWR. no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-5 EF: 10 UCB: LCB: E: N:	6.7E-5 --- 2.5E-4 2.5E-6 0.100 4000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: ----- Origin: Subjective Reference: ----- Vend/EqLvl: NT PlantCode: PBS
1205123- 1- 1*	Maintenance Technician MAINTAINS the Containment Systems Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1, BWR/Source Local; Seq=N/A; Ev=Pre; ASEP Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-4 EF: 10 UCB: LCB: E: N:	2.7E-4 --- 1.0E-3 1.0E-5 0.100 1000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl: NT PlantCode: PBS
1208320- 1- 1*	Maintenance Technician TESTS the DC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg. 20-28, item 3 Origin: Training / Simulation Reference: ----- Vend/EqLvl: NT PlantCode: ALLP
1208320- 2- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl: NT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1208320- 3- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-2 EF: 3 UCB: LCB: E: N:	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: --- Vend/Equvl:MT PlantCode: ALLP
1208320- 4- 1*	Maintenance Technician TESTS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Sq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: --- Vend/Equvl:MT PlantCode: ALLP
1208321- 1- 1*	Maintenance Technician CHECKS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject select correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: --- Vend/Equvl:MT PlantCode: ALLP
1208323- 1- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: --- Vend/Equvl:MT PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1208323- 2- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1208323- 3- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1208323- 4- 1*	Maintenance Technician MAINTAINS the DC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1208323- 5- 1*	Maintenance Technician MAINTAINS the DC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 664.600	3.8E-3 --- 9.0E-3 1.0E-3 2.000 664.600	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg. 20-28, item 3 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1208520- 1- 1*	Maintenance Technician TESTS the Plant AC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1208520- 2- 1*	Maintenance Technician TESTS the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1208520- 3- 1*	Maintenance Technician TESTS the Plant AC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg. 20-28, item 3 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1208520- 4- 1*	Maintenance Technician TESTS the Plant AC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1208521- 1- 1*	Maintenance Technician CHECKS the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1208523- 1- 1*	Maintenance Technician MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Rather dense group of circuit breakers, identified by labels only. Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1208523- 2- 1*	Maintenance Technician MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1208523- 3- 1*	Maintenance Technician MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: LCB: E: N:	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1208523- 4- 1*	Maintenance Technician MAINTAINS the Plant AC Power System Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600	3.8E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg. 20-28, item 3 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1208523- 5- 1*	Maintenance Technician MAINTAINS the Plant AC Power System Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Training / Simulation Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1209123- 1- 1*	Maintenance Technician MAINTAINS the Emergency Core Cooling Systems Common cause miscalibration of CST low level sensors. given: BWR, no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: 0.100 N: 4000.000	6.7E-5 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:MT PlantCode: PBS
1211123- 1- 1*	Maintenance Technician MAINTAINS the Feedwater Systems Common cause miscalibration of CST low level sensors. given: BWR, no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: 0.100 N: 4000.000	6.7E-5 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:MT PlantCode: PBS

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			PSFs	Document Information
		Raw	NUCLARR calc			
1218323- 1- 1*	Maintenance Technician MAINTAINS the Safety Features Actuation System Common cause miscalibration of high drywell pressure sensors. given: BWR4/MK1 Source Local; Seq=N/A; Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-4 EF: 10 UCB: LCB: E: N:	2.7E-4 --- 1.0E-3 1.0E-5 0.100 1000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:MT PlantCode: PBS	
1230123- 1- 1*	Maintenance Technician MAINTAINS the Steam Systems Common cause miscalibration of high drywell pressure sensors. given: BWP4/MK1 Source Local; Seq=N/A; Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-4 EF: 10 UCB: LCB: E: N:	2.7E-4 --- 1.0E-3 1.0E-5 0.100 1000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:MT PlantCode: PBS	
1304232- 1- 1*	Control Room Operator OPERATES the Circuit Breaker operator fails to manually trip breakers given: moderate communications, LOFW, ATWS, seq=ATWS, local, post-IE, POA SLIM-MAUD Mean: 6.4E-3 Median: 2.4E-3 EF: 10 UCB: 2.4E-2 LCB: 2.4E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.4E-3 EF: 10 UCB: LCB: E: N:	6.4E-3 --- 2.4E-2 2.4E-4 0.100 41.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-88 group 3, task 11 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRD PlantCode: CPS	
1304234- 1- 1*	Control Room Operator OPENS/CLOSES the Circuit Breaker subject selects wrong circuit breaker from dense group given: subject selects correct circuit breaker rather dense group of circuit breakers; identified by labels only Action:remote; Sq.:N/A Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: LCB: E: N:	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:CRD PlantCode: ALLP	

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
1304234- 2- 1*	Control Room Operator OPENS/CLOSES the Circuit Breaker Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 ---	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Simulation Modeling Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
1304234- 3- 1*	Control Room Operator OPENS/CLOSES the Circuit Breaker Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 ---	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Simulation Modeling Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
1304234- 4- 1*	Control Room Operator OPENS/CLOSES the Circuit Breaker operator fails to restore AC power by manually closing a breaker given: operator manually closes breaker to restore AC power. Action:remote; Sq.:N/A; Post ROP; Therp Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 E: 2.000 N: 20.000	1.3E-1 ---	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 3 Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 17 Origin: Subjective Reference: 1-83 Vend/EqLvl: CRO PlantCode: NEE3
1304234- 5- 1*	Control Room Operator OPENS/CLOSES the Circuit Breaker operator fails to trip turbine and open oil circuit breakers given: seq=losp; local; ev=post-ie,pos; therp; emergency procedures available Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 E: 0.100 N: 10.000	2.7E-2 ---	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: 3 Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: CRO PlantCode: YKRT

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1304234- 6- 1*	Control Room Operator OPENS/CLOSES the Circuit Breaker Operator fails to reconnect stub bus (LOSP only) given: Seq = T1 Mean: 2.9E-2 Median: 1.1E-2 EF: 10 UCB: 1.1E-1 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-2 EF: 10 UCB: LCB: E: N:	2.9E-2 --- 1.1E-1 1.1E-3 0.100 9.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 1, Tsable 4.9 - 4 Origin: Subjective Reference: --- Vend/EqLvl:CRD PlantCode: SPS1
1304632- 1- 1*	Control Room Operator OPERATES the Switch operator fails to manually trip Rx (1st location) given: LOFW,ATWS,high am't of training req'd;seq=ATWS,local,post-IE,POA Slim-Maud Mean: 1.2E-2 Median: 4.6E-3 EF: 10 UCB: 4.6E-2 LCB: 4.6E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.6E-3 EF: 10 UCB: LCB: E: N:	1.2E-2 --- 4.6E-2 4.6E-4 0.100 21.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: 2	Document: 2-88 group 5, task 1 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRD PlantCode: CPS
1304632- 2- 1*	Control Room Operator OPERATES the Switch operator fails to manually trip Rx (2st location) given: LOFW,ATWS,high am't of training req'd;seq=ATWS,local,post-IE,POA Slim-Maud Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 10 UCB: LCB: E: N:	2.7E-2 --- 1.0E-1 1.0E-3 0.100 10.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: 2	Document: 2-88 group 5, task 3 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRD PlantCode: CPS
1304734- 1- 1*	Control Room Operator OPENS/CLOSES the Switchgear operator fails to reconnect stub-bus after LOSP given: seq=losp; local; ev=poa; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-3 EF: 10 UCB: LCB: E: N:	4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600	ATime: 01:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 207 Origin: Subjective Reference: 4-87 Vend/EqLvl:CRD PlantCode: SPS1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
1306231- 1- 1*	Control Room Operator MONITORS the Flow Control Instrument Insufficient resources/instrumentation provided by management. given: 100% power: errors of intention; PSFs -> HMI=14, S/R/K= 9, S.Cult= 9, motiv= 7,workload=10,commun= 9;local ; ;Pre -IE;HRA=INTENT Mean: 1.5E-1 Median: 1.3E-1 EF: 2 UCB: 2.4E-1 LCB: 7.4E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 2.4E-1 LCB: 7.4E-2 E: N:	1.4E-1 1.3E-1 2 2.4E-1 7.4E-2 8.000 60.000	ATime: ---:---: PTime: ---:---: Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 3	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
1306331- 1- 1*	Control Room Operator MONITORS the Flux Control Instrument Insufficient resources/instrumentation provided by management. given: 100% power: errors of intention; PSFs -> HMI=14, S/R/K= 9, S.Cult= 9, motiv= 7,workload=10,commun= 9;local ; ;Pre -IE;HRA=INTENT Mean: 1.5E-1 Median: 1.3E-1 EF: 2 UCB: 2.4E-1 LCB: 7.4E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 2.4E-1 LCB: 7.4E-2 E: N:	1.4E-1 1.3E-1 2 2.4E-1 7.4E-2 8.000 60.000	ATime: ---:---: PTime: ---:---: Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 3	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
1306-31- 1- 1*	Control Room Operator MONITORS the Level Control Instrument Insufficient resources/instrumentation provided by management. given: 100% power: errors of intention; PSFs -> HMI=14, S/R/K= 9, S.Cult= 9, motiv= 7,workload=10,commun= 9;local ; ;Pre -IE;HRA=INTENT Mean: 1.5E-1 Median: 1.3E-1 EF: 2 UCB: 2.4E-1 LCB: 7.4E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 2.4E-1 LCB: 7.4E-2 E: N:	1.4E-1 1.3E-1 2 2.4E-1 7.4E-2 8.000 60.000	ATime: ---:---: PTime: ---:---: Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 3	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP
1306631- 1- 1*	Control Room Operator MONITORS the Pressure Control Instrument Insufficient resources/instrumentation provided by management. given: 100% power: errors of intention; PSFs -> HMI=14, S/R/K= 9, S.Cult= 9, motiv= 7,workload=10,commun= 9;local ; ;Pre -IE;HRA=INTENT Mean: 1.5E-1 Median: 1.3E-1 EF: 2 UCB: 2.4E-1 LCB: 7.4E-2 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 2.4E-1 LCB: 7.4E-2 E: N:	1.4E-1 1.3E-1 2 2.4E-1 7.4E-2 8.000 60.000	ATime: ---:---: PTime: ---:---: Experience: 3 Feedback: U Procedure: 3 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 3	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1309132- 1- 1*	Control Room Operator OPERATES the Control Rod Drive Mechanisms Operator fails to insert rods given: Loss of feed ATWS; low labeling req.s; moderate monitoring; seq = LOFW ATWS; local; Post I.E., pos; Slim Maud Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000	2.7E-4 --- --- 1.0E-3 1.0E-5 0.100 1000.000	ATim: --- PTim: --- Exp: U Feed: U Proc: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-88 Group 2, task 4 Origin: Analytic Reference: 1-86 Vend/EqLvl: CRO PlantCode: CPS
1309132- 2- 1*	Control Room Operator OPERATES the Control Rod Drive Mechanisms Operator fails to manually insert rods given: Insert control rods to shut down the Rx ATWS, manual scram fails Mean: 6.0E-4 Median: 3.0E-4 EF: 7 UCB: 2.0E-3 LCB: 4.5E-5 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 6.0E-4 Median: 3.0E-4 EF: 7 UCB: 2.0E-3 LCB: 4.5E-5 E: 0.500 N: 1666.600	5.8E-4 --- 7 --- 4.5E-5 0.500 1666.600	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 4 Supervision: U Tagging: U Training: U	Document: 2-84 pg. C-5, item 11 Origin: Psychological Scaling Reference: --- Vend/EqLvl: CRO PlantCode: GE
1322132- 1- 1*	Control Room Operator OPERATES the Pumps operator fails to lock out the AFW pump given: seq=all, local, pre-IE, pos, therp, 2-loop pur plant Mean: 1.1E-1 Median: 4.0E-2 EF: 10 UCB: 4.0E-1 LCB: 4.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-1 Median: 4.0E-2 EF: 10 UCB: 4.0E-1 LCB: 4.0E-3 E: 0.100 N: 2.500	1.1E-1 --- 10 4.0E-1 4.0E-3 0.100 2.500	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl: CRO PlantCode: CCN
1322132- 2- 1*	Control Room Operator OPERATES the Pumps operator restarts the bleed and feed pumps improperly given: seq=all; local; ev=pre-ie; therp Mean: 1.4E-2 Median: 5.2E-3 EF: 10 UCB: 5.2E-2 LCB: 5.2E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: 1.4E-2 Median: 5.2E-3 EF: 10 UCB: 5.2E-2 LCB: 5.2E-4 E: 0.100 N: 19.200	1.4E-2 --- 10 5.2E-2 5.2E-4 0.100 19.200	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: 1 Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl: CRO PlantCode: YKR1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1322132- 3- 1*	Control Room Operator OPERATES the Pumps Operator fails to manually actuate CPC MDP given: Seq = S2, S1 Mean: 1.0E-1 Median: 3.8E-2 EF: 10 UCB: 3.8E-1 LCB: 3.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-2 EF: 10 UCB: LCB: E: N:	1.0E-1 --- 3.8E-1 3.8E-3 0.100 2.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 10, 12 Table 4.9-4 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: SPS1
1322132- 4- 1*	Control Room Operator OPERATES the Pumps Operator fails to manually actuate CPC SWS MDP given: Seq = S2 Mean: 1.0E-1 Median: 3.8E-2 EF: 10 UCB: 3.8E-1 LCB: 3.8E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-2 EF: 10 UCB: LCB: E: N:	1.0E-1 --- 3.8E-1 3.8E-3 0.100 2.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-88 13 Table 4.9-4 Origin: Subjective Reference: ----- Vend/EqLvl: CRO PlantCode: SPS1
1322132- 5- 1*	Control Room Operator OPERATES the Pumps Operator fails to allow standby HPI pump to remain idle given: Mean: 1.3E-1 Median: 5.0E-2 EF: 10 UCB: 5.0E-1 LCB: 5.0E-3 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 5.0E-2 EF: 10 UCB: LCB: E: N:	1.3E-1 --- 5.0E-1 5.0E-3 0.100 2.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34, item 19 Origin: Simulation Modeling Reference: 1-83 Vend/EqLvl: CRO PlantCode: MEE3
1322135- 1- 1*	Control Room Operator STARTS/STOPS the Pumps operator fails to manually start pump C given: given pumps A & B have failed seq=sd; local; ev=poa; therp Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-4 EF: 10 UCB: LCB: E: N:	1.0E-3 --- 3.8E-3 3.8E-5 0.100 263.100	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 200 Origin: Subjective Reference: 4-87 Vend/EqLvl: CRO PlantCode: SPS1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1322135- 2- 1*	Control Room Operator STARTS/STOPS the Pumps operator fails to stop reactor coolant pump given: LOFW, ATWS, low labeling requirements, seq= ATWS, local, post-IE, POA, SLIM-MAUD, low monitoring Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 E: 0.100 N: 27.000	2.7E-3 1.0E-3 --- 1.0E-2 1.0E-4 0.100 27.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-88 group 2, task 21 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRD PlantCode: CPS
1322235- 1- 1*	Control Room Operator STARTS/STOPS the Centrifugal Pump operator fails to start (manually) AFW pumps given: loss of feed ATWS, low amount of feedback needed, seq= ATWS, local, post-IE, POA, SLIM-MAUD Mean: 2.9E-3 Median: 1.1E-3 EF: 10 UCB: 1.1E-2 LCB: 1.1E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.9E-3 Median: 1.1E-3 EF: 10 UCB: 1.1E-2 LCB: 1.1E-4 E: 0.100 N: 90.900	2.9E-3 1.1E-3 --- 1.1E-2 1.1E-4 0.100 90.900	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: 3 Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-88 group 1, task 7 Origin: Analytic Reference: 1-86 Vend/EqLvl:CRD PlantCode: CPS
1327132- 1- 1*	Control Room Operator OPERATES the Steam Generators Operator fails to terminate flow from SG blowdown line during SGTR given: HEP conditional on previous failure to depressurize; Seq = 17 Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.400	9.1E-3 3.4E-3 --- 3.4E-2 3.4E-4 0.100 29.400	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 30, Table 4.9 - 4 Origin: Subjective Reference: ----- Vend/EqLvl:CRD PlantCode: SPST
1328132- 1- 1*	Control Room Operator OPERATES the Turbines operator fails to trip turbine and open oil circuit breakers given: seq=losp; local; ev=post-ie,poa; therp; emergency procedures available Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 E: 0.100 N: 10.000	2.7E-2 1.0E-2 --- 1.0E-1 1.0E-3 0.100 10.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl:CRD PlantCode: YKR1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
132B132- 2- 1*	Control Room Operator OPERATES the Turbines operator fails to trip turbine during LOPP given: seq=losp; local; ev=post-ie,poa; therp; emergency procedures available Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 10 UCB: " LCB: 1.0E-3 E: 0.100 N: 10.000	2.7E-2 --- 1.0E-1 1.0E-3 0.100 10.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/Eq.lvl: CRO PlantCode: YKR1
132B132- 3- 1*	Control Room Operator OPERATES the Turbines Operator fails to trip main turbine given: Skill based action WEP; Seq = ATWS Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 E: 0.100 N: 37.500	7.1E-3 --- 2.7E-2 2.7E-4 0.100 37.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 32, Table 4.9 - 4 Origin: Subjective Reference: ---:---:--- Vend/Eq.lvl: CRO PlantCode: SPST
1329131- 1- 1*	Control Room Operator MONITORS the Valves operator fails to check main steam isolation & bypass valves closed given: LOFW,ATWS,mod. workload,seq=ATWS,local,post-IE,POA,Slim-Maud Mean: 1.1E-2 Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.3E-3 EF: 10 UCB: 4.3E-2 LCB: 4.3E-4 E: 0.100 N: 25.200	1.1E-2 --- 4.3E-2 4.3E-4 0.100 25.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 2 Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-88 group 4, task 14 Origin: Analytic Reference: 1-86 Vend/Eq.lvl: CRO PlantCode: CPS
1329132- 1- 1*	Control Room Operator OPERATES the Valves operator fails to reopen valve in ECRS or CSRS system given: seq=all; local; ev=pre-ie, proc not followed; 4-loop pwr Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 35.300	8.0E-3 --- 3.0E-2 3.0E-4 0.100 35.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 1-31 Vend/Eq.lvl: CRO PlantCode: SNPT

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1329132- 2- 1*	Control Room Operator OPERATES the Valves Operator fails to operate LPCS valve given: local; Seq = ALL; post I.E.; Therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-4 EF: 10 UCB: LCB: E: N:	2.0E-3 --- 7.5E-3 7.5E-5 0.100 133.300	ATime: 20:00:00 PTime: 00:06:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 1V - 205, item 3 Origin: None Reference: 901-87 Vend/EqLvl: CRO PlantCode: GGS1
1329132- 3- 1*	Control Room Operator OPERATES the Valves Operator fails to align CSRS valves given: 4 loop PWR; procedure not followed; local; Seq = ALL; pre I.E. Mean: 8.8E-3 Median: 3.3E-3 EF: 10 UCB: 3.3E-2 LCB: 3.3E-4 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.3E-3 EF: 10 UCB: LCB: E: N:	8.8E-3 --- 3.3E-2 3.3E-4 0.100 30.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: None Reference: 1-81 Vend/EqLvl: CRO PlantCode: SNP1
1329132- 4- 1*	Control Room Operator OPERATES the Valves Operator fails to realign ESF valve given: 2 loop PWR; local; post I.E., pos Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 10 UCB: LCB: E: N:	2.7E-2 --- 1.0E-1 1.0E-3 0.100 10.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-84 Origin: None Reference: 1-75 Vend/EqLvl: CRO PlantCode: CCN1
1329134- 1- 1*	Control Room Operator OPENS/CLOSES the Valves Operator inadvertently closes WPIS valve given: 4 loop PWR; local; Seq = ALL; pre I.E. Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-4 EF: 10 UCB: LCB: E: N:	8.0E-4 --- 3.0E-3 3.0E-5 0.100 333.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-81 Origin: None Reference: 1-75 Vend/EqLvl: CRO PlantCode: SNP1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
1329134- 2- 1*	Control Room Operator OPENS/CLOSES the Valves Operator fails to locally open suction valves given; Operator establishes decay heat removal Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-1 Median: 3 EF: UCB: LCB: E: M:	1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34, item 16 Origin: None Reference: 1-83 Vend/Eq.vl.:CRO PlantCode: WEE3
1329134- 3- 1*	Control Room Operator OPENS/CLOSES the Valves Operator fails to close 3 CSIS valves given; 4 loop PAR; local; Seq = ALL; Pre I.E. Mean: 8.0E-5 Median: 3.0E-5 EF: 10 UCB: 3.0E-4 LCB: 3.0E-6 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 3.0E-5 Median: 10 EF: UCB: LCB: E: M:	8.0E-5 --- 3.0E-4 3.0E-6 0.100 3333.300	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: None Reference: 1-81 Vend/Eq.vl.:CRO PlantCode: JBP1
1329134- 4- 1*	Control Room Operator OPENS/CLOSES the Valves Operator fails to close RWST valve in CSIS given; 4 loop PAR; local; Seq = ALL; Pre I.E. Mean: 1.1E-3 Median: 4.0E-4 EF: 10 UCB: 4.0E-3 LCB: 4.0E-5 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: 4.0E-4 Median: 10 EF: UCB: LCB: E: M:	1.1E-3 --- 4.0E-3 4.0E-5 0.100 250.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/Eq.vl.:CRO PlantCode: SMT1
1329134- 5- 1*	Control Room Operator OPENS/CLOSES the Valves Operator fails to open the service water system valve given; 2 loop PAR; local; Post i.e., pos Mean: 2.7E-1 Median: 1.0E-1 EF: 10 UCB: 1.0E+0 LCB: 1.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.0E-1 Median: 10 EF: UCB: LCB: E: M:	2.7E-1 --- 1.0E+0 1.0E-2 0.100 1.000	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-84 Origin: None Reference: 1-75 Vend/Eq.vl.:CRO PlantCode: CDM1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	W/CLARR calc		
1329134- 6- 1*	Control Room Operator OPERATES/CLOSES the Valves Operator fails to open PORV block valve given: local; pos Mean: 2.5E-1 Median: 9.4E-2 EF: 10 UCB: 9.4E-1 LCB: 9.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.4E-2 EF: UCB: LCB: E: N:	2.5E-1 ---- 9.4E-1 9.4E-3 0.100 1.700	ATime: 00:02:00 PTime: ---- Experience: U Feedback: U Procedure: U Staffing: U Stress: 4 Supervision: U Tagging: U Training: U	Document: 2-86 Origin: IV - 203 None Reference: 4-87 Vend/Equip: CRO PlantCode: SPST
1330234- 1- 1*	Control Room Operator OPERATES/CLOSES the Relief Valve operator fails to manually shut PORV given: SGTR(1 tube),high motiv.,mid. shift,high supervisor expectation, in seq of PORV related steps;SGTR,local,post-IE,PGA,WAPPS sim, 50/50 success Mean: 2.7E-5 Median: 1.0E-5 EF: 10 UCB: 1.0E-4 LCB: 1.0E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-5 EF: UCB: LCB: E: N:	2.7E-5 ---- 1.0E-4 1.0E-6 0.100 10000.000	ATime: ---- PTime: ---- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 1-88 Origin: subtask Z2 Analytic Reference: 3-85 Vend/Equip: CRO PlantCode: SBK1
1331132- 1- 1*	Control Room Operator OPERATES the Valve Operators Operator fails to close main condenser isolation valves given: Seq = SB3 - U1 Mean: 1.6E-1 Median: 5.9E-2 EF: 10 UCB: 5.9E-1 LCB: 5.9E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.9E-2 EF: UCB: LCB: E: N:	1.6E-1 ---- 5.9E-1 5.9E-3 0.100 1.700	ATime: ---- PTime: ---- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 Origin: 27, Table 4.9 - c Subjective Reference: ---- Vend/Equip: CRO PlantCode: SPST
1331232- 1- 1*	Control Room Operator OPERATES the Electric Motor-AC operator fails to open alternate injection path for HPI given: seqs1d1,s2d,s3d,tqd; local; evr-post ie,rop; therp Mean: 1.1E-3 Median: 4.0E-4 EF: 10 UCB: 4.0E-3 LCB: 4.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 4.0E-4 EF: UCB: LCB: E: N:	1.1E-3 ---- 4.0E-3 4.0E-5 0.100 250.000	ATime: 02:00:00 PTime: ---- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 2-86 Origin: chapter IV, page 242 Subjective Reference: 4-87 Vend/Equip: CRO PlantCode: SPST

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1331232- 2- 1*	Control Room Operator OPERATES the Electric Motor-AC operator fails to operate LPCS valve given: seq=full; local; ev-post ie,poa; therp Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-4 EF: 10 UCB: LCB: E: N:	2.0E-3 --- 7.5E-3 7.5E-5 0.100 133.300	ATime: 20:00:00 PTime: 00:06:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chap.IV,pg.205,it.3 Origin: Subjective Reference: 4-87 Vend/EqLvl:CR0 PlantCode: GGS1
1331232- 3- 1*	Control Room Operator OPERATES the Electric Motor-AC operator fails to position valve to open given: seq=small loca,local,post-1E,poa,irep-grm, 2-loop pwr plant Mean: 1.4E-1 Median: 1.0E-1 EF: 4 UCB: 3.4E-1 LCB: 2.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-2 EF: 10 UCB: LCB: E: N:	2.7E-2 --- 1.0E-1 1.0E-3 0.100 10.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl:CR0 PlantCode: CCN
1331232- 3- 2*	Control Room Operator OPERATES the Electric Motor-AC operator fails to position valve to open given: seq=small loca,local,post-1E,poa,irep-grm, 2-loop pwr plant Mean: 1.4E-1 Median: 1.0E-1 EF: 4 UCB: 3.4E-1 LCB: 2.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-1 EF: --- UCB: LCB: E: N:	3.6E-1 4 1.0E+0 6.3E-2 1.500 6.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl:CR0 PlantCode: CCN
1331232- 4- 1*	Control Room Operator OPERATES the Electric Motor-AC operator fails to start MOV given: seq=small loca,local,post-1E,poa,irep-grm, 2-loop pwr plant Mean: 3.6E-1 Median: 2.5E-1 EF: 4 UCB: 1.0E+0 LCB: 6.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-1 EF: --- UCB: LCB: E: N:	3.6E-1 4 1.0E+0 6.3E-2 1.500 6.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl:CR0 PlantCode: CCN

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1331232- 5- 1*	Control Room Operator OPERATES the Electric Motor-AC operator fails to operate motor operated valve given: seq=all, local, pre-IE, poa, therp, 2-loop pwr plant Mean: 1.3E-4 Median: 1.0E-4 EF: 3 UCB: 3.0E-4 LCB: 3.3E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-4 EF: --- UCB: 3.0E-4 LCB: E: N:	1.2E-4 3 3.3E-5 2.000 20000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/Eq/vl: CRO PlantCode: CCH
1331232- 6- 1*	Control Room Operator OPERATES the Electric Motor-AC operator fails to shut FW MOVs and Baileys during LOSP given: seq=losp; local; ev=post-ie, poa; therp Mean: 1.0E-2 Median: 3.8E-3 EF: 10 UCB: 3.8E-2 LCB: 3.8E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-3 EF: 10 UCB: LCB: E: N:	1.0E-2 --- 3.8E-2 3.8E-4 0.100 26.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/Eq/vl: CRO PlantCode: YKRT
1331232- 7- 1*	Control Room Operator OPERATES the Electric Motor-AC operator isolates SG MOV and Bailey improperly given: seq=all; local; ev=pre-ie; therp Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-3 EF: 10 UCB: LCB: E: N:	4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 1 Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/Eq/vl: CRO PlantCode: YKRT
1331232- 8- 1*	Control Room Operator OPERATES the Electric Motor-AC Operator fails to close RCS PORV block valve given: Skill-based action KEP; Seq = ALL Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 2.7E-3 EF: 10 UCB: LCB: E: N:	7.1E-3 --- 2.7E-2 2.7E-4 0.100 37.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 33, Table 4.9 - 4 Origin: Subjective Reference: ----- Vend/Eq/vl: CRO PlantCode: SPST

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1331232-9-1*	Control Room Operator OPERATES the Electric Motor-AC Operator fails to open one PORV for S2 feed & bleed given: Seq = S2 Mean: 1.0E-1 Median: 7.1E-2 EF: 10 UCB: 7.1E-1 LCB: 7.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 7.1E-2 Median: 10 EF: UCB: LCB: E: N:	1.0E-1 --- 7.1E-1 7.1E-3 0.100 1.400	ATime: --- ptime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 35, Table 4.9 - 4 Origin: Subjective Reference: --- Vend/Eq.vl:CR0 PlantCode: SPS1
1331232-10-1*	Control Room Operator OPERATES the Electric Motor-AC Operator fails to open both PORVs for feed & bleed given: Seq = ALL L MECH Mean: 2.0E-2 Median: 1.1E-2 EF: 10 UCB: 1.1E-1 LCB: 1.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.1E-2 Median: 10 EF: UCB: LCB: E: N:	2.0E-2 --- 1.1E-1 1.1E-3 0.100 9.000	ATime: --- ptime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 36a, Table 4.9 - 4 Origin: Subjective Reference: --- Vend/Eq.vl:CR0 PlantCode: SPS1
1331232-11-1*	Control Room Operator OPERATES the Electric Motor-AC Operator fails to open both PORVs for feed & bleed given: Seq = ALL L XHE Mean: 1.2E-1 Median: 4.4E-2 EF: 10 UCB: 4.4E-1 LCB: 4.4E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.4E-2 Median: 10 EF: UCB: LCB: E: N:	1.2E-1 --- 4.4E-1 4.4E-3 0.100 2.200	ATime: --- ptime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 36b, Table 4.9 - 4 Origin: Subjective Reference: --- Vend/Eq.vl:CR0 PlantCode: SPS1
1331232-12-1*	Control Room Operator OPERATES the Electric Motor-AC Operator fails to terminate flow from stuck open SG PORV given: REP conditional on previous failure to depressurize; Seq = T7 Mean: 8.5E-2 Median: 3.2E-2 EF: 10 UCB: 3.2E-1 LCB: 3.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 3.2E-2 Median: 10 EF: UCB: LCB: E: N:	8.5E-2 --- 3.2E-1 3.2E-3 0.100 3.100	ATime: --- ptime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-88 28, Table 4.9 - 4 Origin: Subjective Reference: --- Vend/Eq.vl:CR0 PlantCode: SPS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1404244- 1- 2*	<p>Equipment Operator OPENS/CLOSES the Circuit Breaker subject selects wrong circuit breaker from dense group given: subject selects correct circuit breaker rather dense group of circuit breakers; identified by labels only Action:remote; Sq.:N/A; Pre-I.E.; Expert Judgment</p> <p>Mean: 6.0E-3 Median: 3.0E-3 EF: 7 UCB: 2.0E-2 LCB: 4.5E-4 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.8E-3 Median: 3.0E-3 EF: 7 UCB: 2.0E-2 LCB: 4.5E-4 E: 0.500 N: 166.600</p>	<p>ATime: :--:--:-- PTime: :--:--:-- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. c-8, item 10 Origin: Simulation Modeling Reference: :--:--:-- Vend/EqLvl:EO PlantCode: BWR</p>	
1404244- 1- 1*	<p>Equipment Operator OPENS/CLOSES the Circuit Breaker subject selects wrong circuit breaker from dense group given: subject selects correct circuit breaker rather dense group of circuit breakers; identified by labels only Action:remote; Sq.:N/A; Pre-I.E.; Expert Judgment</p> <p>Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000</p>	<p>ATime: :--:--:-- PTime: :--:--:-- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: 2 Training: U</p>	<p>Document: 1-83 pg 20-28, item 11 Origin: Simulation Modeling Reference: :--:--:-- Vend/EqLvl:EO PlantCode: ALLP</p>	
1404244- 3- 1*	<p>Equipment Operator OPENS/CLOSES the Circuit Breaker Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E., Therp</p> <p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300</p>	<p>ATime: :--:--:-- PTime: :--:--:-- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 3 Training: U</p>	<p>Document: 1-83 pg. 20-28, item 11 Origin: Simulation Modeling Reference: :--:--:-- Vend/EqLvl:EO PlantCode: ALLP</p>	
1404244- 4- 1*	<p>Equipment Operator OPENS/CLOSES the Circuit Breaker operator fails to restore AC power by manually closing a breaker given: operator manually closes breaker to restore AC power Action:remote; Sq.:N/A; Post ROP; Therp</p> <p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 E: 2.000 N: 20.000</p>	<p>ATime: :--:--:-- PTime: :--:--:-- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 3-84 pg. 6-34 item 17 Origin: Subjective Reference: 1-83 Vend/EqLvl:EO PlantCode: NEE3</p>	

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAJ DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1406444- 1- 1*	Equipment Operator OPEWS/CLOSES the Disconnect Subject improperly mates electrical connector. Given: Subject properly closes the circuit. Non-specific, average plant conditions. Action: remote; Sq.: N/A; Pre-1.E., Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600	3.8E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 1-83 Pg. 20-28, item 17 Origin: Simulation Modeling Reference: ----- Vend/EqLvl: ED PlantCode: ALLP
1406242- 1- 1*	Equipment Operator OPERATES the Flow Control Instrument Violate procedure and reconfigure equipment. Given: 100% power; errors of intention; PSFs -> HMI= 9, S/R/K= 9, S.Cult=10, motiv= 8, workload= 8, commun= 7; remote; ; Pre -1E; HRA=INTENT Mean: 2.1E-2 Median: 6.8E-3 EF: 12 UCB: 8.3E-2 LCB: 5.5E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 8.3E-2 LCB: 5.5E-4 E: 0.100 N: 14.800	2.2E-2 6.8E-3 12	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 3	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: ED PlantCode: ALLP
1406442- 1- 1*	Equipment Operator OPERATES the Level Control Instrument Violate procedure and reconfigure equipment. Given: 100% power; errors of intention; PSFs -> HMI= 9, S/R/K= 9, S.Cult=10, motiv= 8, workload= 8, commun= 7; local; ; Pre -1E; HRA=INTENT Mean: 2.1E-2 Median: 6.8E-3 EF: 12 UCB: 8.3E-2 LCB: 5.5E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 8.3E-2 LCB: 5.5E-4 E: 0.100 N: 14.800	2.2E-2 6.8E-3 12	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 3	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: ED PlantCode: ALLP
1406642- 1- 1*	Equipment Operator OPERATES the Pressure Control Instrument Violate procedure and reconfigure equipment. Given: 100% power; errors of intention; PSFs -> HMI= 9, S/R/K= 9, S.Cult=10, motiv= 8, workload= 8, commun= 7; local; ; Pre -1E; HRA=INTENT Mean: 2.1E-2 Median: 6.8E-3 EF: 12 UCB: 8.3E-2 LCB: 5.5E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 8.3E-2 LCB: 5.5E-4 E: 0.100 N: 14.800	2.2E-2 6.8E-3 12	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress: 3 Supervision: 3 Tagging: U Training: 3	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: ED PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1406842- 1- 1*	Equipment Operator OPERATES the Temperature Control Instrument Violate procedure and reconfigure equipment. given: 100% power: errors of intention; PSFs -> HMI= 9, S/R/K= 9, S.Cult=10, motiv= 8, workload= 8, commun= 7; local ; ; Pre -IE; HRA=INTENT Mean: 2.1E-2 Median: 6.8E-3 EF: 12 UCB: 8.3E-2 LCB: 5.5E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 8.3E-2 LCB: 5.5E-4 E: N:	2.2E-2 6.8E-3 12 0.100 14.800	A Time: ---:---:--- P Time: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 3	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: ALLP
1413142- 1- 1*	Equipment Operator OPERATES the Electrical Equipment Operator fails to restore DC battery from hardware failure given: remote; Seq = station blackout; post I.E., recov. out of Procedure Mean: 2.0E-1 Median: 7.5E-2 EF: 10 UCB: 7.5E-1 LCB: 7.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-2 EF: 10 UCB: LCB: E: N:	2.0E-1 7.5E-2 --- 7.5E-1 7.5E-3 0.100 1.300	A Time: 04:00:00 P Time: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 IV - 204, item 2 Origin: None Reference: 901-87 Vend/EqLvl:EO Plant Code: GGS1
1413142- 2- 1*	Equipment Operator OPERATES the Electrical Equipment Operator fails to restore DC battery from hardware failure given: remote; post I.E., recov. out of Procedure; Historical data Mean: 3.8E-1 Median: 3.0E-1 EF: 3 UCB: 1.0E+0 LCB: 9.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-1 EF: --- UCB: LCB: E: N:	3.9E-1 3.0E-1 3 1.0E+0 9.0E-2 2.000 6.600	A Time: 00:40:00 P Time: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 IV - 204, item 2 Origin: None Reference: 901-87 Vend/EqLvl:EO PlantCode: GGS1
1413142- 3- 1*	Equipment Operator OPERATES the Electrical Equipment Operator fails to recover DC battery from common mode failure given: remote; Seq = SBO; post I.E., recov. out of Procedure; Historical data Mean: 4.8E-1 Median: 3.8E-1 EF: 3 UCB: 1.0E+0 LCB: 1.4E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-1 EF: --- UCB: LCB: E: N:	4.5E-1 3.8E-1 3 1.0E+0 1.4E-1 3.000 7.800	A Time: 00:40:00 P Time: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 IV - 204, item 1 Origin: None Reference: 901-87 Vend/EqLvl:EO PlantCode: GGS1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1413142-4-1*	<p>Equipment Operator OPERATES the Electrical Equipment Operator fails to recover DC battery from common mode failure given: remote; Seq = S80; post I.E., recov. out of Procedure; Historical data</p> <p>Mean: 3.8E-1 Median: 3.0E-1 EF: 3 UCB: 1.0E+0 LCB: 9.0E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.9E-1 Median: 3.0E-1 EF: --- UCB: 1.0E+0 LCB: 9.0E-2 E: 2.000 N: 6.600</p>	<p>3.9E-1 3 1.0E+0 9.0E-2 2.000 6.600</p>	<p>ATime: 04:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-87 IV - 204, item 1 Origin: None Reference: 901-87 Vend/EqLvl:EO PlantCode: GGS1</p>
1414442-1-1*	<p>Equipment Operator OPERATES the Generator Equipment operator fails to align diesel generator given: 2 loop PWR; remote; Seq = LOSP; Post I.E., pos</p> <p>Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 E: 0.100 N: 10.000</p>	<p>2.7E-2 --- 1.0E-1 1.0E-3 0.100 10.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 4-84 Origin: None Reference: 1-75 Vend/EqLvl:EO PlantCode: CGM1</p>
1422241-1-1*	<p>Equipment Operator INSPECTS the Centrifugal Pump operator switches boric acid transfer pump speed too quickly given: seq=atws(tk); local; ev=pos; therp</p> <p>Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600</p>	<p>4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600</p>	<p>ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 4 Supervision: U Tagging: U Training: U</p>	<p>Document: 2-86 chapter IV, page 203 Origin: Subjective Reference: 4-87 Vend/EqLvl:EO PlantCode: SPS1</p>
1424841-1-1*	<p>Equipment Operator INSPECTS the Level Sensor Common cause miscalibration of CST low level sensors. given: BWR, no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP</p> <p>Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 E: 0.100 N: 4000.000</p>	<p>6.7E-5 --- 2.5E-4 2.5E-6 0.100 4000.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:EO PlantCode: PBS</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1429141- 1- 1*	Equipment Operator INSPECTS the Valves operator fails to verify locally operated valve position given: operator verifies locally operated valve position verifying restoration of valve position after maintenance	Mean: Median: 3.0E-3 EF: --- UCB: 4.0E-2 LCB: 2.3E-4 E: 0.100 N: 33.300	1.0E-2 13 2.3E-4 0.100 33.300	ATime: ----- PTime: ----- Experience: 3 Feedback: U Procedure: 3 Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U	Document: 2-84 pg. c-8, item 11 Origin: Psychological Scaling Reference: ----- Vend/Eqlvl:EO PlantCode: BWR
	Mean: 1.0E-2 Median: 3.0E-3 EF: 13 UCB: 4.0E-2 LCB: 2.3E-4 Error type: OMISSION Recovery: CONSIDERED				
1429142- 1- 1*	Equipment Operator OPERATES the Valve AUX operator fails to locally open air operated valves given: manually open valves to restore room cooling plant experiences total loss of instrument air	Mean: Median: 3.0E-2 EF: --- UCB: 3.9E-1 LCB: 2.3E-3 E: 0.100 N: 3.300	1.0E-1 13 3.9E-1 2.3E-3 0.100 3.300	ATime: 01:00:00 PTime: ----- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : 4 Supervision: U Tagging: U Training: U	Document: 2-84 pg. c-6, item 15 Origin: Psychological Scaling Reference: ----- Vend/Eqlvl:EO PlantCode: BWR
	Mean: 1.0E-1 Median: 3.0E-2 EF: 13 UCB: 3.9E-1 LCB: 2.3E-3 Error type: OMISSION Recovery: CONSIDERED				
1429144- 1- 1*	Equipment Operator OPENS/CLOSES the Valves operator locally opens wrong manual valve given: operator locally opens correct manual valve similar valves not clearly labelled	Mean: Median: 2.0E-2 EF: --- UCB: 2.6E-1 LCB: 1.5E-3 E: 0.100 N: 5.000	6.7E-2 13 2.6E-1 1.5E-3 0.100 5.000	ATime: ----- PTime: ----- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: 2 Training: U	Document: 2-34 pg c-7, item 5 Origin: Psychological Scaling Reference: ----- Vend/Eqlvl:EO PlantCode: BWR
	Mean: 6.7E-2 Median: 2.0E-2 EF: 13 UCB: 2.6E-1 LCB: 1.5E-3 Error type: COMMISSION Recovery: CONSIDERED				
1429144- 2- 1*	Equipment Operator OPENS/CLOSES the Valves operator chooses wrong valve given: operator chooses correct valve valve is clearly and unambiguously labelled	Mean: Median: 4.0E-4 EF: --- UCB: 3.0E-3 LCB: 5.3E-5 E: 0.500 N: 1250.000	8.5E-4 7 3.0E-3 5.3E-5 0.500 1250.000	ATime: ----- PTime: ----- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U	Document: 2-84 pg c-7, item 6 Origin: Psychological Scaling Reference: ----- Vend/Eqlvl:EO PlantCode: BWR
	Mean: 8.9E-4 Median: 4.0E-4 EF: 8 UCB: 3.0E-3 LCB: 5.3E-5 Error type: COMMISSION Recovery: CONSIDERED				

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description	Aggregated Task Values	Data Values		PSFs	Document Information
			Raw	NUCLARR calc		
1429144- 3- 1*	Equipment Operator the Valves operator fails to locally open suction valves given: operator establishes decay heat removal to permit initiation of DHR given failure of valve motor operators	OPENS/CLOSES Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-1 EF: 3 UCB: LCB: E: N:	1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 3 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-34 item 16 Origin: Subjective Reference: 1-85 Vend/EqLvl:EO PlantCode: WEE3
1431242- 1- 1*	Equipment Operator the Electric Motor-AC operator fails to open valve to allow emergency boration given: diagnosis errors not considered seq=atws(tk); local; ev=poa; therp	OPERATES Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-3 EF: 10 UCB: LCB: E: N:	4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600	ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 4 Supervision: U Tagging: U Training: U	Document: 2-86 chapter IV, page 203 Origin: Subjective Reference: 4-87 Vend/EqLvl:EO PlantCode: SPS1
1431642- 1- 1*	Equipment Operator the Pneumatic Aux operator fails to locally open air operated valve given: Manually open valves to restore room cooling Plant experiences total loss of instrument air; remote; Seq = post I.E., POA; expert judgement	OPERATES Mean: 7.3E-2 Median: 3.0E-2 EF: 9 UCB: 2.7E-1 LCB: 3.3E-3 Error type: OMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-2 EF: 9 UCB: LCB: E: N:	7.3E-2 --- 2.7E-1 3.3E-3 0.500 16.600	ATime: 01:00:00 PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: 4 Supervision: U Tagging: U Training: U	Document: 2-84 pg. C-6, item 15 Origin: Psychological Scaling Reference: ----- Vend/EqLvl:EO PlantCode: GE
1433141- 1- 1*	Equipment Operator the Vessels/Tanks Common cause miscalibration of CST low level sensors. given: BWR, no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP	INSPECTS Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-5 EF: 10 UCB: LCB: E: N:	6.7E-5 --- 2.5E-4 2.5E-6 0.100 4000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl:EO PlantCode: PBS

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1504252- 1- 1*	Maintenance Technician MAINTAINS the Circuit Breaker subject selects wrong circuit breaker from dense group given: subject selects correct circuit breaker rather dense group of circuit breakers; identified by labels only Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Simulation Modeling Reference: ---:---:--- Vend/EqLvl:MT PlantCode: ALLP
1504252- 2- 1*	Maintenance Technician MAINTAINS the Circuit Breaker Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Simulation Modeling Reference: ---:---:--- Vend/EqLvl:MT PlantCode: ALLP
1504252- 3- 1*	Maintenance Technician MAINTAINS the Circuit Breaker Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Simulation Modeling Reference: ---:---:--- Vend/EqLvl:MT PlantCode: ALLP
1504253- 1- 1*	Maintenance Technician REPAIRS the Circuit Breaker subject selects wrong circuit breaker from dense group given: subject selects correct circuit breaker rather dense group of circuit breakers; identified by labels only Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Simulation Modeling Reference: ---:---:--- Vend/EqLvl:MT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1504253- 2- 1*	Maintenance Technician REPAIRS the Circuit Breaker Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/., Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1504253- 3- 1*	Maintenance Technician REPAIRS the Circuit Breaker Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 --- 4.5E-2 5.0E-3 2.000 133.300	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1504254- 1- 1*	Maintenance Technician TESTS the Circuit Breaker subject selects wrong circuit breaker from dense group given: subject selects correct circuit breaker rather dense group of circuit breakers; identified by labels only Action:remote; Sq.:N/A; Pre-I.E.; Therp Mean: 6.2E-3 Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.0E-3 EF: 3 UCB: 1.5E-2 LCB: 1.7E-3 E: 2.000 N: 400.000	6.2E-3 --- 1.5E-2 1.7E-3 2.000 400.000	ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 2 Training: U	Document: 1-83 pg 20-28, item 11 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1504254- 2- 1*	Maintenance Technician TESTS the Circuit Breaker Subject selects wrong circuit breaker from dense group given: Subject selects correct circuit breaker A specific number of tags issued for each job remote Seq=N/A, Pre-I.E., Therp Mean: 2.1E-3 Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.7E-3 EF: 3 UCB: 5.1E-3 LCB: 5.7E-4 E: 2.000 N: 1176.400	2.1E-3 --- 5.1E-3 5.7E-4 2.000 1176.400	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 1 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:MT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1504254- 3- 1*	Maintenance Technician TESTS the Circuit Breaker Subject selects wrong circuit breaker from dense group. given: Subject selects correct circuit breaker. Tags are used but record keeping is inadequate. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 1.9E-2 Median: 1.5E-2 EF: 3 UCB: 4.5E-2 LCB: 5.0E-3 E: 2.000 N: 133.300	1.9E-2 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: 3 Training: U	Document: 1-83 pg. 20-28, item 11 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1504254- 4- 1*	Maintenance Technician TESTS the Circuit Breaker maint. tech fails to restore SIAS circuit breaker to closed position given: seq=locb; remote; ev=post-ie,poa; therp; Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N: 133.300	2.0E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl:MT PlantCode: YKR1
1504452- 1- 1*	Maintenance Technician MAINTAINS the Disconnect Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600	3.8E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg. 20-28, item 13 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1504453- 1- 1*	Maintenance Technician REPAIRS the Disconnect Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action:remote; Sq.:N/A; Pre-I.E., Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600	3.8E-3 ---	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg. 20-28, item 13 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:MT PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1504454- 1- 1*	Maintenance Technician TESTS the Disconnect Subject improperly mates electrical connector. given: Subject properly closes the circuit. Non-specific, average plant conditions. Action: remote; Sq.: N/A; Pre-I.E., Therp Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.0E-3 EF: 3 UCB: LCB: E: N:	3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 1-83 pg. 20-28, item 13 Origin: Simulation Modeling Reference: ----- Vend/EqLvl: MT PlantCode: ALLP
1504654- 1- 1*	Maintenance Technician TESTS the Switch maint. tech fails to restore SIA5 switch after test given: seq=loc; remote; ev=post-ie,poa; therp; Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-4 EF: 10 UCB: LCB: E: N:	2.0E-3 --- 7.5E-3 7.5E-5 0.100 133.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl: MT PlantCode: YKR1
1504654- 2- 1*	Maintenance Technician TESTS the Switch MT fails to activate steam switches given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations Mean: 9.7E-2 Median: 6.0E-2 EF: 5 UCB: 3.0E-1 LCB: 1.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.0E-2 EF: 5 UCB: LCB: E: N:	9.7E-2 --- 3.0E-1 1.2E-2 1.000 16.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 5 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1504654- 3- 1*	Maintenance Technician TESTS the Switch MT fails to restore switches given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations Mean: 9.0E-2 Median: 7.2E-2 EF: 3 UCB: 2.2E-1 LCB: 2.4E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.2E-2 EF: 3 UCB: LCB: E: N:	9.0E-2 --- 2.2E-1 2.4E-2 2.000 27.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 32 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR

* Data point is used in Task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1506250- 1- 1*	Maintenance Technician CALIBRATES the Flow Control Instrument Common mode:failures due to poor safety culture. given: 100% power: errors of intention; P.SFs -> HMI= 7, S/R/K= 7, S.Cult=2, motiv= 6, workload= 7, commu= 8; remote; ;Pre -IE;HRA=INTEI Mean: 6.1E-2 Median: 3.0E-2 EF: 7 UCB: 2.0E-1 LCB: 4.6E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 5.9E-2 Median: 3.0E-2 EF: 7 UCB: 2.0E-1 LCB: 4.6E-3 E: 0.50 N: 16.400	5.9E-2 3.0E-2 7 2.0E-1 4.6E-3 0.50 16.400	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1506251- 1- 1*	Maintenance Technician DIAGNOSES the Flow Control Instrument MT fails to read steam flow indication given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iteration in scenario a 2nd MT performs this action Mean: 8.3E-2 Median: 7.6E-2 EF: 2 UCB: 1.5E-1 LCB: 3.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.3E-2 Median: 7.6E-2 EF: 2 UCB: 1.5E-1 LCB: 3.8E-2 E: 6.000 N: 78.900	8.3E-2 7.6E-2 2 1.5E-1 3.8E-2 6.000 78.900	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 18 Origin: Analytic Reference: 3-85 Vend/EqLvl:MT PlantCode: BWR
1506450- 1- 1*	Maintenance Technician CALIBRATES the Level Control Instrument Common mode:failures due to poor safety culture. given: 100% power: errors of intention; PSFs -> HMI= 7, S/R/K= 7, S.Cult=23, motiv= 6, workload= 7, commu= 8; remote; ;Pre -IE;HRA=INTENT Mean: 6.1E-2 Median: 3.0E-2 EF: 7 UCB: 2.0E-1 LCB: 4.6E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 5.9E-2 Median: 3.0E-2 EF: 7 UCB: 2.0E-1 LCB: 4.6E-3 E: 0.500 N: 16.400	5.9E-2 3.0E-2 7 2.0E-1 4.6E-3 0.500 16.400	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl:MT PlantCode: ALLP
1506650- 1- 1*	Maintenance Technician CALIBRATES the Pressure Control Instrument maintenance tech miscalculates RX pressure instruments given: seq=na; remote; ev=pre ie,poa; the.p Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000	2.7E-4 1.0E-4 10 1.0E-3 1.0E-5 0.100 1000.000	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 3-86 chapter IV, page 187 Origin: Subjective Reference: 4-87 Vend/EqLvl:MT PlantCode: PBS2

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLEAR calc		
1506650- 2- 1*	Maintenance Technician CALIBRATES the Pressure Control Instrument Common mode: failures due to poor safety culture. given: 100% power; errors of intention; PSFs -> HMI= 7, S/R/K= 7, S.Cult=23, motiv= 6, workload= 7, comm= 8; remote; ;Pre -IE; HRA=INTENT Mean: 6.1E-2 Median: 3.0E-2 EF: 7 UCB: 2.0E-1 LCB: 4.6E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 2.0E-1 LCB: 4.6E-3 E: N:	5.9E-2 3.0E-2 7 0.500 16.400	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: MT PlantCode: ALLP
1506850- 1- 1*	Maintenance Technician CALIBRATES the Temperature Control Instrument Common mode: failures due to poor safety culture. given: 100% power; errors of intention; PSFs -> HMI= 7, S/R/K= 7, S.Cult=23, motiv= 6, workload= 7, comm= 8; remote; ;Pre -IE; HRA=INTENT Mean: 6.1E-2 Median: 3.0E-2 EF: 7 UCB: 2.0E-1 LCB: 4.6E-3 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: --- UCB: 2.0E-1 LCB: 4.6E-3 E: N:	5.9E-2 3.0E-2 7 0.500 16.400	ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: 5 Staffing: U Stress : 3 Supervision: 3 Tagging: U Training: 4	Document: 90--1 Table 2 Origin: Subjective Reference: ----- Vend/EqLvl: MT PlantCode: ALLP
1506951- 1- 1*	Maintenance Technician DIAGNOSES the Voltage Control Instrument MT fails to request coltage readings given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing, mechanic makes request of 2nd mechanic Mean: 1.9E-1 Median: 1.7E-1 EF: 2 UCB: 3.4E-1 LCB: 8.5E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.7E-1 EF: 2 UCB: LCB: E: N:	1.9E-1 --- 3.4E-1 8.5E-2 6.000 35.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 17 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1513150- 1- 1*	Maintenance Technician CALIBRATES the Electrical Equipment MT fails to calibrate transmitter given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protect. cloth. for 1 MT; assisted by 2nd MT Mean: 1.7E-1 Median: 1.5E-1 EF: 2 UCB: 3.1E-1 LCB: 7.7E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-1 EF: 2 UCB: LCB: E: N:	1.7E-1 --- 3.1E-1 7.7E-2 6.000 39.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 23 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-S/c	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1513151- 1- 1*	Maintenance Technician DIAGNOSES the Electrical Equipment MT fails to inspect transmitter given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protect. clothing; 1st inspection of transmitt. this scenario Mean: 1.8E-1 Median: 1.7E-1 EF: 2 UCB: 3.3E-1 LCB: 8.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.7E-1 EF: 2 UCB: LCB: E: N:	1.8E-1 --- 3.3E-1 8.3E-2 6.000 36.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 10 Origin: Analytic Reference: 3-85 Vend/EqLvl:MT PlantCode: BWR
1513151- 2- 1*	Maintenance Technician DIAGNOSES the Electrical Equipment MT fails to inspect transmitter given: Full protective clothing, 2nd inspection of transmitter this scenario Test Steam Isolation, Local, , Pre-I.E., POA, MAPPS-50 iterations Mean: 2.1E-1 Median: 1.9E-1 EF: 2 UCB: 3.8E-1 LCB: 9.5E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.9E-1 EF: 2 UCB: LCB: E: N:	2.1E-1 --- 3.8E-1 9.5E-2 6.000 31.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 15 Origin: Analytic Reference: 3-85 Vend/EqLvl:MT PlantCode: BWR
1513154- 1- 1*	Maintenance Technician TESTS the Electrical Equipment maintenance technician fails to test voltage given: 1st "test voltage" in scenario; test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations Mean: 2.3E-1 Median: 1.6E-1 EF: 4 UCB: 6.4E-1 LCB: 4.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.6E-1 EF: 4 UCB: LCB: E: N:	2.3E-1 --- 6.4E-1 4.0E-2 1.500 9.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 2 Origin: Analytic Reference: 3-85 Vend/EqLvl:MT PlantCode: BWR
1513154- 2- 1*	Maintenance Technician TESTS the Electrical Equipment MT fails to test calibrated transmitter given: full protect. clothing on MT; assisted by QC individual; test steam line isolation, local, pre-IE, POA, MAPPS - 50 iterations Mean: 1.3E-1 Median: 1.2E-1 EF: 2 UCB: 2.3E-1 LCB: 5.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-1 EF: 2 UCB: LCB: E: N:	1.3E-1 --- 2.3E-1 5.8E-2 6.000 51.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 25 Origin: Analytic Reference: 3-85 Vend/EqLvl:MT PlantCode: BWR

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1513154- 3- 1*	Maintenance Technician TESTS the Electrical Equipment MT fails to test voltage given: full protect. cloth.; 2nd "test voltage" in scenario; test steam line isolation, local, pre-IE, POA, MAPPS - 50 iterations Mean: 1.9E-1 Median: 1.7E-1 EF: 2 UCB: 3.5E-1 LCB: 8.7E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.7E-1 EF: 2 UCB: LCB: E: N:	1.9E-1 3.5E-1 8.7E-2 6.000 34.400	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 29 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1514454- 1- 1*	Maintenance Technician TESTS the Generator M. tech fails to restore diesel generator after test given: 2 loop PWR; remote; Seq = LOSP; Pre I.E.; POA Mean: 1.3E-3 Median: 5.0E-4 EF: 10 UCB: 5.0E-3 LCB: 5.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 5.0E-4 EF: 10 UCB: LCB: E: N:	1.3E-3 5.0E-3 5.0E-5 0.100 200.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-84 Origin: None Reference: 1-75 Vend/EqLvl: MT PlantCode: CCN1
1516154- 1- 1*	Maintenance Technician TESTS the Equipment - Nonspecific M. fails to obtain procedures given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations Mean: 1.1E-1 Median: 7.7E-2 EF: 4 UCB: 3.1E-1 LCB: 1.9E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.7E-2 EF: 4 UCB: LCB: E: N:	1.1E-1 3.1E-1 1.9E-2 1.500 19.400	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 3 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1516154- 2- 1*	Maintenance Technician TESTS the Equipment - Nonspecific MT fails to don protective clothing given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations Mean: 6.0E-3 Median: 3.0E-3 EF: 7 UCB: 2.1E-2 LCB: 4.3E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-3 EF: 7 UCB: LCB: E: N:	6.0E-3 2.1E-2 4.3E-4 0.500 146.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 8 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		Psis	Document Information
		Raw	NUCLARR calc		
1516154- 3- 1*	Maintenance Technician TESTS the Equipment - Nonspecific MT fails to loosen panel bolts given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing Mean: 1.2E-1 Median: 9.8E-2 EF: 3 UCB: 2.9E-1 LCB: 3.3E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.8E-2 EF: 3 UCB: LCB: E: N:	1.2E-1 --- 2.9E-1 3.3E-2 2.000 20.400	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 9 Origin: Analytic Reference: 3-85 Vend/EqLvl:MT PlantCode: BWR
1516154- 4- 1*	Maintenance Technician TESTS the Equipment - Nonspecific MT fails to obtain tools given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing Mean: 1.5E-1 Median: 1.2E-1 EF: 3 UCB: 3.5E-1 LCB: 3.9E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-1 EF: 3 UCB: LCB: E: N:	1.5E-1 --- 3.5E-1 3.9E-2 2.000 16.900	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 12 Origin: Analytic Reference: 3-85 Vend/EqLvl:MT PlantCode: BWR
1516154- 5- 1*	Maintenance Technician TESTS the Equipment - Nonspecific MT fails to tighten fittings given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing Mean: 1.5E-1 Median: 1.2E-1 EF: 3 UCB: 3.5E-1 LCB: 3.9E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-1 EF: 3 UCB: LCB: E: N:	1.5E-1 --- 3.5E-1 3.9E-2 2.000 16.900	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 13 Origin: Analytic Reference: 3-85 Vend/EqLvl:MT PlantCode: BWR
1516154- 6- 1*	Maintenance Technician TESTS the Equipment - Nonspecific MT fails to obtain test equipment given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.1E-1 LCB: 3.4E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-1 EF: 3 UCB: LCB: E: N:	1.3E-1 --- 3.1E-1 3.4E-2 2.000 19.400	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 19 Origin: Analytic Reference: 3-85 Vend/EqLvl:MT PlantCode: BWR

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1516154- 7- 1*	Maintenance Technician TESTS the Equipment - Nonspecific MT fails to connect test equipment given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing Mean: 1.8E-1 Median: 1.4E-1 EF: 3 UCB: 4.3E-1 LCB: 4.7E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.4E-1 EF: 3 UCB: LCB: E: N:	1.8E-1 --- 4.3E-1 4.7E-2 2.000 14.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 21 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1516154- 8- 1*	Maintenance Technician TESTS the Equipment - Nonspecific MT fails to activate stops on test equipment given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing Mean: 9.5E-2 Median: 7.6E-2 EF: 3 UCB: 2.3E-1 LCB: 2.5E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.6E-2 EF: 3 UCB: LCB: E: N:	9.5E-2 --- 2.3E-1 2.5E-2 2.000 26.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 26 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1516154- 9- 1*	Maintenance Technician TESTS the Equipment - Nonspecific MT fails to return tools and test equipment given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing Mean: 1.5E-1 Median: 1.4E-1 EF: 2 UCB: 2.8E-1 LCB: 6.9E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.4E-1 EF: 2 UCB: LCB: E: N:	1.5E-1 --- 2.8E-1 6.9E-2 6.000 43.400	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 30 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1516154-10- 1*	Maintenance Technician TESTS the Equipment - Nonspecific MT fails to doff protective clothing given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing Mean: 1.1E-2 Median: 8.0E-3 EF: 4 UCB: 3.2E-2 LCB: 2.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.0E-3 EF: 4 UCB: LCB: E: N:	1.1E-2 --- 3.2E-2 2.0E-3 1.500 187.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 31 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PS's	Document Information
		Raw	NUCLARR calc		
1522152- 1- 1*	Maintenance Technician MAINTAINS the Pumps fail to restore HPCS pump to service when out for maintenance given: based on maintenance recovery values from [exp(t/19)] from WASH 1400 seq=tquv,tqux; remote; ev=post-i.e.,rop; Mean: 2.7E-1 Median: 1.1E-1 EF: 9 HCB: 1.0E+0 LCB: 1.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-1 Median: 1.1E-1 EF: --- UCB: 1.0E+0 LCB: 1.2E-2 E: 0.500 N: 4.500	2.7E-1 9 1.0E+0 1.2E-2 0.500 4.500	ATime: 20:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.204,it.3 Origin: Subjective Reference: 1-75 Vend/EqLvl:MT PlantCode: GGST
1522152- 2- 1*	Maintenance Technician MAINTAINS the Pumps fail to restore HPCS pump to service when out for maintenance given: based on maintenance recovery values from [exp(t/19)] from WASH 1400 seq=tquv,tqux; remote; ev=post-i.e.,rop; Mean: 4.3E-1 Median: 3.4E-1 EF: 3 UCB: 1.0E+0 LCB: 1.2E-1 Error type: OMISSION Recovery: CONSIDERED	Mean: 4.3E-1 Median: 3.4E-1 EF: --- UCB: 1.0E+0 LCB: 1.2E-1 E: 2.500 N: 7.300	4.2E-1 3 1.0E+0 1.2E-1 2.500 7.300	ATime: 6J:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-87 Chap.IV,pg.204,it.3 Origin: Subjective Reference: 1-75 Vend/EqLvl:MT PlantCode: GGST
1522152- 3- 1*	Maintenance Technician MAINTAINS the Pumps maintenance tech fails to test/restore AFW pump after testing given: seq=all; remote; ev=pre-ie,poa; therp; 2-loop pur plant Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 E: 0.100 N: 10.000	2.7E-2 10 1.0E-1 1.0E-3 0.100 10.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 6-85 Brookhaven db file Origin: Subjective Reference: 4-84 Vend/EqLvl:MT PlantCode: CWT
1524150- 1- 1*	Maintenance Technician CALIBRATES the Sensors M. tech fails to calibrate containment spray activation sensors given: local; Seq = ALL; Pre I.E. Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 E: 0.100 N: 100.000	2.7E-3 10 1.0E-2 1.0E-4 0.100 100.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 4-85 Brookhaven db file Origin: Simulation Modeling Reference: 1-81 Vend/EqLvl:MT PlantCode: SNPT

* Data point is used in Task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1524154- 1- 1*	Maintenance Technician TESTS the Sensors MT fails to test sensor output given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations Mean: 2.0E-1 Median: 1.8E-1 EF: 2 UCB: 3.6E-1 LCB: 9.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.8E-1 EF: 2 LCB: E: N:	2.0E-1 --- 3.6E-1 9.0E-2 6.000 33.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 6 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1524850- 1- 1*	Maintenance Technician CALIBRATES the Level Sensor maintenance tech fails to calibrate RWST sensors properly given: common cause/redundant trains/sensors seq=NA; local; ev=PI; therp Mean: 2.9E-4 Median: 1.1E-4 EF: 10 UCB: 1.1E-3 LCB: 1.1E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-4 EF: 10 UCB: LCB: E: N:	2.9E-4 --- 1.1E-3 1.1E-5 0.100 909.000	ATime: 00:00:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: 1 Training: U	Document: 2-86 chapter IV, page 193 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: SPS1
1524850- 2- 1*	Maintenance Technician CALIBRATES the Level Sensor common mode mis-calibration of level sensors given: post main. test verification plus independ. verification seq=na; rnote; ev=pre ie,poa; therp Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 E: N:	8.0E-4 --- 3.0E-3 3.0E-5 0.100 333.300	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chapt IV, pg 200 #5 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: GGS1
1524850- 3- 1*	Maintenance Technician CALIBRATES the Level Sensor Common cause miscalibration of CST low level sensors. given: BWR, no compelling signals, written verification assumed, no daily ck. Local; Seq=N/A; Ev=Pre; ASEP Mean: 6.7E-5 Median: 2.5E-5 EF: 10 UCB: 2.5E-4 LCB: 2.5E-6 Error type: COMMISSION Recovery: CONSIDERED	Mean: Median: 2.5E-5 EF: 10 UCB: LCB: E: N:	6.7E-5 --- 2.5E-4 2.5E-6 0.100 4000.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 4-87 ASEP NUREG/CR-4772 Origin: Subjective Reference: ----- Vend/EqLvl: MT PlantCode: PBS

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1525150- 1- 1*	Maintenance Technician CALIBRATES the Pressure Sensor common mode miscalibration of pressure sensors given: post maint. test verification plus independ. verification seq=na; remote; ev=pre ie,poa; therp Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 Error type: COMMISSION Recovery: CONSIDERED	Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 E: N:	8.0E-4 --- 0.100 333.300	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chapt IV, pg 200 #9 Origin: Subjective Reference: 4-87 Vend/EqLvl:MT PlantCode: GGS1
1525150- 2- 1*	Maintenance Technician CALIBRATES the Pressure Sensor maint. tech fails to calibrate SIAS-A pressure detector properly given: seq=loca; remote; ev=post-ie,poa; therp; Mean: 3.2E-3 Median: 1.2E-3 EF: 10 UCB: 1.2E-2 LCB: 1.2E-4 Error type: COMMISSION Recovery: CONSIDERED	Mean: 3.2E-3 Median: 1.2E-3 EF: 10 UCB: 1.2E-2 LCB: 1.2E-4 E: N:	3.2E-3 --- 0.100 83.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl:MT PlantCode: YKR1
1525150- 3- 1*	Maintenance Technician CALIBRATES the Pressure Sensor maint. tech fails to calibrate 2 SIAS pressure detectors given: seq=loca; remote; ev=post-ie,poa; therp; Mean: 1.3E-4 Median: 4.9E-5 EF: 10 UCB: 4.9E-4 LCB: 4.9E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: 1.3E-4 Median: 4.9E-5 EF: 10 UCB: 4.9E-4 LCB: 4.9E-6 E: N:	1.3E-4 --- 0.100 2040.800	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 5-85 Brookhaven db file Origin: Subjective Reference: 2-82 Vend/EqLvl:MT PlantCode: YKR1
1529151- 1- 1*	Maintenance Technician DIAGNOSES the Valves MT fails to inspect valves given: test steam line isolation; local, pre-IE, POA, NAPPS - 50 iterations full protective clothing Mean: 2.1E-1 Median: 2.0E-1 EF: 2 UCB: 3.9E-1 LCB: 9.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.1E-1 Median: 2.0E-1 EF: 2 UCB: 3.9E-1 LCB: 9.8E-2 E: N:	2.1E-1 --- 6.000 30.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 27 Origin: Analytic Reference: 3-85 Vend/EqLvl:MT PlantCode: BWR

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1529152- 1- 1*	Maintenance Technician MAINTAINS the Valves valve not restored after maintenance given: valve restored to proper alignment Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 E: 0.100 N: 100.000	2.7E-3	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-84 pg. 6-33 item 8 Origin: Subjective Reference: 1-83 Vend/EqLvl: MT PlantCode: NEE3
1529152- 2- 1*	Maintenance Technician MAINTAINS the Valves Failure to restore valve after test/maintenance given: Independent verification, pump test of CRD sys.; remote; Seq = NA; Pre I.E., poa; THERP Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300	8.0E-3	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-87 IV - 200, #1 Origin: None Reference: 901-87 Vend/EqLvl: MT PlantCode: GGS1
1529152- 3- 1*	Maintenance Technician MAINTAINS the Valves Failure to restore LPCS pump A suction valve after test/maintenance given: Independent verification; remote; Seq = NA; Pre I.E., POA Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300	8.0E-3	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-87 IV - 200, #2 Origin: None Reference: 901-87 Vend/EqLvl: MT PlantCode: GGS1
1529152- 4- 1*	Maintenance Technician MAINTAINS the Valves M tech fails to restore LPI valve from test & maintenance given: remote; Seq = LOCAs; Pre I.E., poa; THERP Mean: 2.9E-5 Median: 1.1E-5 EF: 10 UCB: 1.1E-4 LCB: 1.1E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.9E-5 Median: 1.1E-5 EF: 10 UCB: 1.1E-4 LCB: 1.1E-6 E: 0.100 N: 9090.900	2.9E-5	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-87 IV, pg. 196, item 2 Origin: Simulation Modeling Reference: 4-87 Vend/EqLvl: MT PlantCode: SW 1/1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1529154- 1- 1*	Maintenance Technician TESTS the Valves maintenance tech fails to restore valve after pump test given: normal conditions seq=pump test; local; ev=pre-initiating; therp Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.0E-3 EF: 10 UCB: LCB: E: N:	2.7E-3 --- 1.0E-2 1.0E-4 0.100 100.000	ATime: 00:00:00 PTime: ----- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervisor: U Tagging: 1 Training: U	Document: 2-86 class 1 page 193 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: PBS1
1529154- 2- 1*	Maintenance Technician TESTS the Valves maintenance tech fails to restore SLCS valve after test given: valves are color coded seq=na; remote; ev=pre ie,poa; therp Mean: 8.7E-3 Median: 7.0E-3 EF: 3 UCB: 2.0E-2 LCB: 2.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.0E-3 EF: --- UCB: 2.0E-2 LCB: E: N:	8.6E-3 3 2.5E-3 2.500 357.100	ATime: 00:00:00 PTime: ----- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervisor: U Tagging: U Training: U	Document: 3-86 chapter IV, page 187 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: PBS2
1529154- 3- 1*	Maintenance Technician TESTS the Valves failure to restore both valves in test return line after test given: 2 of 2 valves must be restored; NEP is combination of indiv. NEPs post maint. test plus independ. verification seq=na; remote; ev=pre ie,poa; therp Mean: 4.8E-3 Median: 1.8E-3 EF: 10 UCB: 1.8E-2 LCB: 1.8E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.8E-3 EF: 10 UCB: 1.8E-2 LCB: 1.8E-4 E: N:	4.8E-3 --- 1.8E-2 1.8E-4 0.100 55.500	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chapt IV, pg 200 #11 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: GGS1
1529154- 4- 1*	Maintenance Technician TESTS the Valves failure to restore valve after test/maintenance (CRD) given: pump test of CRD system plus independ. verification seq=na; remote; ev=pre ie,poa; therp Mean: 8.7E-3 Median: 3.0E-3 EF: 11 UCB: 3.3E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-3 EF: --- UCB: 3.3E-2 LCB: E: N:	8.7E-3 11 3.3E-2 2.7E-4 0.100 33.300	ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chapt IV, pg 200 #1 Origin: Subjective Reference: 4-87 Vend/EqLvl: MT PlantCode: GGS1

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLARR calc	PSFs	
1529154- 5- 1*	Maintenance Technician TESTS the Valves failure to restore pump & suct. on valve after test/maintenance given: independ. verification seq=na; remote; ev=pre ie,pos; therp Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: N:	8.0E-3 --- 0.100 33.300	ATime: 0J:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 chapt IV, pg 200 #2 Origin: Subjective Reference: 4-87 Vend/EqLvl:MT PlantCode: GGS1
1529154- 6- 1*	Maintenance Technician TESTS the Valves fail to restore service water manual valve from test & maintenance given: seq=all; remote; ev=pre-ie; therp Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 E: N:	8.0E-4 --- 0.100 333.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.196,it.4 Origin: Subjective Reference: 4-87 Vend/EqLvl:MT PlantCode: SNP1
1529154- 7- 1*	Maintenance Technician TESTS the Valves fail to restore CCW manual valve from test & maintenance given: seq=all; remote; ev=pre-ie; therp Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.8E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.8E-6 E: N:	1.0E-4 --- 0.100 2631.500	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.196,it.3 Origin: Subjective Reference: 4-87 Vend/EqLvl:MT PlantCode: SNP1
1529154- 8- 1*	Maintenance Technician TESTS the Valves fail to restore LP1 manual valve from test & maintenance given: seq=locals; remote; ev=pre-ie; therp Mean: 2.9E-5 Median: 1.1E-5 EF: 10 UCB: 1.1E-4 LCB: 1.1E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-5 EF: 10 UCB: 1.1E-4 LCB: 1.1E-6 E: N:	2.9E-5 --- 0.100 9090.900	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.196,it.2 Origin: Subjective Reference: 4-87 Vend/EqLvl:MT PlantCode: SNP1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1529154-9-1*	Maintenance Technician TESTS the Valves MT fails to check valve operation light given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations Mean: 9.6E-2 Median: 8.8E-2 EF: 2 UCB: 1.8E-1 LCB: 4.4E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.8E-2 EF: 2 UCB: LCB: E: N:	9.6E-2 --- 1.8E-1 4.4E-2 6.000 68.100	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 7 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1529154-10-1*	Maintenance Technician TESTS the Valves MT fails to activate isolation valve lever given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing; 1st activ. of isolation valve this scenario Mean: 1.0E-1 Median: 8.3E-2 EF: 3 UCB: 2.5E-1 LCB: 2.8E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.3E-2 EF: 3 UCB: LCB: E: N:	1.0E-1 --- 2.5E-1 2.8E-2 2.000 24.100	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 11 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1529154-11-1*	Maintenance Technician TESTS the Valves MT fails to activate isolation valve lever given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing; 2nd activ. of isolation valve this scenario Mean: 1.0E-1 Median: 8.0E-2 EF: 3 UCB: 2.4E-1 LCB: 2.7E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.0E-2 EF: 3 UCB: LCB: E: N:	1.0E-1 --- 2.4E-1 2.7E-2 2.000 25.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 14 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1529154-12-1*	Maintenance Technician TESTS the Valves MT fails to activate isolation valve lever given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing; 3rd activ. of isolation valve this scenario Mean: 1.2E-1 Median: 8.7E-2 EF: 4 UCB: 3.5E-1 LCB: 2.2E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.7E-2 EF: 4 UCB: LCB: E: N:	1.2E-1 --- 3.5E-1 2.2E-2 1.500 17.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 16 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR

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* Data point is used in Task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1529154-13- 1*	Maintenance Technician TESTS the Valves MT fails to activate isolation valve lever given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing; 4th activ. of isolation valve this scenario Mean: 7.6E-2 Median: 6.1E-2 EF: 3 UCB: 1.8E-1 LCB: 2.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.1E-2 EF: 3 UCB: LCB: E: N:	7.6E-2 --- 1.8E-1 2.0E-2 2.000 32.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 20 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1529154-14- 1*	Maintenance Technician TESTS the Valves MT fails to activate equalizing lever given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing; 1st activ. of equal.valve lever this scenar. Mean: 1.2E-1 Median: 7.3E-2 EF: 5 UCB: 3.7E-1 LCB: 1.5E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.3E-2 EF: 5 UCB: LCB: E: N:	1.2E-1 --- 3.7E-1 1.5E-2 1.000 13.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 22 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1529154-15- 1*	Maintenance Technician TESTS the Valves MT fails to activate equalizing valve lever given: test steam line isolation; local, pre-IE, POA, MAPPS - 50 iterations full protective clothing; 2nd activ. of equal.valve lever this scenar. Mean: 1.1E-1 Median: 7.8E-2 EF: 4 UCB: 3.1E-1 LCB: 2.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.8E-2 EF: 4 UCB: LCB: E: N:	1.1E-1 --- 3.1E-1 2.0E-2 1.500 19.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: 3 Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U	Document: 3-88 subtask 28 Origin: Analytic Reference: 3-85 Vend/EqLvl: MT PlantCode: BWR
1529154-16- 1*	Maintenance Technician TESTS the Valves Failure to restore test suction valve after test given: remote; Seq = NA; pre i.e.; THERP Mean: 2.4E-3 Median: 9.0E-4 EF: 10 UCB: 9.0E-3 LCB: 9.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 9.0E-4 EF: 10 UCB: LCB: E: N:	2.4E-3 --- 9.0E-3 9.0E-5 0.100 111.100	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-87 IV - 200, #12 Origin: None Reference: 901-87 Vend/eqLvl: MT PlantCode: GGS1

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1531654- 1- 1*	Maintenance Technician TESTS the Pneumatic failure to restore air operated valve from test & maintenance given: seq=all; remote; ev=pre-ie; therp Mean: 2.9E-5 Median: 1.1E-5 EF: 10 UCB: 1.1E-4 LCB: 1.1E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.1E-5 EF: 10 UCB: LCB: E: N:	2.9E-5 --- 1.1E-4 1.1E-6 0.100 9090.900	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.196,it.5 Origin: Subjective Reference: 4-87 Vend/EqLvl:MT PlantCode: SNP1
1531654- 2- 1*	Maintenance Technician TESTS the Pneumatic M tech fails to restore service water air operated valve after test given: remote; seq = ALL; Pre I.E.; THERP Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.0E-4 EF: 10 UCB: LCB: E: N:	8.0E-4 --- 3.0E-3 3.0E-5 0.100 333.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 2-87 chap.IV,pg.196,it.6 Origin: Simulation Modeling Reference: 4-87 Vend/EqLvl:MT PlantCode: SNP1
1600166- 1- 1*	Personnel READS the Qualitative Displays personnel fail to read qualitative display properly (circular scale) given: 1.6-1.75" diam, mov. pointer, 1/4-2" intern. spacing, poor brightness no specifics on event, location, or sequence Mean: 6.7E-3 Median: 2.5E-3 EF: 10 UCB: 2.5E-2 LCB: 2.5E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 2.5E-3 EF: 10 UCB: LCB: E: N:	6.7E-3 --- 2.5E-2 2.5E-4 0.100 39.600	ATime: ---:---:--- PTime: 00:00:04 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP
1600166- 2- 1*	Personnel READS the Qualitative Displays personnel fail to read qualitative display properly (circular scale) given: 2.75" diam, mov. pointer, 1/20-1/4" intern. spacing, good brightness no specifics on event, location, or sequence Mean: 5.1E-3 Median: 1.9E-3 EF: 10 UCB: 1.9E-2 LCB: 1.9E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.9E-3 EF: 10 UCB: LCB: E: N:	5.1E-3 --- 1.9E-2 1.9E-4 0.100 52.000	ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600166- 3- 1*	<p>Personnel READS the Qualitative Displays personal fail to read qualitative display properly (circular scale) given: 2.75"diam,mov.pointer,1/4-2"intern.spacing,poor brightness no specifics on event, location, or sequence</p> <p>Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 E: 0.100 N: 37.400</p>	<p>7.1E-3 --- 2.7E-2 2.7E-4 0.100 37.400</p>	<p>ATime: ---:---:--- PTime: 00:00:04 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600166- 4- 1*	<p>Personnel READS the Qualitative Displays personal fail to read qualitative display properly (circular scale) given: 2.75"diam,mov. scale,1/20-1/4"intern.spacing,poor brightness no specifics on event, location, or sequence</p> <p>Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.200</p>	<p>9.1E-3 --- 3.4E-2 3.4E-4 0.100 29.200</p>	<p>ATime: ---:---:--- PTime: 00:00:05 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600166- 5- 1*	<p>Personnel READS the Qualitative Displays personal fail to read qualitative display properly (circular scale) given: 1.6-1.75"diam,mov. scale,1/20-1/4"intern.spacing,poor brightness no specifics on event, location, or sequence</p> <p>Mean: 8.7E-3 Median: 3.3E-3 EF: 10 UCB: 3.3E-2 LCB: 3.3E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 8.7E-3 Median: 3.3E-3 EF: 10 UCB: 3.3E-2 LCB: 3.3E-4 E: 0.100 N: 30.500</p>	<p>8.7E-3 - 3E-2 .3E-4 0.100 30.500</p>	<p>ATime: ---:---:--- PTime: 00:00:05 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600166- 6- 1*	<p>Personnel READS the Qualitative Displays personal fail to read qualitative display properly (circular scale) given: 1.6-1.75"diam,mov.pointer,1/20-1/4"intern.spacing,poor brightness no specifics on event, location, or sequence</p> <p>Mean: 7.7E-3 Median: 2.9E-3 EF: 10 UCB: 2.9E-2 LCB: 2.9E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 7.7E-3 Median: 2.9E-3 EF: 10 UCB: 2.9E-2 LCB: 2.9E-4 E: 0.100 N: 34.600</p>	<p>7.7E-3 --- 2.9E-2 2.9E-4 0.100 34.600</p>	<p>ATime: ---:---:--- PTime: 00:00:05 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			Document Information
		Raw	NUCLARR calc	PSFs	
1600166-7-1*	<p>Personnel READS the Qualitative Displays personal fail to read qualitative display properly (circular scale) given: 2.75"diam,mov.pointer,1/20-1/4"intern.spacing,poor brightness no specifics on event, location, or sequence</p> <p>Mean: 8.1E-3 Median: 3.1E-3 EF: 10 UCB: 3.1E-2 LCB: 3.1E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 8.1E-3 Median: 3.1E-3 EF: 10 UCB: 3.1E-2 LCB: 3.1E-4 E: 0.100 N: 32.700</p>	<p>6.1E-3 --- 3.1E-2 3.1E-4 0.100 32.700</p>	<p>ATime: ---:---:--- PTime: 00:00:05 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600166-8-1*	<p>Personnel READS the Qualitative Displays personal fail to read qualitative display properly (circular scale) given: 1.6-1.75"diam,mov.pointer,1/4-2"intern.spacing,good brightness no specifics on event, location, or sequence</p> <p>Mean: 3.7E-3 Median: 1.4E-3 EF: 10 UCB: 1.4E-2 LCB: 1.4E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.7E-3 Median: 1.4E-3 EF: 10 UCB: 1.4E-2 LCB: 1.4E-4 E: 0.100 N: 71.900</p>	<p>3.7E-3 --- 1.4E-2 1.4E-4 0.100 71.900</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600166-9-1*	<p>Personnel READS the Qualitative Displays personal fail to read qualitative display properly (circular scale) given: 2.75"diam,mov.pointer,1/4-2"intern.spacing,good brightness no specifics on event, location, or sequence</p> <p>Mean: 4.1E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.1E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 64.900</p>	<p>4.1E-3 --- 1.5E-2 1.5E-4 0.100 64.900</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600166-10-1*	<p>Personnel READS the Qualitative Displays personal fail to read qualitative display properly (circular scale) given: 2.75"diam,mov. scale,1/20-1/4"intern.spacing,good brightness no specifics on event, location, or sequence</p> <p>Mean: 6.1E-3 Median: 2.3E-3 EF: 10 UCB: 2.3E-2 LCB: 2.3E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 6.1E-3 Median: 2.3E-3 EF: 10 UCB: 2.3E-2 LCB: 2.3E-4 E: 0.100 N: 43.600</p>	<p>6.1E-3 --- 2.3E-2 2.3E-4 0.100 43.600</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600166-11- 1*	Personnel READS the Qualitative Displays personal fail to read qualitative display properly (circular scale) given: 1.6-1.75" diam, mov. scale, 1/20-1/4" intern. spacing, good brightness no specifics on event, location, or sequence Mean: 5.7E-3 Median: 2.1E-3 EF: 10 UCB: 2.1E-2 LCB: 2.1E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 2.1E-3 EF: 10 UCB: LCB: E: N:	5.7E-3 --- 2.1E-2 2.1E-4 0.100 46.700	ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP
1600166-12- 1*	Personnel READS the Qualitative Displays personal fail to read qualitative display properly (circular scale) given: 1.6-1.75" diam, mov. pointer, 1/20-1/4" intern. spacing, good brightness no specifics on event, location, or sequence Mean: 5.0E-3 Median: 1.9E-3 EF: 10 UCB: 1.9E-2 LCB: 1.9E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.9E-3 EF: 10 UCB: LCB: E: N:	5.0E-3 --- 1.9E-2 1.9E-4 0.100 53.100	ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 Appendix A, A-3, A-2 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP
1600264- 1- 1*	Personnel IDENTIFIES the Indicator Light personal fail to notice changes in indicator status given: only 1 display; modular org; adequate time; hi visibility no specifics on event, location, or sequence Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-5 EF: 10 UCB: LCB: E: N:	2.0E-4 --- 7.5E-4 7.5E-6 0.100 1329.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 pg. b-10 Origin: Laboratory Reference: --- Vend/EqLvl: Subj PlantCode: ALLP
1600264- 2- 1*	Personnel IDENTIFIES the Indicator Light personal fail to notice changes in indicator status given: display=4 of 8; non-modular org; minimal time; low visibility no specifics on event, location, or sequence Mean: 8.4E-2 Median: 3.1E-2 EF: 10 UCB: 3.1E-1 LCB: 3.1E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.1E-2 EF: 10 UCB: LCB: E: N:	8.4E-2 --- 3.1E-1 3.1E-3 0.100 3.100	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 pg. b-10 Origin: Laboratory Reference: --- Vend/EqLvl: Subj PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600264- 3- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1 of 8; non-modular org; minimal time; low visibility no specifics on event, location, or sequence</p> <p>Mean: 4.2E-2 Median: 1.6E-2 EF: 10 UCB: 1.6E-1 LCB: 1.6E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 1.6E-2 EF: 10 UCB: LCB: E: N:</p>	<p>4.2E-2 --- 1.6E-1 1.6E-3 0.100 6.400</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264- - 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1; non-modular org; minimal time; low visibility no specifics on event, location, or sequence</p> <p>Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 7.5E-4 EF: 10 UCB: LCB: E: N:</p>	<p>2.0E-3 --- 7.5E-3 7.5E-5 0.100 133.000</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264- 5- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=4 of 8; modular org; minimal time; low visibility no specifics on event, location, or sequence</p> <p>Mean: 7.1E-2 Median: 2.7E-2 EF: 10 UCB: 2.7E-1 LCB: 2.7E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 2.7E-2 EF: 10 UCB: LCB: E: N:</p>	<p>7.1E-2 --- 2.7E-1 2.7E-3 0.100 3.700</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264- 6- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1 of 8; modular org; minimal time; low visibility no specifics on event, location, or sequence</p> <p>Mean: 3.5E-2 Median: 1.3E-2 EF: 10 UCB: 1.3E-1 LCB: 1.3E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 1.3E-2 EF: 10 UCB: LCB: E: N:</p>	<p>3.5E-2 --- 1.3E-1 1.3E-3 0.100 7.500</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
1600264-7-1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1; modular org; minimal time; low visibility no specifics on event, location, or sequence</p> <p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 E: 0.100 N: 147.700</p>	<p>4.1E-3 --- --- --- --- --- 147.700</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264-8-1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=4 of 8; non-modular org; adequate time; low visibility no specifics on event, location, or sequence</p> <p>Mean: 4.4E-2 Median: 1.7E-2 EF: 10 UCB: 1.7E-1 LCB: 1.7E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 4.4E-2 Median: 1.7E-2 EF: 10 UCB: 1.7E-1 LCB: 1.7E-3 E: 0.100 N: 6.000</p>	<p>4.4E-2 --- --- --- --- --- 6.000</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264-9-1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1 of 8; non-modular org; adequate time; low visibility no specifics on event, location, or sequence</p> <p>Mean: 2.4E-2 Median: 8.9E-3 EF: 10 UCB: 8.9E-2 LCB: 8.9E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.4E-2 Median: 8.9E-3 EF: 10 UCB: 8.9E-2 LCB: 8.9E-4 E: 0.100 N: 11.200</p>	<p>2.4E-2 --- --- --- --- --- 11.200</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264-10-1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=4 of 8; modular org; adequate time; low visibility no specifics on event, location, or sequence</p> <p>Mean: 4.0E-2 Median: 1.5E-2 EF: 10 UCB: 1.5E-1 LCB: 1.5E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 4.0E-2 Median: 1.5E-2 EF: 10 UCB: 1.5E-1 LCB: 1.5E-3 E: 0.100 N: 6.600</p>	<p>4.0E-2 --- --- --- --- --- 6.600</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600264-11- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1; non-modular org; adequate time; low visibility no specifics on event, location, or sequence</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 266.000</p>	<p>1.0E-3 --- 3.8E-3 3.8E-5 0.100 266.000</p>	<p>x*Time: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ---:---:--- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264-12- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1 of 8; modular org; adequate time; low visibility no specifics on event, location, or sequence</p> <p>Mean: 2.0E-2 Median: 7.5E-3 EF: 10 UCB: 7.5E-2 LCB: 7.5E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.0E-2 Median: 7.5E-3 EF: 10 UCB: 7.5E-2 LCB: 7.5E-4 E: 0.100 N: 13.300</p>	<p>2.0E-2 --- 7.5E-2 7.5E-4 0.100 13.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ---:---:--- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264-13- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1; modular org; adequate time; low visibility no specifics on event, location, or sequence</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 266.000</p>	<p>1.0E-3 --- 3.8E-3 3.8E-5 0.100 266.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ---:---:--- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264-14- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=4 of 8; non-modular org; minimal time; high visibility no specifics on event, location, or sequence</p> <p>Mean: 4.4E-2 Median: 1.7E-2 EF: 10 UCB: 1.7E-1 LCB: 1.7E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 4.4E-2 Median: 1.7E-2 EF: 10 UCB: 1.7E-1 LCB: 1.7E-3 E: 0.100 N: 6.000</p>	<p>4.4E-2 --- 1.7E-1 1.7E-3 0.100 6.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ---:---:--- Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATED WS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600264-15- 1*	Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1 of 8; non-modular org; minimal time; high visibility no specifics on event, location, or sequence Mean: 2.4E-2 Median: 8.9E-3 EF: 10 UCB: 8.9E-2 LCB: 8.9E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 8.9E-3 EF: 10 UCB: LCB: E: N:	2.4E-2 --- 8.9E-2 8.9E-4 0.100 11.200	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP
1600264-16- 1*	Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1; non-modular org; minimal time; high visibility no specifics on event, location, or sequence Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 3.8E-4 EF: 10 UCB: LCB: E: N:	1.0E-3 --- 3.8E-3 3.8E-5 0.100 266.000	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP
1600264-17- 1*	Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=4 of 8; modular org; minimal time; high visibility no specifics on event, location, or sequence Mean: 4.0E-2 Median: 1.5E-2 EF: 10 UCB: 1.5E-1 LCB: 1.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-2 EF: 10 UCB: LCB: E: N:	4.0E-2 --- 1.5E-1 1.5E-3 0.100 6.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP
1600264-18- 1*	Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1 of 8; modular org; minimal time; high visibility no specifics on event, location, or sequence Mean: 2.0E-2 Median: 7.5E-3 EF: 10 UCB: 7.5E-2 LCB: 7.5E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 7.5E-3 EF: 10 UCB: LCB: E: N:	2.0E-2 --- 7.5E-2 7.5E-4 0.100 13.300	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600264-19- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1; modular org; minimal time; high visibility no specifics on event, location, or sequence</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 286.000</p>	<p>1.0E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264-20- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=4 of 8; non-modular org; adequate time; high visibility no specifics on event, location, or sequence</p> <p>Mean: 1.1E-2 Median: 4.0E-3 EF: 10 UCB: 4.0E-2 LCB: 4.0E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.1E-2 Median: 4.0E-3 EF: 10 UCB: 4.0E-2 LCB: 4.0E-4 E: 0.100 N: 24.800</p>	<p>1.1E-2 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264-21- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1 of 8; non-modular org; adequate time; high visibility no specifics on event, location, or sequence</p> <p>Mean: 5.7E-3 Median: 2.1E-3 EF: 10 UCB: 2.1E-2 LCB: 2.1E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.7E-3 Median: 2.1E-3 EF: 10 UCB: 2.1E-2 LCB: 2.1E-4 E: 0.100 N: 46.600</p>	<p>5.7E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264-22- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1; non-modular org; adequate time; high visibility no specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1329.700</p>	<p>2.0E-4 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600264-23- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=4 of 8; modular org; adequate time; high visibility no specifics on event, location, or sequence</p> <p>Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 3.4E-3 EF: 10 UCB: LCB: E: N:</p>	<p>9.1E-3 --- 3.4E-2 3.4E-4 0.100 29.200</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600264-24- 1*	<p>Personnel IDENTIFIES the Indicator Light personnel fail to notice changes in indicator status given: display=1 of 8; modular org; adequate time; high visibility no specifics on event, location, or sequence</p> <p>Mean: 4.8E-3 Median: 1.8E-3 EF: 10 UCB: 1.8E-2 LCB: 1.8E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 1.8E-3 EF: 10 UCB: LCB: E: N:</p>	<p>4.8E-3 --- 1.8E-2 1.8E-4 0.100 55.400</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-10 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364- 1- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display=1 of 8; nonmodular org; minimal time; low visibility No specifics on event, location, or sequence</p> <p>Mean: 4.2E-2 Median: 1.6E-2 EF: 10 UCB: 1.6E-1 LCB: 1.6E-1 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 1.6E-2 EF: 10 UCB: LCB: E: N:</p>	<p>4.2E-2 --- 1.6E-1 1.6E-3 0.100 6.400</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364- 2- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Only 1 display; nonmodular org; minimal time; low visibility No specifics on event, location, or sequence</p> <p>Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 7.5E-4 EF: 10 UCB: LCB: E: N:</p>	<p>2.0 --- 7.5E-3 7.5E-5 0.100 133.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600364- 3- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display=4 of 8; modular org; minimal time; low visibility No specifics on event, location, or sequence</p> <p>Mean: 7.1E-2 Median: 2.7E-2 EF: 10 UCB: 2.7E-1 LCB: 2.7E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 7.1E-2 Median: 2.7E-2 EF: 10 UCB: 2.7E-1 LCB: 2.7E-3 E: 0.100 N: 3.700</p>	<p>7.1E-2 --- 2.7E-1 2.7E-3 0.100 3.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364- 4- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display=1 of 8; modular org; minimal time; low visibility No specifics on event, location, or sequence</p> <p>Mean: 3.5E-2 Median: 1.3E-2 EF: 10 UCB: 1.3E-1 LCB: 1.3E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.5E-2 Median: 1.3E-2 EF: 10 UCB: 1.3E-1 LCB: 1.3E-3 E: 0.100 N: 7.500</p>	<p>3.5E-2 --- 1.3E-1 1.3E-3 0.100 7.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364- 5- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Only 1 display; modular org; minimal time; low visibility No specifics on event, location, or sequence</p> <p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 E: 0.100 N: 147.700</p>	<p>1.8E-3 --- 6.8E-3 6.8E-5 0.100 147.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364- 6- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display = 4 of 8; nonmodular org; adequate time; low visibility No specifics on event, location, or sequence</p> <p>Mean: 4.4E-2 Median: 1.7E-2 E: 10 UCB: 1.7E-1 LCB: 1.7E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 4.4E-2 Median: 1.7E-2 E: 10 UCB: 1.7E-1 LCB: 1.7E-3 E: 0.100 N: 6.000</p>	<p>4.4E-2 --- 1.7E-1 1.7E-3 0.100 6.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600364- 7- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display = 1 of 8; nonmodular org; adequate time; low visibility No specifics on event, location, or sequence</p> <p>Mean: 2.4E-2 Median: 8.9E-3 EF: 10 UCB: 8.9E-2 LCB: 8.9E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.4E-2 Median: 8.9E-3 EF: 10 UCB: 8.9E-2 LCB: 8.9E-4 E: 0.100 N: 11.200</p>	<p>2.4E-2 --- 8.9E-2 8.9E-4 0.100 11.200</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364- 8- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Only 1 display; nonmodular org; adequate time; low visibility No specifics on even. location, or sequence</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-5 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-5 LCB: 3.8E-5 E: 0.100 N: 266.000</p>	<p>1.0E-3 --- 3.8E-3 3.8E-5 0.100 266.000</p>	<p>ATime: ---: --- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364- 9- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display = 4 of 8; modular org; adequate time; low visibility No specifics on event, location, or sequence</p> <p>Mean: 4.0E-2 Median: 1.5E-2 EF: 10 UCB: 1.5E-1 LCB: 1.5E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 4.0E-2 Median: 1.5E-2 EF: 10 UCB: 1.5E-1 LCB: 1.5E-3 E: 0.100 N: 6.600</p>	<p>4.0E-2 --- 1.5E-1 1.5E-3 0.100 6.600</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364-10- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display = 1 of 8; modular org; adequate time; low visibility No specifics on event, location, or sequence</p> <p>Mean: 2.0E-2 Median: 7.5E-3 EF: 10 UCB: 7.5E-2 LCB: 7.5E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.0E-2 Median: 7.5E-3 EF: 10 UCB: 7.5E-2 LCB: 7.5E-4 E: 0.100 N: 13.300</p>	<p>2.0E-2 --- 7.5E-2 7.5E-4 0.100 13.300</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600364-11- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Only 1 display; modular org; adequate time; low visibility No specifics on event, location, or sequence</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 266.000</p>	<p>1.0E-3 --- 3.8E-3 3.8E-5 0.100 266.000</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364-12- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display= 4 of 8; non-modular org; minimal time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 4.4E-2 Median: 1.7E-2 EF: 10 UCB: 1.7E-1 LCB: 1.7E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 4.4E-2 Median: 1.7E-2 EF: 10 UCB: 1.7E-1 LCB: 1.7E-3 E: 0.100 N: 6.000</p>	<p>4.4E-2 --- 1.7E-1 1.7E-3 0.100 6.000</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364-13- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display= 1 of 8; non-modular org; minimal time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 2.4E-2 Median: 8.9E-3 EF: 10 UCB: 8.9E-2 LCB: 8.9E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.4E-2 Median: 8.9E-3 EF: 10 UCB: 8.9E-2 LCB: 8.9E-4 E: 0.100 N: 11.200</p>	<p>2.4E-2 --- 8.9E-2 8.9E-4 0.100 11.200</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364-14- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Only 1 display; non-modular org; minimal time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 266.000</p>	<p>1.0E-3 --- 3.8E-3 3.8E-5 0.100 266.000</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600364-15- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display = 4 of 8; modular org; minimal time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 4.0E-2 Median: 1.5E-2 EF: 10 UCB: 1.5E-1 LCB: 1.5E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 4.0E-2 Median: 1.5E-2 EF: 10 UCB: 1.5E-1 LCB: 1.5E-3 E: 0.100 N: 6.600</p>	<p>4.0E-2 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364-16- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display = 1 of 8; modular org; minimal time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 2.0E-2 Median: 7.5E-3 EF: 10 UCB: 7.5E-2 LCB: 7.5E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.0E-2 Median: 7.5E-3 EF: 10 UCB: 7.5E-2 LCB: 7.5E-4 E: 0.100 N: 13.300</p>	<p>2.0E-2 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364-17- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Only 1 display; modular org; minimal time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 266.000</p>	<p>1.0E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364-18- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display = 4 of 8; non-modular org; adequate time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 1.1E-2 Median: 4.0E-3 EF: 10 UCB: 4.0E-2 LCB: 4.0E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.1E-2 Median: 4.0E-3 EF: 10 UCB: 4.0E-2 LCB: 4.0E-4 E: 0.100 N: 24.800</p>	<p>1.1E-2 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600364-19- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display = 1 of 8; non-modular org; adequate time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 5.7E-3 Median: 2.1E-3 EF: 10 UCB: 2.1E-2 LCB: 2.1E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.7E-3 Median: 2.1E-3 EF: 10 UCB: 2.1E-2 LCB: 2.1E-4 E: 0.100 N: 46.600</p>	<p>7.5E-3 --- 2.1E-2 2.1E-4 0.100 46.600</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364-20- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Only 1 display; non-modular org; adequate time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 7.5E-5 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1329.700</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1329.700</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364-21- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display = 4 of 8; modular org; adequate time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 9.1E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.4E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.200</p>	<p>9.1E-3 --- 3.4E-2 3.4E-4 0.100 29.200</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600364-22- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Display = 1 of 8; modular org; adequate time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 4.8E-3 Median: 1.8E-3 EF: 10 UCB: 1.8E-2 LCB: 1.8E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.8E-3 Median: 1.8E-3 EF: 10 UCB: 1.8E-2 LCB: 1.8E-4 E: 0.100 N: 55.400</p>	<p>4.8E-3 --- 1.8E-2 1.8E-4 0.100 55.400</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. 8-10(BunkerRamo) Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600364-23- 1*	<p>Personnel IDENTIFIES the Legend Light Personnel fail to notice change in indicator status. given: Only 1 display; modular org; adequate time; high visibility No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1329.700</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1329.700</p>	<p>A*Time: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. B-10(BunkerRamo) Origin: Laboratory Reference: 1-A7 Vend/EqLvl:Subj PlantCode: ALLP</p>
1600569- 1- 1*	<p>Personnel DIAGNOSES the Annunciator subject fails to diagnose annunciated event during time allotted given: subject diagnoses annunciated event during time allotted minimal amount of time</p> <p>Mean: 1.0E+0 Median: 1.0E+0 EF: 1 UCB: 1.0E+0 LCB: 1.0E+0 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E+0 Median: 1.0E+0 EF: 1 UCB: 1.0E+0 LCB: 1.0E+0 E: 20.000 N: 20.000</p>	<p>1.0E+0 --- 1.0E+0 1.0E+0 20.000 20.000</p>	<p>A*Time: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 3 Stress : 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-17, item 1 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600569- 2- 1*	<p>Personnel DIAGNOSES the Annunciator subject fails to diagnose annunciated event during time allot given: subject diagnosis annunciated event during time allot CR personnel still engaged in diagnosing 1st event Minimal amount of time</p> <p>Mean: 1.0E+0 Median: 1.0E+0 EF: 1 UCB: 1.0E+0 LCB: 1.0E+0 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E+0 Median: 1.0E+0 EF: 1 UCB: 1.0E+0 LCB: 1.0E+0 E: 20.000 N: 20.000</p>	<p>1.0E+0 --- 1.0E+0 1.0E+0 20.000 20.000</p>	<p>A*Time: 00:01:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 3 Stress : 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-17, item 7 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600569- 3- 1*	<p>Personnel DIAGNOSES the Annunciator subject fails to diagnose annunciated event during time allot given: subject diagnosis annunciated event during time allot n Limited amount of time</p> <p>Mean: 5.5E-1 Median: 5.0E-1 EF: 2 UCB: 1.0E+0 LCB: 2.5E-1 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.5E-1 Median: 5.0E-1 EF: 2 UCB: 1.0E+0 LCB: 2.5E-1 E: 6.000 N: 12.000</p>	<p>5.5E-1 --- 1.0E+0 2.5E-1 6.000 12.000</p>	<p>A*Time: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 3 Stress : 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-17, item 2 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600569- 4- 1*	<p>Personnel DIAGNOSES</p> <p>the Annunciator</p> <p>subject fails to diagnose annunciated event during time allot</p> <p>given: subject diagnosis annunciated event during time allot n</p> <p>Moderate amount of time</p> <p>Mean: 2.7E-1 Median: 1.0E-1 EF: 10 UCB: 1.0E+0 LCB: 1.0E-2</p> <p>Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-1</p> <p>Median: 1.0E-1</p> <p>EF: 10</p> <p>UCB: 1.0E+0</p> <p>LCB: 1.0E-2</p> <p>E: 0.100</p> <p>N: 1.000</p>	<p>2.7E-1</p> <p>---</p> <p>1.0E+0</p> <p>1.0E-2</p> <p>0.100</p> <p>1.000</p>	<p>ATime: 00:20:00</p> <p>PTime: ---:---:---</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: 3</p> <p>Stress : 3</p> <p>Supervision: U</p> <p>Tagging: U</p> <p>Training: U</p>	<p>Document: 1-83</p> <p>pg. 20-17, item 3</p> <p>Origin: Simulation Modeling</p> <p>Reference: -----</p> <p>Vend/EqLvl:Subj</p> <p>PlantCode: ALLP</p>
1600569- 5- 1*	<p>Personnel DIAGNOSES</p> <p>the Annunciator</p> <p>subject fails to diagnose annunciated event during time allot</p> <p>given: subject diagnosis annunciated event during time allot n</p> <p>Ample amount of time</p> <p>Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3</p> <p>Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-2</p> <p>Median: 1.0E-2</p> <p>EF: 10</p> <p>UCB: 1.0E-1</p> <p>LCB: 1.0E-3</p> <p>E: 0.100</p> <p>N: 10.000</p>	<p>2.7E-2</p> <p>---</p> <p>1.0E-1</p> <p>1.0E-3</p> <p>0.100</p> <p>10.000</p>	<p>ATime: 00:30:00</p> <p>PTime: ---:---:---</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: 3</p> <p>Stress : 3</p> <p>Supervision: U</p> <p>Tagging: U</p> <p>Training: U</p>	<p>Document: 1-83</p> <p>pg. 20-17, item 4</p> <p>Origin: Simulation Modeling</p> <p>Reference: -----</p> <p>Vend/EqLvl:Subj</p> <p>PlantCode: ALLP</p>
1600569- 6- 1*	<p>Personnel DIAGNOSES</p> <p>the Annunciator</p> <p>subject fails to diagnose annunciated event during time allot</p> <p>given: subject diagnosis annunciated event during time allot n</p> <p>Ample amount of time</p> <p>Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4</p> <p>Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-3</p> <p>Median: 1.0E-3</p> <p>EF: 10</p> <p>UCB: 1.0E-2</p> <p>LCB: 1.0E-4</p> <p>E: 0.100</p> <p>N: 100.000</p>	<p>2.7E-3</p> <p>---</p> <p>1.0E-2</p> <p>1.0E-4</p> <p>0.100</p> <p>100.000</p>	<p>ATime: 01:00:00</p> <p>PTime: ---:---:---</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: 3</p> <p>Stress : 3</p> <p>Supervision: U</p> <p>Tagging: U</p> <p>Training: U</p>	<p>Document: 1-83</p> <p>pg. 20-17, item 5</p> <p>Origin: Simulation Modeling</p> <p>Reference: -----</p> <p>Vend/EqLvl:Subj</p> <p>PlantCode: ALLP</p>
1600569- 7- 1*	<p>Personnel DIAGNOSES</p> <p>the Annunciator</p> <p>subject fails to diagnose annunciated event during time allot</p> <p>given: subject diagnosis annunciated event during time allot n</p> <p>Ample amount of time</p> <p>Mean: 8.5E-4 Median: 1.0E-4 EF: 30 UCB: 3.0E-3 LCB: 3.3E-6</p> <p>Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 8.5E-4</p> <p>Median: 1.0E-4</p> <p>EF: 30</p> <p>UCB: 3.0E-3</p> <p>LCB: 3.3E-6</p> <p>E: 0.100</p> <p>N: 1000.000</p>	<p>8.5E-4</p> <p>---</p> <p>3.0E-3</p> <p>3.3E-6</p> <p>0.100</p> <p>1000.000</p>	<p>ATime: 23:59:59</p> <p>PTime: ---:---:---</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: 3</p> <p>Stress : 3</p> <p>Supervision: U</p> <p>Tagging: U</p> <p>Training: U</p>	<p>Document: 1-83</p> <p>pg. 20-17, item 6</p> <p>Origin: Simulation Modeling</p> <p>Reference: -----</p> <p>Vend/EqLvl:Subj</p> <p>PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600569- 8- 1*	<p>Personnel DIAGNOSES the Annunciator subject fails to diagnose annunciated event during time allot given: subject diagnosis annunciated event during time allot CR personnel still engaged in diagnosing 1st event limited amount of time</p> <p>Mean: 1.0E+0 Median: 1.0E+0 EF: 1 UCB: 1.0E+0 LCB: 1.0E+0 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E+0 Median: 1.0E+0 EF: 1 UCB: 1.0E+0 LCB: 1.0E+0 E: 20.000 N: 20.000</p>	<p>1.0E+0 --- 1.0E+0 1.0E+0 20.000 20.000</p>	<p>ATime: 00:10:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 3 Stress : 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-17, item 8 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600569- 9- 1*	<p>Personnel DIAGNOSES the Annunciator subject fails to diagnose annunciated event during time allot given: subject diagnosis annunciated event during time allot CR personnel still engaged in diagnosing 1st event Moderate amount of time</p> <p>Mean: 5.5E-1 Median: 5.0E-1 EF: 2 UCB: 1.0E+0 LCB: 2.5E-1 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.0E-1 Median: 5.0E-1 EF: 2 UCB: 1.0E+0 LCB: 2.5E-1 E: 6.000 N: 12.000</p>	<p>5.5E-1 --- 1.0E+0 2.5E-1 6.000 12.000</p>	<p>ATime: 00:20:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 3 Stress : 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-17, item 9 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600569-10- 1*	<p>Personnel DIAGNOSES the Annunciator subject fails to diagnose annunciated event during time allot given: subject diagnosis annunciated event during time allot CR personnel still engaged in diagnosing 1st event Ample amount of time</p> <p>Mean: 2.7E-1 Median: 1.0E-1 EF: 10 UCB: 1.0E+0 LCB: 1.0E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-1 Median: 1.0E-1 EF: 10 UCB: 1.0E+0 LCB: 1.0E-2 E: 0.100 N: 1.000</p>	<p>2.7E-1 --- 1.0E+0 1.0E-2 0.100 1.000</p>	<p>ATime: 00:30:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 3 Stress : 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-17, item 10 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600569-11- 1*	<p>Personnel DIAGNOSES the Annunciator subject fails to diagnose annunciated event during time allot given: subject diagnosis annunciated event during time allot CR personnel still engaged in diagnosing 1st event Ample amount of time</p> <p>Mean: 2.7E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-2 Median: 1.0E-2 EF: 10 UCB: 1.0E-1 LCB: 1.0E-3 E: 0.100 N: 10.000</p>	<p>2.7E-2 --- 1.0E-1 1.0E-3 0.100 10.000</p>	<p>ATime: 00:40:00 PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 3 Stress : 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-17, item 11 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600569-12- 1*	<p>Personnel DIAGNOSES</p> <p>the Annunciator</p> <p>subject fails to diagnose annunciated event during time allot given: subject diagnosis annunciated event during time allot CR personnel still engaged in diagnosing 1st event</p> <p>Ample amount of time</p> <p>Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4</p> <p>Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-3</p> <p>Median: 1.0E-3</p> <p>EF: 10</p> <p>UCB: 1.0E-2</p> <p>LCB: 1.0E-4</p> <p>E: 0.100</p> <p>N: 100.000</p>	<p>2.7E-3</p> <p>---</p> <p>1.0E-2</p> <p>1.0E-4</p> <p>0.100</p> <p>100.000</p>	<p>ATime: 01:10:00</p> <p>PTime: ---:---:---</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: 3</p> <p>Stress : 3</p> <p>Supervision: U</p> <p>Tagging: U</p> <p>Training: U</p>	<p>Document: 1-83</p> <p>pg. 20-17, item 12</p> <p>Origin: Simulation Modeling</p> <p>Reference: -----</p> <p>Vend/EqLvl:Subj</p> <p>PlantCode: ALLP</p>
1600569-13- 1*	<p>Personnel DIAGNOSES</p> <p>the Annunciator</p> <p>subject fails to diagnose annunciated event during time allot given: subject diagnosis annunciated event during time allot CR personnel still engaged in diagnosing 1st event</p> <p>Ample amount of time</p> <p>Mean: 8.5E-4 Median: 1.0E-4 EF: 30 UCB: 3.0E-3 LCB: 3.3E-6</p> <p>Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 8.5E-4</p> <p>Median: 1.0E-4</p> <p>EF: 30</p> <p>UCB: 3.0E-3</p> <p>LCB: 3.3E-6</p> <p>E: 0.100</p> <p>N: 1000.000</p>	<p>8.5E-4</p> <p>---</p> <p>3.0E-3</p> <p>3.3E-6</p> <p>0.100</p> <p>1000.000</p>	<p>ATime: 23:59:59</p> <p>PTime: ---:---:---</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: 3</p> <p>Stress : 3</p> <p>Supervision: U</p> <p>Tagging: U</p> <p>Training: U</p>	<p>Document: 1-83</p> <p>pg. 20-17, item 13</p> <p>Origin: Simulation Modeling</p> <p>Reference: -----</p> <p>Vend/EqLvl:Subj</p> <p>PlantCode: ALLP</p>
1600667- i- 1*	<p>Personnel MONITORS</p> <p>the CRT Text</p> <p>personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; non-modular org; poor visibility; time = 2 sec no specifics on event, location, or sequence</p> <p>Mean: 3.0E-1 Median: 1.8E-1 EF: 5 UCB: 1.0E+0 LCB: 3.4E-2</p> <p>Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.0E-1</p> <p>Median: 1.8E-1</p> <p>EF: 5</p> <p>UCB: 1.0E+0</p> <p>LCB: 3.4E-2</p> <p>E: 1.000</p> <p>N: 5.400</p>	<p>3.1E-1</p> <p>---</p> <p>5</p> <p>1.0E+0</p> <p>3.4E-2</p> <p>1.000</p> <p>5.400</p>	<p>ATime: ---:---:---</p> <p>PTime: 00:00:02</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: U</p> <p>Stress : U</p> <p>Supervision: U</p> <p>Tagging: U</p> <p>Training: U</p>	<p>Document: 1-82</p> <p>pg. b-14</p> <p>Origin: Laboratory</p> <p>Reference: -----</p> <p>Vend/EqLvl:Subj</p> <p>PlantCode: ALLP</p>
1600667- 2- 1*	<p>Personnel MONITORS</p> <p>the CRT Text</p> <p>personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; non-modular org; poor visibility; time = 2 sec no specifics on event, location, or sequence</p> <p>Mean: 1.9E-1 Median: 7.3E-2 EF: 10 UCB: 7.3E-1 LCB: 7.3E-3</p> <p>Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.9E-1</p> <p>Median: 7.3E-2</p> <p>EF: 10</p> <p>UCB: 7.3E-1</p> <p>LCB: 7.3E-3</p> <p>E: 0.100</p> <p>N: 1.300</p>	<p>1.9E-1</p> <p>---</p> <p>7.3E-1</p> <p>7.3E-3</p> <p>0.100</p> <p>1.300</p>	<p>ATime: ---:---:---</p> <p>PTime: 00:00:02</p> <p>Experience: U</p> <p>Feedback: U</p> <p>Procedure: U</p> <p>Staffing: U</p> <p>Stress : U</p> <p>Supervision: U</p> <p>Tagging: U</p> <p>Training: U</p>	<p>Document: 2-82</p> <p>pg. b-14</p> <p>Origin: Laboratory</p> <p>Reference: -----</p> <p>Vend/EqLvl:Subj</p> <p>PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600667- 3- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; non-modular org; poor visibility; time= 9-16 sec no specifics on event, location, or sequence</p> <p>Mean: 2.0E-1 Median: 7.4E-2 EF: 10 UCB: 7.4E-1 LCB: 7.4E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.0E-1 Median: 7.4E-2 EF: 10 UCB: 7.4E-1 LCB: 7.4E-3 E: 0.100 N: 1.300</p>	<p>2.0E-1 --- 7.4E-1 7.4E-3 0.100 1.300</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600667- 4- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; non-modular org; poor visibility; time = 9-16sec no specifics on event, location, or sequence</p> <p>Mean: 5.4E-2 Median: 2.0E-2 EF: 10 UCB: 2.0E-1 LCB: 2.0E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 2.0E-2 EF: 10 UCB: LCB: E: N:</p>	<p>5.4E-2 --- 2.0E-1 2.0E-3 0.100 4.900</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600667- 5- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; modular org; poor visibility; time = 2 sec no specifics on event, location, or sequence</p> <p>Mean: 2.8E-1 Median: 1.2E-1 EF: 8 UCB: 1.0E+0 LCB: 1.6E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 1.2E-1 EF: --- UCB: LCB: E: N:</p>	<p>2.8E-1 8 1.0E+0 1.6E-2 0.500 4.000</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600667- 6- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; modular org; poor visibility; time = 2 sec no specifics on event, location, or sequence</p> <p>Mean: 1.7E-1 Median: 6.5E-2 EF: 10 UCB: 6.5E-1 LCB: 6.5E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 6.5E-2 EF: 10 UCB: LCB: E: N:</p>	<p>1.7E-1 --- 6.5E-1 6.5E-3 0.100 1.500</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600667- 7- 1*	<p>Personnel MONITORS the CRT T: personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; modular org; poor visibility; time = 9-16 sec no specifics on event, location, or sequence</p> <p>Mean: 4.1E-2 Median: 1.5E-2 EF: 10 UCB: 1.5E-1 LCB: 1.5E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 4.1E-2 Median: 1.5E-2 EF: 10 UCB: 1.5E-1 LCB: 1.5E-3 E: 0.100 N: 6.500</p>	<p>4.1E-2 --- 1.5E-1 1.5E-3 0.100 6.500</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600667- 8- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; modular org; poor visibility; time = 9-16 sec no specifics on event, location, or sequence</p> <p>Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 E: 0.100 N: 8.200</p>	<p>3.2E-2 --- 1.2E-1 1.2E-3 0.100 8.200</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600667- 9- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; non-modular org; adequate visibility; time = 2sec no specifics on event, location, or sequence</p> <p>Mean: 3.1E-1 Median: 1.7E-1 EF: 6 UCB: 1.0E+0 LCB: 2.9E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.1E-1 Median: 1.7E-1 EF: 6 UCB: 1.0E+0 LCB: 2.9E-2 E: 1.000 N: 5.800</p>	<p>3.0E-1 6 1.0E+0 2.9E-2 1.000 5.800</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600667-10- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; non-modular org; adequate visibility; time =2sec no specifics on event, location, or sequence</p> <p>Mean: 1.6E-1 Median: 6.1E-2 EF: 10 UCB: 6.1E-1 LCB: 6.1E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.6E-1 Median: 6.1E-2 EF: 10 UCB: 6.1E-1 LCB: 6.1E-3 E: 0.100 N: 1.600</p>	<p>1.6E-1 --- 6.1E-1 6.1E-3 0.100 1.600</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1600667-11- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given; 60-80words presented; non-modular org;adequate visibility;time=9-16sec no specifics on event, location, or sequence</p> <p>Mean: 1.7E-1 Median: 6.2E-2 EF: 10 UCB: 6.2E-1 LCB: 6.2E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.7E-1 Median: 6.2E-2 EF: 10 UCB: 6.2E-1 LCB: 6.2E-3 E: 0.100 N: 1.600</p>	<p>2.7E-1 --- 6.2E-1 6.2E-3 0.100 1.600</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600667-12- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given; 20-40words presented; non-modular org;adequate visibility;time=9-16sec no specifics on event, location, or sequence</p> <p>Mean: 2.2E-2 Median: 8.3E-3 EF: 10 UCB: 8.3E-2 LCB: 8.3E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.2E-2 Median: 8.3E-3 EF: 10 UCB: 8.3E-2 LCB: 8.3E-4 E: 0.100 N: 12.000</p>	<p>2.2E-2 --- 8.3E-2 8.3E-4 0.100 12.000</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600667-13- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given; 60-80words presented; modular org; adequate visibility; time = 2 sec no specifics on event, location, or sequence</p> <p>Mean: 2.8E-1 Median: 1.1E-1 EF: 9 UCB: 1.0E+0 LCB: 1.3E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.8E-1 Median: 1.1E-1 EF: 9 UCB: 1.0E+0 LCB: 1.3E-2 E: 0.500 N: 4.400</p>	<p>2.7E-1 9 1.0E+0 1.3E-2 0.500 4.400</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600667-14- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given; 20-40words presented; modular org; adequate visibility; time = 2 sec no specifics on event, location, or sequence</p> <p>Mean: 1.4E-1 Median: 5.3E-2 EF: 10 UCB: 5.3E-1 LCB: 5.3E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.4E-1 Median: 5.3E-2 EF: 10 UCB: 5.3E-1 LCB: 5.3E-3 E: 0.100 N: 1.900</p>	<p>1.4E-1 --- 5.3E-1 5.3E-3 0.100 1.900</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
1600667-15- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; modular org; adequate visibility; time = 9-16sec no specifics on event, location or sequence</p> <p>Mean: 9.0E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 9.0E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.500</p>	<p>9.0E-3 --- 3.4E-2 3.4E-4 0.100 29.500</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1600667-16- 1*	<p>Personnel MONITORS the CRT Text personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; modular org; adequate visibility; time = 9-16sec no specifics on event, location, or sequence</p> <p>Mean: 5.0E-4 Median: 1.9E-4 EF: 10 UCB: 1.9E-3 LCB: 1.9E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 1.9E-4 EF: 10 UCB: LCB: E: N:</p>	<p>5.0E-4 --- 1.9E-3 1.9E-5 0.100 531.900</p>	<p>ATime: ---:---:--- PTime: 00:00:07 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1601166- 1- 1*	<p>Personnel READS the Quantitative Displays Personnel read without knowing instrument is faulty given: Recognizes faulty instrument Average plant conditions</p> <p>Mean: 1.6E-1 Median: 1.0E-1 EF: 5 UCB: 5.0E-1 LCB: 2.0E-2 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: Median: 1.0E-1 EF: 5 UCB: LCB: E: N:</p>	<p>1.6E-1 --- 5.0E-1 2.0E-2 1.000 10.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-26, Item 7 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1601166- 2- 1*	<p>Personnel READS the Quantitative Displays Personnel read without knowing instrument is faulty given: Recognizes faulty instrument high stress for operator</p> <p>Mean: 1.0E+0 Median: 1.0E+0 EF: 1 UCB: 1.0E+0 LCB: 1.0E+0 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: Median: 1.0E+0 CF: --- UCB: LCB: E: N:</p>	<p>1.0E+0 --- 1.0E+0 1.0E+0 20.000 20.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 4 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-26, Item 7 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1601266- 1- 1*	<p>Personnel READS the Counter-Digital Readout operator reads digital indicator incorrectly given: operator reads digital indicator correctly none specified</p> <p>Mean: 1.1E-3 Median: 5.0E-5 EF: 61 UCB: 3.0E-3 LCB: 8.0E-7 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.1E-3 Median: 5.0E-5 EF: --- UCB: 3.0E-3 LCB: 8.0E-7 E: 0.100 N: 2000.000</p>	<p>1.1E-3 60 8.0E-7 0.100 2000.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. c-8, item 16 Origin: Psychological Scaling Reference: ---:---:--- Vend/Equvl:Subj PlantCode: B&R</p>
1601266- 2- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: >=3" length,4-5drums/digit,numerical legibility potentially ambiguous, no specifics on event, location, or sequence</p> <p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 E: 0.100 N: 147.000</p>	<p>1.8E-3 --- 6.8E-3 6.8E-5 0.100 147.000</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/Equvl:Subj PlantCode: ALLP</p>
1601266- 3- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: 1-2" length,7 or more drums/digit,numerical legibil. potent. ambiguous no specifics on event, location, or sequence</p> <p>Mean: 2.3E-3 Median: 8.6E-4 EF: 10 UCB: 8.6E-3 LCB: 8.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.3E-3 Median: 8.6E-4 EF: 10 UCB: 8.6E-3 LCB: 8.6E-5 E: 0.100 N: 116.200</p>	<p>2.3E-3 --- 8.6E-3 8.6E-5 0.100 116.200</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/Equvl:Subj PlantCode: ALLP</p>
1601266- 4- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: 1-2" length,4-5 drums/digit,numerical legibil. potent. ambiguous no specifics on event, location, or sequence</p> <p>Mean: 1.5E-3 Median: 5.6E-4 EF: 10 UCB: 5.6E-3 LCB: 5.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.5E-3 Median: 5.6E-4 EF: 10 UCB: 5.6E-3 LCB: 5.6E-5 E: 0.100 N: 178.500</p>	<p>1.5E-3 --- 5.6E-3 5.6E-5 0.100 178.500</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/Equvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1601266- 5- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: 1" length, 7 or more drums/digit, numerical legibil. potent. ambiguous no specifics on event, location, or sequence</p> <p>Mean: 3.1E-3 Median: 1.2E-3 EF: 10 UCB: 1.2E-2 LCB: 1.2E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.1E-3 Median: 1.2E-3 EF: 10 UCB: 1.2E-2 LCB: 1.2E-4 E: 0.100 N: 85.400</p>	<p>3.1E-3 --- 1.2E-2 1.2E-4 0.100 85.400</p>	<p>ATime: ---:---:--- PTime: 00:00:03 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1601266- 6- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: 1" length, 4-5 drums/digit, numerical legibil. potent. ambiguous no specifics on event, location, or sequence</p> <p>Mean: 2.3E-3 Median: 8.6E-4 EF: 10 UCB: 8.6E-3 LCB: 8.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.3E-3 Median: 8.6E-4 EF: 10 UCB: 8.6E-3 LCB: 8.6E-5 E: 0.100 N: 116.200</p>	<p>2.3E-3 --- 8.6E-3 8.6E-5 0.100 116.200</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1601266- 7- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: =>3" length, 1-3 drums/digit, numerical legibil. potent. ambiguous no specifics on event, location, or sequence</p> <p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 E: 0.100 N: 188.600</p>	<p>1.4E-3 --- 5.3E-3 5.3E-5 0.100 188.600</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1601266- 8- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: 1-2" length, 1-3 drums/digit, numerical legibil. potent. ambiguous no specifics on event, location, or sequence</p> <p>Mean: 1.1E-3 Median: 4.1E-4 EF: 10 UCB: 4.1E-3 LCB: 4.1E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.1E-3 Median: 4.1E-4 EF: 10 UCB: 4.1E-3 LCB: 4.1E-5 E: 0.100 N: 243.900</p>	<p>1.1E-3 --- 4.1E-3 4.1E-5 0.100 243.900</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1601266-9-1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: 1" length, 1-3 drums/digit, numerical legibil. potent. ambiguous no specifics on event, location, or sequence</p> <p>Mean: 1.9E-3 Median: 7.1E-4 EF: 10 UCB: 7.1E-3 LCB: 7.1E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-3 Median: 7.1E-4 EF: 10 UCB: 7.1E-3 LCB: 7.1E-5 E: 0.100 N: 140.800</p>	<p>1.9E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP</p>
1601266-10-1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: >=3" length, >=7 drums/digit, numerical legibil. clear & concise no specifics on event, location, or sequence</p> <p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 E: 0.100 N: 126.500</p>	<p>2.1E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP</p>
1601266-11-1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: >=3" length, 4-5 drums/digit, numerical legibil. clear & concise no specifics on event, location, or sequence</p> <p>Mean: 1.3E-3 Median: 4.9E-4 EF: 10 UCB: 4.9E-3 LCB: 4.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.3E-3 Median: 4.9E-4 EF: 10 UCB: 4.9E-3 LCB: 4.9E-5 E: 0.100 N: 204.000</p>	<p>1.3E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP</p>
1601266-12-1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: 1-2" length, >=7 drums/digit, numerical legibil. clear & concise no specifics on event, location, or sequence</p> <p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 E: 0.100 N: 147.000</p>	<p>1.8E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1601266-13- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: 1-2" length, 4-5 drums/digit, numerical legibil. clear & concise no specifics on event, location, or sequence</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 263.100</p>	<p>1.0E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/Equvl:Subj PlantCode: ALLP</p>
1601266-14- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digit) , readout properly given: 1" length, >=7 drums/digit, numerical legibil. clear & concise no specifics on event, location, or sequence</p> <p>Mean: 2.6E-3 Median: 9.8E-4 EF: 10 UCB: 9.8E-3 LCB: 9.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.6E-3 Median: 9.8E-4 EF: 10 UCB: 9.8E-3 LCB: 9.8E-5 E: 0.100 N: 102.000</p>	<p>2.6E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/Equvl:Subj PlantCode: ALLP</p>
1601266-15- 1*	<p>Personnel READS the Counter-Digital Readout operator fails to read counter readout (digits) properly given: 1" length, 4-5 drums/digits, numerical legibility clear & concise; no specifics on event, location, or sequence; performance time=1.5 sec</p> <p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 E: 0.100 N: 147.000</p>	<p>1.8E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/Equvl:Subj PlantCode: ALLP</p>
1601266-16- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: >=3" length, 1-3 drums/digit, numerical legibil. clear & concise no specifics on event, location, or sequence</p> <p>Mean: 9.1E-4 Median: 3.4E-4 EF: 10 UCB: 3.4E-3 LCB: 3.4E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 9.1E-4 Median: 3.4E-4 EF: 10 UCB: 3.4E-3 LCB: 3.4E-5 E: 0.100 N: 294.100</p>	<p>9.1E-4 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/Equvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1601266-17- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: 1-2nd length, 1-3 drums/digit, numerical legibil. clear & concise no specifics on event, location, or sequence</p> <p>Mean: 6.1E-4 Median: 2.3E-4 EF: 10 UCB: 2.3E-3 LCB: 2.3E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 6.1E-4 Median: 2.3E-4 EF: 10 UCB: 2.3E-3 LCB: 2.3E-5 E: 0.100 N: 434.700</p>	6.1E-4	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1601266-18- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: 1st length, 1-3 drums/digit, numerical legibil. clear & concise no specifics on event, location, or sequence</p> <p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 E: 0.100 N: 188.600</p>	1.4E-3	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1601266-19- 1*	<p>Personnel READS the Counter-Digital Readout personnel fails to read counter (digits) readout properly given: >=3rd length, >=7 drums/digit, numerical legibil. potential. ambiguous no specifics on event, location, or sequence</p> <p>Mean: 2.6E-3 Median: 9.8E-4 EF: 10 UCB: 9.8E-3 LCB: 9.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.6E-3 Median: 9.8E-4 EF: 10 UCB: 9.8E-3 LCB: 9.8E-5 E: 0.100 N: 102.000</p>	2.6E-3	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A, A-3 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1601366- 1- 1*	<p>Personnel READS the Meter operator reads wrong meter given: operator reads correct meter group of similar looking meters with clearly drawn mimic lines</p> <p>Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-3 Median: 1.0E-3 EF: --- UCB: 1.0E-2 LCB: 1.0E-4 E: 0.100 N: 100.000</p>	2.7E-3	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. c-7, item 7 Origin: Psychological Scaling Reference: --- Vend/EqLvl:Subj PlantCode: BWR</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	UCLARR calc		
1601366- 2- 1*	Personnel READS the Meter operator reads wrong meter given: operator reads correct meter similar looking meters grouped by function Mean: 9.7E-3 Median: 6.0E-3 EF: 5 UCB: 3.0E-2 LCB: 1.2E-3 Error type: COMMISSION Recovery: CONSIDERED	Mean: 9.7E-3 Median: 6.0E-3 EF: --- UCB: 3.0E-2 LCB: 1.2E-3 E: 1.000 N: 166.600	9.7E-3 5 1.2E-3 166.600	ATime: ---:--- PTime: ---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U	Document: 2-84 pg. c-7, item 8 Origin: Psychological Scaling Reference: --- Vend/EqLvl:Subj PlantCode: BWR
1601366- 3- 1*	Personnel READS the Meter operator reads wrong meter given: operator reads correct meter similar looking meters identified only by labels Mean: 1.6E-2 Median: 1.0E-2 EF: 5 UCB: 5.0E-2 LCB: 2.0E-3 Error type: COMMISSION Recovery: CONSIDERED	Mean: 1.6E-2 Median: 1.0E-2 EF: --- UCB: 5.0E-2 LCB: 2.0E-3 E: 1.000 N: 100.000	1.6E-2 5 2.0E-3 100.000	ATime: ---:--- PTime: ---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U	Document: 2-84 pg. c-7, item 9 Origin: Psychological Scaling Reference: --- Vend/EqLvl:Subj PlantCode: BWR
1601366- 4- 1*	Personnel READS the Meter operator fails to realize meter is faulty given: operator realizes meter is faulty meter jammed with pointer stuck on scale Mean: 3.2E-2 Median: 2.0E-2 EF: 5 UCB: 1.0E-1 LCB: 4.0E-3 Error type: COMMISSION Recovery: CONSIDERED	Mean: 3.2E-2 Median: 2.0E-2 EF: --- UCB: 1.0E-1 LCB: 4.0E-3 E: 1.000 N: 50.000	3.2E-2 5 4.0E-3 50.000	ATime: ---:--- PTime: ---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U	Document: 2-84 pg. c-8, item 12 Origin: Psychological Scaling Reference: --- Vend/EqLvl:Subj PlantCode: BWR
1601366- 5- 1*	Personnel READS the Meter operator fails to notice meter out of range given: operator realizes meter is out of range meter has normal bands indicated on scale; no written materials used Mean: 2.2E-2 Median: 3.0E-3 EF: 27 UCB: 8.0E-2 LCB: 1.1E-4 Error type: OMISSION Recovery: CONSIDERED	Mean: 2.2E-2 Median: 3.0E-3 EF: --- UCB: 8.0E-2 LCB: 1.1E-4 E: 0.100 N: 33.300	2.2E-2 27 1.1E-4 33.300	ATime: ---:--- PTime: ---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: 2 Supervision: U Tagging: U Training: U	Document: 2-84 pg. c-8, item 19 Origin: Psychological Scaling Reference: --- Vend/EqLvl:Subj PlantCode: BWR

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1601366- 6- 1*	<p>Personnel READS the Meter personnel fail to read meter properly given: several meters; time < 10 sec.; date recording not required no specifics on event, location, or sequence</p> <p>Mean: 1.3E-2 Median: 4.8E-3 EF: 10 UCB: 4.8E-2 LCB: 4.8E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.3E-2 Median: 4.8E-3 EF: 10 UCB: 4.8E-2 LCB: 4.8E-4 E: 0.100 N: 20.900</p>	<p>4.8E-3 1.8E-2 1.8E-4 0.100 55.100</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-12 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1601366- 7- 1*	<p>Personnel READS the Meter personnel fail to read meter properly given: several meters; date recording required; time = 10 sec no specifics on event, location, or sequence</p> <p>Mean: 4.8E-3 Median: 1.8E-3 EF: 10 UCB: 1.8E-2 LCB: 1.8E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 1.8E-3 EF: 10 UCB: 1.8E-2 LCB: 1.8E-4 E: 0.100 N: 55.100</p>	<p>2.7E-3 1.0E-2 1.0E-4 0.100 98.500</p>	<p>ATime: ---:---:--- PTime: 00:00:10 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-12 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1601366- 8- 1*	<p>Personnel READS the Meter personnel fail to read meter properly given: several meters; date recording not required; time = 10 sec no specifics on event, location, or sequence</p> <p>Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.7E-3 Median: 1.0E-3 EF: 10 UCB: 1.0E-2 LCB: 1.0E-4 E: 0.100 N: 98.500</p>	<p>3.5E-3 1.3E-2 1.3E-4 0.100 76.000</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-12 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1601366- 9- 1*	<p>Personnel READS the Meter personnel fail to read meter properly given: 1 meter; date recording not required; time < 10 sec no specifics on event, location, or sequence</p> <p>Mean: 3.5E-3 Median: 1.3E-3 EF: 10 UCB: 1.3E-2 LCB: 1.3E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.5E-3 Median: 1.3E-3 EF: 10 UCB: 1.3E-2 LCB: 1.3E-4 E: 0.100 N: 76.000</p>			

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1601366-10-1*	<p>Personnel READS the Meter personnel fail to read meter properly given: 1 meter; date recording required; time = 10 sec no specifics on event, location, or sequence</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 264.000</p>	<p>1.0E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:10 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-12 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1601366-11-1*	<p>Personnel READS the Meter personnel fail to read meter properly given: 1 meter; date recording not required; time = 10 sec no specifics on event, location, or sequence</p> <p>Mean: 6.0E-4 Median: 2.3E-4 EF: 10 UCB: 2.3E-3 LCB: 2.3E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 6.0E-4 Median: 2.3E-4 EF: 10 UCB: 2.3E-3 LCB: 2.3E-5 E: 0.100 N: 443.200</p>	<p>6.0E-4 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:10 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-82 pg. b-12 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1601367-1-1*	<p>Personnel MONITORS the Meter Perform check reading of analogue meter given: Accurate qualitative reading of analogue meter Analogue meter has easily seen limit marks</p> <p>Mean: 1.3E-3 Median: 1.0E-3 EF: 3 UCB: 3.0E-3 LCB: 3.3E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.3E-3 Median: 1.0E-3 EF: 3 UCB: 3.0E-3 LCB: 3.3E-4 E: 2.000 N: 2000.000</p>	<p>1.3E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: J Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-27, Item 2 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1601367-2-1*	<p>Personnel MONITORS the Meter Perform check reading of analogue meter given: Accurate qualitative reading of analogue meter difficult to see limit marks such as scribe line</p> <p>Mean: 2.5E-3 Median: 2.0E-3 EF: 3 UCB: 6.0E-3 LCB: 6.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.5E-3 Median: 2.0E-3 EF: 3 UCB: 6.0E-3 LCB: 6.7E-4 E: 2.000 N: 1000.000</p>	<p>2.5E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-27, Item 3 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1601367- 3- 1*	<p>Personnel MONITORS the Meter</p> <p>Perform check reading of analogue meter given: Accurate qualitative reading of analogue meter meter face is without limit marks</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-27, Item 4 Origin: Simulation Modeling Reference: ---:---:--- Vend/EqLvl: Subj PlantCode: ALLP</p>
1601566- 1- 1*	<p>Personnel READS the Chart Recorder</p> <p>operator incorrectly interprets chart recorder given: operator correctly interprets chart recorder chart recorder has normal bands on scale</p> <p>Mean: 2 E-3 Median: 1.0E-3 EF: 8 UCB: 8.0E-3 LCB: 1.3E-4 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 2 E-3 Median: 1.0E-3 EF: 8 UCB: 8.0E-3 LCB: 1.3E-4 E: 0.500 N: 500.000</p>	<p>2.2E-3 8 1.3E-4</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. c-8, item 17 Origin: Psychological Scaling Reference: ---:---:--- Vend/EqLvl: Subj PlantCode: BWR</p>
1601566- 2- 1*	<p>Personnel READS the Chart Recorder</p> <p>operator incorrectly interprets chart recorder given: operator correctly interprets chart recorder chart recorder doesn't have normal bands on scale</p> <p>Mean: 1.4E-2 Median: 1.0E-2 EF: 4 UCB: 4.0E-2 LCB: 2.5E-3 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.4E-2 Median: 1.0E-2 EF: 4 UCB: 4.0E-2 LCB: 2.5E-3 E: 1.500 N: 150.000</p>	<p>1.4E-2 4 2.5E-3</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. c-8, item 18 Origin: Psychological Scaling Reference: ---:---:--- Vend/EqLvl: Subj PlantCode: BWR</p>
1601567- 1- 1*	<p>Personnel MONITORS the Chart Recorder</p> <p>subject fails to read qualitative chart recorder accurately given: Accurate qualitative reading of chart recorder The chart recorder has limit marks</p> <p>Mean: 2.5E-3 Median: 2.0E-3 EF: 3 UCB: 6.0E-3 LCB: 6.7E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.5E-3 Median: 2.0E-3 EF: 3 UCB: 6.0E-3 LCB: 6.7E-4 E: 2.000 N: 1000.000</p>	<p>2.5E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-27, Item 5 Origin: Simulation Modeling Reference: ---:---:--- Vend/EqLvl: Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
1601567- 2- 1*	<p>Personnel MONITORS the Chart Recorder subject fails to read qualitative chart recorder accurately given: Accurate qualitative reading of chart recorder The chart recorder doesn't have limit marks</p> <p>Mean: 7.5E-3 Median: 6.0E-3 EF: 3 UCB: 1.8E-2 LCB: 2.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 7.5E-3 Median: 6.0E-3 EF: 3 UCB: 1.8E-2 LCB: 2.0E-3 E: 2.000 N: 333.300</p>	<p>7.5E-3 1.8E-2 2.0E-3 2.000 333.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-27, Item 6 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLF</p>
1601667- 1- 1*	<p>Personnel MONITORS the CRT Graphic Display personnel fail to notice updates in CRT graphics given: 20-40 symbols, modular org, adequate visibility; time = 2 sec no specifics on event, location, or sequence</p> <p>Mean: 2.8E-1 Median: 1.3E-1 EF: 8 UCB: 1.0E+0 LCB: 1.6E-2 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.8E-1 Median: 1.3E-1 EF: 8 UCB: 1.0E+0 LCB: 1.6E-2 E: 0.500 N: 3.900</p>	<p>2.8E-1 1.3E-1 3 1.0E+0 1.6E-2 0.500 3.900</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1601667- 2- 1*	<p>Personnel MONITORS the CRT Graphic Display personnel fail to notice updates in CRT graphics given: 20-40 symbols, modular org, adequate visibility; time = 9-16 sec no specifics on event, location, or sequence</p> <p>Mean: 2.0E-1 Median: 7.5E-2 EF: 10 UCB: 7.5E-1 LCB: 7.5E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 2.0E-1 Median: 7.5E-2 EF: 10 UCB: 7.5E-1 LCB: 7.5E-3 E: 0.100 N: 1.300</p>	<p>2.0E-1 7.5E-2 10 7.5E-1 7.5E-3 0.100 1.300</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1601767- 1- 1*	<p>Personnel MONITORS the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 60-80 words presented; non-modular org; poor visibility; time = 2 sec no specifics on event, location, or sequence</p> <p>Mean: 3.0E-1 Median: 1.8E-1 EF: 5 UCB: 1.0E+0 LCB: 3.4E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.0E-1 Median: 1.8E-1 EF: 5 UCB: 1.0E+0 LCB: 3.4E-2 E: 1.000 N: 5.400</p>	<p>3.0E-1 1.8E-1 5 1.0E+0 3.4E-2 1.000 5.400</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLEAR calc		
1601767- 2- 1*	<p>Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; non-modular org; poor visibility; time = 2 sec no specifics on event, location, or sequence</p> <p>Mean: 1.0E-1 Median: 7.3E-2 EF: 10 UCB: 7.3E-1 LCB: 7.3E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 7.3E-2 EF: UCB: LCB: E: N:</p>	<p>1.0E-1 --- 7.3E-1 7.3E-3 0.100 1.300</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP</p>
1601767- 3- 1*	<p>Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; non-modular org; poor visibility; time = 9-16sec no specifics on event, location, or sequence</p> <p>Mean: 2.0E-1 Median: 7.4E-2 EF: 10 UCB: 7.4E-1 LCB: 7.4E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 7.4E-2 EF: UCB: LCB: E: N:</p>	<p>2.0E-1 --- 7.4E-1 7.4E-3 0.100 1.300</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP</p>
1601767- 4- 1*	<p>Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; non-modular org; poor visibility; time= 9-16 sec no specifics on event, location, or sequence</p> <p>Mean: 5.4E-2 Median: 2.0E-2 EF: 10 UCB: 2.0E-1 LCB: 2.0E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 2.0E-2 EF: UCB: LCB: E: N:</p>	<p>5.4E-2 --- 2.0E-1 2.0E-3 0.100 4.000</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP</p>
1601767- 5- 1*	<p>Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; modular org; poor visibility; time = 2 sec no specifics on event, location, or sequence</p> <p>Mean: 2.0E-1 Median: 1.2E-1 EF: 8 UCB: 1.0E+0 LCB: 1.6E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 1.2E-1 EF: UCB: LCB: E: N:</p>	<p>2.0E-1 8 1.0E+0 1.6E-2 0.500 1.000</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLAB calc		
1601767- 6- 1*	Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; modular org; poor visibility; time = 2 sec no specifics on event, location, or sequence Mean: 1.7E-1 Median: 6.5E-2 EF: 10 UCB: 6.5E-1 LCB: 6.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 6.5E-2 EF: 10 UCB: LCB: E: N:	1.7E-1 --- 6.5E-1 6.5E-3 0.100 1.500	Atime: ---:---:--- Ptime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP
1601767- 7- 1*	Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; modular org; poor visibility; time = 9-16 sec no specifics on event, location, or sequence Mean: 4.1E-2 Median: 1.5E-2 EF: 10 UCB: 1.5E-1 LCB: 1.5E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.5E-2 EF: 10 UCB: LCB: E: N:	4.1E-2 --- 1.5E-1 1.5E-3 0.100 6.500	Atime: ---:---:--- Ptime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP
1601767- 8- 1*	Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; modular org; poor visibility; time = 9-16 sec no specifics on event, location, or sequence Mean: 3.2E-2 Median: 1.2E-2 EF: 10 UCB: 1.2E-1 LCB: 1.2E-3 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.2E-2 EF: 10 UCB: LCB: E: N:	3.2E-2 --- 1.2E-1 1.2E-3 0.100 8.200	Atime: ---:---:--- Ptime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP
1601767- 9- 1*	Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; non-modular org; adequate visibility; time =2sec no specifics on event, location, or sequence Mean: 3.1E-1 Median: 1.7E-1 EF: 6 UCB: 1.0E+0 LCB: 2.0E-2 Error type: OMISSION Recovery: CONSIDERED	Mean: Median: 1.7E-1 EF: --- UCB: LCB: E: N:	3.0E-1 6 1.0E+0 2.0E-2 1.000 5.800	Atime: ---:---:--- Ptime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	WUCLARR calc		
1601767-10- 1*	<p>Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 20-60words presented; non-modular org; adequate visibility; time =2sec no specifics on event, location, or sequence Mean: 1.6E-1 Median: 1.1E-2 EF: 10 UCB: 6.1E-1 LCB: 6.1E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 6.1E-2 EF: 10 UCB: LCB: E: N:</p>	<p>1.6E-1 --- 6.1E-1 6.1E-3 0.100 1.600</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP</p>
1601767-11- 1*	<p>Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; non-modular org;adequate visibility,time=9-16sec no specifics on event, location, or sequence Mean: 1.7E-1 Median: 6.2E-2 EF: 10 UCB: 6.2E-1 LCB: 6.2E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 6.2E-2 EF: 10 UCB: LCB: E: N:</p>	<p>1.7E-1 --- 6.2E-1 6.2E-3 0.100 1.600</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : E Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP</p>
1601767-12- 1*	<p>Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; non-modular org;adequate visibility,time=9-16sec no specifics on event, location, or sequence Mean: 2.2E-2 Median: 8.3E-3 EF: 10 UCB: 8.3E-2 LCB: 8.3E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 8.3E-3 EF: 10 UCB: LCB: E: N:</p>	<p>2.2E-2 --- 8.3E-2 8.3E-4 0.100 12.000</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP</p>
1601767-13- 1*	<p>Personnel the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; modular org; adequate visibility; time = 2 sec no specifics on event, location, or sequence Mean: 2.7E-1 Median: 1.1E-1 EF: 9 UCB: 1.0E+0 LCB: 1.3E-2 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: Median: 1.1E-1 EF: --- UCB: LCB: E: N:</p>	<p>2.7E-1 9 1.0E+0 1.3E-2 0.500 4.400</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: --- Vend/Eq.vl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			PSFs	Document Information
		Raw	NUCLARR calc			
1601767-14- 1*	<p>Personnel MONITORS the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; modular org; adequate visibility; time = 2 sec no specifics on event, location, or sequence</p> <p>Mean: 1.4E-1 Median: 5.3E-2 EF: 10 UCB: 5.3E-1 LCB: 5.3E-3 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.4E-1 Median: 5.3E-2 EF: 10 UCB: 5.3E-1 LCB: 5.3E-3 E: 0.100 N: 1.900</p>	<p>1.4E-1 --- 5.3E-1 5.3E-3 0.100 1.900</p>	<p>ATime: ---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>	
1601767-15- 1*	<p>Personnel MONITORS the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 60-80words presented; modular org; adequate visibility; time=9-16sec no specifics on event, location, or sequence</p> <p>Mean: 9.0E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 9.0E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.500</p>	<p>9.0E-3 --- 3.4E-2 3.4E-4 0.100 29.500</p>	<p>ATime: ---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>	
1601767-16- 1*	<p>Personnel MONITORS the CRT Alphanumeric Display personnel fail to notice updates in CRT-alphanumeric given: 20-40words presented; modular org; adequate visibility; time=9-16sec no specifics on event, location, or sequence</p> <p>Mean: 5.0E-4 Median: 1.9E-4 EF: 10 UCB: 1.9E-3 LCB: 1.9E-5 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.0E-4 Median: 1.9E-4 EF: 10 UCB: 1.9E-3 LCB: 1.9E-5 E: 0.100 N: 531.900</p>	<p>5.0E-4 --- 1.9E-3 1.9E-5 0.100 531.900</p>	<p>ATime: ---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. b-14 Origin: Laboratory Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>	
1603160- 1- 1*	<p>Personnel POSITIONS the Two-Position Switches subject tries to position (turn) a 2-position switch given: place switch in correct position errors of decision not included and there is no violation of population stereotypes</p> <p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.7E-4 Median: 1.0E-4 EF: 10 UCB: 1.0E-3 LCB: 1.0E-5 E: 0.100 N: 1000.000</p>	<p>2.7E-4 --- 1.0E-3 1.0E-5 0.100 1000.000</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 page 20-28, item 8 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>	

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
1603160- 2- 1*	<p>Personnel POSITIONS the Two-Position Switches subject tries to position (turn) a 2-position switch given: place switch in correct position errors of decision not included and population stereotype is violated</p> <p>Mean: 1.6E-2 Median: 1.0E-2 EF: 5 UCB: 5.0E-2 LCB: 2.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.6E-2 Median: 1.0E-2 EF: 5 UCB: 5.0E-2 LCB: 2.0E-3 E: 1.000 N: 100.000</p>	<p>1.6E-2 --- 5.0E-2 2.0E-3 1.000 100.000</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 page 20-28, item 8 Origin: Simulation Modeling Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1603160- 3- 1*	<p>Personnel POSITIONS the Two-Position Switches subject tries to position (turn) a 2-position switch given: place switch in correct position errors of decision not included and strong violation of stereotype; task performed under high stress</p> <p>Mean: 1.6E-1 Median: 1.0E-1 EF: 5 UCB: 5.0E-1 LCB: 2.0E-2 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.6E-1 Median: 1.0E-1 EF: 5 UCB: 5.0E-1 LCB: 2.0E-2 E: 1.000 N: 10.000</p>	<p>1.6E-1 --- 5.0E-1 2.0E-2 1.000 10.000</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 4 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 page 20-28, item 8 Origin: Simulation Modeling Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1603163- 1- 1*	<p>Personnel SELECTS the Two-Position Switches operator chooses wrong switch given: operator chooses correct switch from set of switches all switches look similar and identified by labels only</p> <p>Mean: 8.9E-3 Median: 4.0E-3 EF: 8 UCB: 3.0E-2 LCB: 5.3E-4 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 8.9E-3 Median: 4.0E-3 EF: 8 UCB: 3.0E-2 LCB: 5.3E-4 E: 0.500 N: 125.000</p>	<p>8.9E-3 7 3.0E-2 5.3E-4 0.500 125.000</p>	<p>ATime: --- PTime: --- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. c-7, item 1 Origin: Psychological Scaling Reference: --- Vend/EqLvl:Subj PlantCode: BWR</p>
1603163- 2- 1*	<p>Personnel SELECTS the Two-Position Switches operator chooses wrong switch given: operator chooses correct switch from set of switches all switches look similar but grouped according to function</p> <p>Mean: 3.2E-3 Median: 2.0E-3 EF: 5 UCB: 1.0E-2 LCB: 4.0E-4 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 3.2E-3 Median: 2.0E-3 EF: 5 UCB: 1.0E-2 LCB: 4.0E-4 E: 1.000 N: 500.000</p>	<p>3.2E-3 5 1.0E-2 4.0E-4 1.000 500.000</p>	<p>ATime: --- PTime: --- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. c-7, item 2 Origin: Psychological Scaling Reference: --- Vend/EqLvl:Subj PlantCode: BWR</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603163- 3- 1*	<p>Personnel SELECTS the Two-Position Switches operator chooses wrong switch given: operator chooses correct switch from set of switches all switches look similar but grouped with clearly drawn mimic lines</p> <p>Mean: 9.0E-4 Median: 5.0E-4 EF: 6 UCB: 3.0E-3 LCB: 8.3E-5 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 9.0E-4 Median: 5.0E-4 EF: --- UCB: 3.0E-3 LCB: 8.3E-5 E: 1.000 N: 2000.000</p>	<p>9.0E-4 6 8.3E-5 1.000 2000.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pp. c-7, item 3 Origin: Psychological Scaling Reference: ----- Vend/EqLvl:Subj PlantCode: BWR</p>
1603263- 1- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate switch position given: Given there is only 1 control present; modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 E: 0.100 N: 2659.500</p>	<p>1.0E-4 --- 3.8E-4 3.7E-6 0.100 2659.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263- 2- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = sequence of 5 of 20; nonmodular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 8.9E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 8.9E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.800</p>	<p>8.9E-3 --- 3.4E-2 3.4E-4 0.100 29.800</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263- 3- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = 1 control in 5; nonmodular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 E: 0.100 N: 188.600</p>	<p>1.4E-3 --- 5.3E-3 5.3E-5 0.100 188.600</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603263- 4- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = only 1 control; nonmodular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1333.300</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1333.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263- 5- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = only 1 control; nonmodular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1333.300</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1333.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263- 6- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = 1 control in 5; nonmodular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 9.0E-4 Median: 3.4E-4 EF: 10 UCB: 3.4E-3 LCB: 3.4E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 9.0E-4 Median: 3.4E-4 EF: 10 UCB: 3.4E-3 LCB: 3.4E-5 E: 0.100 N: 295.800</p>	<p>9.0E-4 --- 3.4E-3 3.4E-5 0.100 295.800</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: J</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263- 7- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = only 1 control; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 4.0E-4 Median: 1.5E-4 EF: 10 UCB: 1.5E-3 LCB: 1.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.0E-4 Median: 1.5E-4 EF: 10 UCB: 1.5E-3 LCB: 1.5E-5 E: 0.100 N: 666.600</p>	<p>4.0E-4 --- 1.5E-3 1.5E-5 0.100 666.600</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603263-8-1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = sequence of 5 in 20; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 E: 0.100 N: 66.600</p>	<p>4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-9-1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = 1 control in 5 in 20; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 7.0E-4 Median: 2.6E-4 EF: 10 UCB: 2.6E-3 LCB: 2.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 7.0E-4 Median: 2.6E-4 EF: 10 UCB: 2.6E-3 LCB: 2.6E-5 E: 0.100 N: 380.200</p>	<p>7.0E-4 --- 2.6E-3 2.6E-5 0.100 380.200</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-10-1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = sequence of 5 in 20; non-modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 5.6E-3 Median: 2.1E-3 EF: 10 UCB: 2.1E-2 LCB: 2.1E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 5.6E-3 Median: 2.1E-3 EF: 10 UCB: 2.1E-2 LCB: 2.1E-4 E: 0.100 N: 47.500</p>	<p>5.6E-3 --- 2.1E-2 2.1E-4 0.100 47.500</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-11-1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = only 1 control; modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1329.700</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1329.700</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLAB calc		
1603263-12- 1*	Personnel the Push-Button (Illuminated Legend) Personnel fail to select appropriate switch position Given: Given = 1 control in 5; modular org; fixed sequence No specifics on event, location, or sequence Mean: 4.0E-4 Median: 1.5E-4 EF: 10 UCB: 1.5E-3 LCB: 1.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-4 EF: 10 UCB: LCB: E: N:	4.0E-4 --- 1.5E-3 1.5E-5 0.100 666.600	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 Origin: B-3 Laboratory Reference: 1-67 Vend/Eq.vl:Subj PlantCode: ALLP
1603263-13- 1*	Personnel the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton Given: Given = sequence of 5 of 20; modular org; fixed sequence No specifics on event, location, or sequence Mean: 2.4E-3 Median: 9.0E-4 EF: 10 UCB: 9.0E-3 LCB: 9.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 9.0E-4 EF: 10 UCB: LCB: E: N:	2.4E-3 --- 9.0E-3 9.0E-5 0.100 110.700	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 Origin: B-3 Laboratory Reference: 1-67 Vend/Eq.vl:Subj PlantCode: ALLP
1603263-14- 1*	Personnel the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton Given: Given = only 1 control; non-modular org; variable sequence No specifics on event, location, or sequence Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 3.8E-5 EF: 10 UCB: LCB: E: N:	1.0E-4 --- 3.8E-4 3.7E-6 0.100 2659.500	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 Origin: B-3 Laboratory Reference: 1-67 Vend/Eq.vl:Subj PlantCode: ALLP
1603263-15- 1*	Personnel the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton Given: Given = 1 control in 5; non-modular org; variable sequence No specifics on event, location, or sequence Mean: 3.0E-4 Median: 1.1E-4 EF: 10 UCB: 1.1E-3 LCB: 1.1E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.1E-4 EF: 10 UCB: LCB: E: N:	3.0E-4 --- 1.1E-3 1.1E-5 0.100 866.500	ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 Origin: B-3 Laboratory Reference: 1-67 Vend/Eq.vl:Subj PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603263-16- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pusbutton given: Given = sequence of 5 of 20; non-modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N: 132.900</p>	<p>2.0E-3 --- 7.5E-3 7.5E-5 0.100 132.900</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-17- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = only 1 control; non-modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 E: 0.100 N: 269.700</p>	<p>1.0E-4 --- 3.8E-4 3.7E-6 0.100 269.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-18- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = 1 control in 5; non-modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1329.700</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1329.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-19- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = sequence of 5 of 20; non-modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 E: 0.100 N: 190.100</p>	<p>1.4E-3 --- 5.3E-3 5.3E-5 0.100 190.100</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Value.	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
1603263-20- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = only 1 control; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 E: 0.100 N: 2659.500</p>	<p>1.0E-4 --- 3.8E-4 3.7E-6 0.100 2659.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-21- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = 1 control in 5; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1329.700</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1329.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-22- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = sequence of 5 of 20; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 1.2E-3 Median: 4.5E-4 EF: 10 UCB: 4.5E-3 LCB: 4.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.2E-3 Median: 4.5E-4 EF: 10 UCB: 4.5E-3 LCB: 4.5E-5 E: 0.100 N: 221.700</p>	<p>1.2E-3 --- 4.5E-3 4.5E-5 0.100 221.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-23- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate switch position given: Given = 1 control in 5; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1329.700</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1329.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

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Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603263-24- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given there is only 1 control in group of 5; modular org; fixed seq. No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1329.700</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1329.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervisor: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-25- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = sequence of 5 of 20; modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 265.900</p>	<p>1.0E-3 --- 3.8E-3 3.8E-5 0.100 265.900</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervisor: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-26- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate pushbutton given: Given = only 1 control position; modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 E: 0.100 N: 2659.500</p>	<p>1.0E-4 --- 3.8E-4 3.7E-6 0.100 2659.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervisor: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603263-27- 1*	<p>Personnel SELECTS the Push-Button (Illuminated Legend) Personnel fail to select appropriate key given: Given = sequence of 5 of 20; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 1.2E-3 Median: 4.5E-4 EF: 10 UCB: 4.5E-3 LCB: 4.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.2E-3 Median: 4.5E-4 EF: 10 UCB: 4.5E-3 LCB: 4.5E-5 E: 0.100 N: 221.700</p>	<p>1.2E-3 --- 4.5E-3 4.5E-5 0.100 221.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervisor: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603363- 1- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col; 1-5 pushbuttons; detent; single,clear, concise positioning; no info on event,location,or sequence; pt=1.44sec</p> <p>Mean: 1.4E-3 Median: 5.2E-4 EF: 10 UCB: 5.2E-3 LCB: 5.2E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.4E-3 Median: 5.2E-4 EF: 10 UCB: 5.2E-3 LCB: 5.2E-5 E: 0.100 N: 191.200</p>	<p>1.4E-3 --- 5.2E-3 5.2E-5 0.100 191.200</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/Eq.vl:Subj PlantCode: ALLP</p>
1603363- 2- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col; 6-10 pushbuttons; detent; single,clear, concise positioning; no info on event,location,or sequence; pt=2.11sec</p> <p>Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 E: 0.100 N: 167.200</p>	<p>1.6E-3 --- 6.0E-3 6.0E-5 0.100 167.200</p>	<p>ATime: ---:---:--- PTime: 00:00:03 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/Eq.vl:Subj PlantCode: ALLP</p>
1603363- 3- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col; 11-25 pushbuttons; detent; single,clear, concise positioning; no info on event,location,or sequence; pt=3.31sec</p> <p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 E: 0.100 N: 126.900</p>	<p>2.1E-3 --- 7.9E-3 7.9E-5 0.100 126.900</p>	<p>ATime: ---:---:--- PTime: 00:00:04 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/Eq.vl:Subj PlantCode: ALLP</p>
1603363- 4- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col; 1-5 pushbuttons;no detent; single,clear, concise positioning; no info on event,location,or sequence; pt=0.69sec</p> <p>Mean: 1.9E-2 Median: 7.1E-3 EF: 10 UCB: 7.1E-2 LCB: 7.1E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-2 Median: 7.1E-3 EF: 10 UCB: 7.1E-2 LCB: 7.1E-4 E: 0.100 N: 14.000</p>	<p>1.9E-2 --- 7.1E-2 7.1E-4 0.100 14.000</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/Eq.vl:Subj PlantCode: ALLP</p>

* Data point is used in Task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603363- 5- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col;6-10 pushbuttons;no detent; single,clear, concise positioning; no info on event,location,or sequence; pt=1.36sec</p> <p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 E: 0.100 N: 126.900</p>	<p>2.1E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603363- 6- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col;11-25 pushbuttons;no detent;single,clear, concise positioning; no info on event,location,or sequence; pt=2.56sec</p> <p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 E: 0.100 N: 126.900</p>	<p>2.1E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:03 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603363- 7- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col;1-5 pushbuttons;detent;potentially ambi- guous positioning; no info on event,location,or sequence; pt=1.94sec</p> <p>Mean: 1.9E-3 Median: 7.1E-4 EF: 10 UCB: 7.1E-3 LCB: 7.1E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-3 Median: 7.1E-4 EF: 10 UCB: 7.1E-3 LCB: 7.1E-5 E: 0.100 N: 140.000</p>	<p>1.9E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603363- 8- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col;6-10 pushbuttons;detent;potentially ambi- guous positioning; no info on event,location,or sequence; pt=2.61sec</p> <p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 E: 0.100 N: 126.900</p>	<p>2.1E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:03 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Mean: Median: EF: UCB: LCB: E: N:	Row	Data Values MUSLARR calc	PSFs	Document Information
1603363-9-1*	Personnel the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col, 11-25 pushbuttons; detent; potentially ambi- guous positioning; no info on event, location, or sequence; pt=3.81sec Mean: 2.6E-3 Median: 9.0E-4 EF: 10 UCB: 9.0E-3 LCB: 9.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	2.6E-3 9.0E-4 10 9.0E-3 9.0E-5 0.100 102.400	9.0E-4 10	2.6E-3 9.0E-3 9.0E-5 0.100 102.400	ATime: ---:---:--- PTime: 00:00:04 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/Eq.vl:Subj PlantCode: ALLP
1603363-10-1*	Personnel the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col, 1-5 pushbuttons; no detent; potential, ambi- guous positioning; no info on event, location, or sequence; pt=1.19sec Mean: 2.4E-3 Median: 9.0E-4 EF: 10 UCB: 9.0E-3 LCB: 9.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	2.4E-3 9.0E-4 10 9.0E-3 9.0E-5 0.100 111.200	9.0E-4 10	2.4E-3 9.0E-3 9.0E-5 0.100 111.200	ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/Eq.vl:Subj PlantCode: ALLP
1603363-11-1*	Personnel the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col, 6-10 pushbuttons; no detent; potential, ambi- guous positioning; no info on event, location, or sequence; pt=1.06sec Mean: 2.6E-3 Median: 9.0E-4 EF: 10 UCB: 9.0E-3 LCB: 9.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	2.6E-3 9.0E-4 10 9.0E-3 9.0E-5 0.100 102.500	9.0E-4 10	2.6E-3 9.0E-3 9.0E-5 0.100 102.500	ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/Eq.vl:Subj PlantCode: ALLP
1603363-12-1*	Personnel the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size<1/2", single row or col, 11-25 pushbutt., no detent; potential ambi- guous positioning; no info on event, location, or sequence; pt=3.06sec Mean: 3.1E-3 Median: 1.2E-3 EF: 10 UCB: 1.2E-2 LCB: 1.2E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	3.1E-3 1.2E-3 10 1.2E-2 1.2E-4 0.100 86.200	1.2E-3 10	3.1E-3 1.2E-2 1.2E-4 0.100 86.200	ATime: ---:---:--- PTime: 00:00:04 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/Eq.vl:Subj PlantCode: ALLP

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603363-13- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2",single row or col;1-5 pushbuttons;detent;single,clear,con- cise positioning; no info on event,location,or sequence; pt=1.32sec</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 266.600</p>	<p>1.0E-3 --- 3.8E-3 3.8E-5 0.100 266.600</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603363-14- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2",single row or col;6-10 pushbuttons;detent;single,clear,con- cise positioning; no info on event,location,or sequence; pt=1.99sec</p> <p>Mean: 1.2E-3 Median: 4.5E-4 EF: 10 UCB: 4.5E-3 LCB: 4.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.2E-3 Median: 4.5E-4 EF: 10 UCB: 4.5E-3 LCB: 4.5E-5 E: 0.100 N: 221.700</p>	<p>1.2E-3 --- 4.5E-3 4.5E-5 0.100 221.700</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603363-15- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2",single row or col;11-25 pushbuttons;detent;single,clear,con- cise positioning; no info on event,location,or sequence; pt=3.19sec</p> <p>Mean: 1.7E-3 Median: 6.4E-4 EF: 10 UCB: 6.4E-3 LCB: 6.4E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.7E-3 Median: 6.4E-4 EF: 10 UCB: 6.4E-3 LCB: 6.4E-5 E: 0.100 N: 156.700</p>	<p>1.7E-3 --- 6.4E-3 6.4E-5 0.100 156.700</p>	<p>ATime: ---:---:--- PTime: 00:00:04 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603363-16- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2",single row or col;1-5 pushbuttons;no detent;single,clear, concise positioning; no info on event,location,or sequence; pt=0.57sec</p> <p>Mean: 1.5E-3 Median: 5.6E-4 EF: 10 UCB: 5.6E-3 LCB: 5.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.5E-3 Median: 5.6E-4 EF: 10 UCB: 5.6E-3 LCB: 5.6E-5 E: 0.100 N: 177.600</p>	<p>1.5E-3 --- 5.6E-3 5.6E-5 0.100 177.600</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell Task-Src	Task Description and Aggregated Task Values	Data Values		PSTs	Document Information
		Raw	NUCLARR calc		
1603363-17- 1*	Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2", single row or col; 6-10 pushbuttons; no detent; single, clear, concise positioning; no info on event, location, or sequence; pt=1.24sec Mean: 1.7E-3 Median: 6.4E-4 EF: 10 UCB: 6.4E-3 LCB: 6.4E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 6.4E-4 EF: 10 UCB: LCB: E: N:	1.7E-3 --- 6.4E-3 6.4E-5 0.100 156.700	ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP
1603363-18- 1*	Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2", single row or col; 11-25 pushbuttons; no detent; single, clear, concise positioning; no info on event, location, or sequence; pt=2.44sec Mean: 2.2E-3 Median: 8.3E-4 EF: 10 UCB: 8.3E-3 LCB: 8.3E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: EF: UCB: LCB: E: N:	2.2E-3 --- 8.3E-5 8.3E-5 0.100 121.200	ATime: ---:---:--- PTime: 00:00:03 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP
1603363-19- 1*	Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2", single row or col; 1-5 pushbuttons; detent; potentially ambi- guous positioning; no info on event, location, or sequence; pt=1.82sec Mean: 1.5E-3 Median: 5.6E-4 EF: 10 UCB: 5.6E-3 LCB: 5.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 5.6E-4 EF: 10 UCB: LCB: E: N:	1.5E-3 --- 5.6E-3 5.6E-5 0.100 177.600	ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP
1603363-20- 1*	Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2", single row or col; 6-10 pushbuttons; detent; potentially ambi- guous positioning; no info on event, location, or sequence; pt=2.49sec Mean: 2.2E-3 Median: 8.3E-4 EF: 10 UCB: 8.3E-3 LCB: 8.3E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 8.3E-4 EF: 10 UCB: LCB: E: N:	2.2E-3 --- 8.3E-3 8.3E-5 0.100 121.200	ATime: ---:---:--- PTime: 00:00:03 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U	Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603363-21- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2", single row or col; 11-25 pushbuttons; detent; potentially ambiguous positioning; no info on event, location, or sequence; pt=3.19sec</p> <p>Mean: 1.7E-3 Median: 6.4E-4 EF: 10 UCB: 6.4E-3 LCB: 6.4E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.7E-3 Median: 6.4E-4 EF: 10 UCB: 6.4E-3 LCB: 6.4E-5 E: 0.100 N: 156.700</p>	<p>2.7E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:04 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603363-22- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2", single row or col; 1-5 pushbuttons; no detent; potential. ambiguous positioning; no info on event, location, or sequence; pt=1.08sec</p> <p>Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N: 133.300</p>	<p>2.0E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603363-23- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2", single row or col; 6-10 pushbutts; no detent; potential. ambiguous positioning; no info on event, location, or sequence; pt=1.74sec</p> <p>Mean: 2.2E-3 Median: 8.3E-4 EF: 10 UCB: 8.3E-3 LCB: 8.3E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.2E-3 Median: 8.3E-4 EF: 10 UCB: 8.3E-3 LCB: 8.3E-5 E: 0.100 N: 121.000</p>	<p>2.2E-3 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603363-24- 1*	<p>Personnel SELECTS the Push-Button (Other) operator improperly uses (selects) pushbuttons given: size>1/2", single row or col; 11-25 pushbutts; no detent; potential. ambiguous positioning; no info on event, location, or sequence; pt=2.94sec</p> <p>Mean: 3.6E-4 Median: 1.4E-4 EF: 10 UCB: 1.4E-3 LCB: 1.4E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.6E-4 Median: 1.4E-4 EF: 10 UCB: 1.4E-3 LCB: 1.4E-5 E: 0.100 N: 740.700</p>	<p>3.6E-4 ---</p>	<p>ATime: ---:---:--- PTime: 00:00:03 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Pg. A-17 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603463- 1- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = sequence of 5 of 20; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 1.2E-3 Median: 4.5E-4 EF: 10 UCB: 4.5E-3 LCB: 4.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.2E-3 Median: 4.5E-4 EF: 10 UCB: 4.5E-3 LCB: 4.5E-5 E: 0.100 N: 221.700</p>	<p>1.2E-3 4.5E-3 4.5E-5 0.100 221.700</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463- 2- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = only 1 control; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 E: 0.100 N: 2659.500</p>	<p>1.0E-4 3.8E-4 3.7E-6 0.100 2659.500</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463- 3- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = sequence of 5 of 20; modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 265.900</p>	<p>1.0E-3 3.8E-3 3.8E-5 0.100 265.900</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463- 4- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = 1 control in group of 5; modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1329.700</p>	<p>2.0E-4 7.5E-4 7.5E-6 0.100 1329.700</p>	<p>ATime: ---:--- PTime: ---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603463- 5- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given there is only 1 control present; modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 E: 0.100 N: 2659.500</p>	<p>1.0E-4 --- 3.8E-4 3.7E-6 0.100 2659.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463- 6- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = only 1 control; non-modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 E: 0.100 N: 2659.500</p>	<p>1.0E-4 --- 3.8E-4 3.7E-6 0.100 2659.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463- 7- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = 1 control in 5; non-modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1329.700</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1329.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463- 8- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = sequence of 5 of 20; non-modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 E: 0.100 N: 190.100</p>	<p>1.4E-3 --- 5.3E-3 5.3E-5 0.100 190.100</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603463-9-1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = sequence of 5 of 20; non-modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 8.9E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 8.9E-3 Median: 3.4E-3 EF: 10 UCB: 3.4E-2 LCB: 3.4E-4 E: 0.100 N: 29.800</p>	<p>8.9E-3 --- 3.4E-2 3.4E-4 0.100 29.800</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463-10-1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = 1 control in 5; non-modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.4E-3 Median: 5.3E-4 EF: 10 UCB: 5.3E-3 LCB: 5.3E-5 E: 0.100 N: 188.600</p>	<p>1.4E-3 --- 5.3E-3 5.3E-5 0.100 188.600</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463-11-1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = only 1 control; non-modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1333.300</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1333.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463-12-1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = only 1 control; non-modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 E: 0.100 N: 1333.300</p>	<p>2.0E-4 --- 7.5E-4 7.5E-6 0.100 1333.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 8-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603463-13- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = 1 control in 5; non-modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 9.0E-4 Median: 3.4E-4 EF: 10 UCB: 3.4E-3 LCB: 3.4E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 9.0E-4 Median: 3.4E-4 EF: 10 UCB: 3.4E-3 LCB: 3.4E-5 E: 0.100 N: 295.800</p>	<p>9.0E-4 --- 3.4E-3 3.4E-5 0.100 295.800</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463-14- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = sequence of 5 in 20; non-modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 5.6E-3 Median: 2.1E-3 EF: 10 UCB: 2.1E-2 LCB: 2.1E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 5.6E-3 Median: 2.1E-3 EF: 10 UCB: 2.1E-2 LCB: 2.1E-4 E: 0.100 N: 47.500</p>	<p>5.6E-3 --- 2.1E-2 2.1E-4 0.100 47.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463-15- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = only 1 control; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 4.0E-4 Median: 1.5E-4 EF: 10 UCB: 1.5E-3 LCB: 1.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.0E-4 Median: 1.5E-4 EF: 10 UCB: 1.5E-3 LCB: 1.5E-5 E: 0.100 N: 666.600</p>	<p>4.0E-4 --- 1.5E-3 1.5E-5 0.100 666.600</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463-16- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = 1 control in 5; modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 7.0E-4 Median: 2.6E-4 EF: 10 UCB: 2.6E-3 LCB: 2.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 7.0E-4 Median: 2.6E-4 EF: 10 UCB: 2.6E-3 LCB: 2.6E-5 E: 0.100 N: 380.200</p>	<p>7.0E-4 --- 2.6E-3 2.6E-5 0.100 380.200</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			PSFs	Document Information
		Raw	WUCLAR calc	Raw		
1603463-17-1*	Personnel the Toggle Switch/Two-Position Personnel fail to select appropriate switch position Given: Given = sequence of 5 in 20; modular org; variable sequence No specifics on event, location, or sequence Mean: 4.0E-3 Median: 1.5E-3 EF: 10 UCB: 1.5E-2 LCB: 1.5E-4 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-3 EF: UCB: LCB: E: N:	4.0E-3 --- 1.5E-2 1.5E-4 0.100 66.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-B2 Origin: B-3 Laboratory Reference: 1-67 Vend/Eq.vi:Subj PlantCode: ALLP	
1603463-18-1*	Personnel the Toggle Switch/Two-Position Personnel fail to select appropriate switch position Given: Given = only 1 control; modular org; fixed sequence No specifics on event, location, or sequence Mean: 2.0E-4 Median: 7.5E-5 EF: 10 UCB: 7.5E-4 LCB: 7.5E-6 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 7.5E-5 EF: UCB: LCB: E: N:	2.0E-4 --- 7.5E-4 7.5E-6 0.100 1529.700	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-B2 Origin: B-3 Laboratory Reference: 1-67 Vend/Eq.vi:Subj PlantCode: ALLP	
1603463-19-1*	Personnel the Toggle Switch/Two-Position Personnel fail to select appropriate switch position Given: Given = 1 control in 5; modular org; fixed sequence No specifics on event, location, or sequence Mean: 4.0E-4 Median: 1.5E-4 EF: 10 UCB: 1.5E-3 LCB: 1.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 1.5E-4 EF: UCB: LCB: E: N:	4.0E-4 --- 1.5E-3 1.5E-5 0.100 666.600	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-B2 Origin: B-3 Laboratory Reference: 1-67 Vend/Eq.vi:Subj PlantCode: ALLP	
1603463-20-1*	Personnel the Toggle Switch/Two-Position Personnel fail to select appropriate switch position Given: Given = sequence of 5 of 20; modular org; fixed sequence No specifics on event, location, or sequence Mean: 2.4E-3 Median: 9.0E-4 EF: 10 UCB: 9.0E-3 LCB: 9.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED	Mean: Median: 9.0E-4 EF: UCB: LCB: E: N:	2.4E-3 --- 9.0E-3 9.0E-5 0.100 110.800	ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U	Document: 1-B2 Origin: B-3 Laboratory Reference: 1-67 Vend/Eq.vi:Subj PlantCode: ALLP	

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1603463-21- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = only 1 control; non-modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 E: 0.100 N: 2659.500</p>	<p>3.0E-4 1.1E-3 1.1E-5 0.100 886.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463-22- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = 1 control in 5; non-modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 3.0E-4 Median: 1.1E-4 EF: 10 UCB: 1.1E-3 LCB: 1.1E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.0E-4 Median: 1.1E-4 EF: 10 UCB: 1.1E-3 LCB: 1.1E-5 E: 0.100 N: 886.500</p>	<p>2.0E-3 7.5E-3 7.5E-5 0.100 132.900</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463-23- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given = sequence of 5 in 20; non-modular org; variable sequence No specifics on event, location, or sequence</p> <p>Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.0E-3 Median: 7.5E-4 EF: 10 UCB: 7.5E-3 LCB: 7.5E-5 E: 0.100 N: 132.900</p>	<p>1.0E-4 3.8E-4 3.7E-6 0.100 2659.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>
1603463-24- 1*	<p>Personnel SELECTS the Toggle Switch/Two-Position Personnel fail to select appropriate switch position given: Given there is only 1 control; modular org; fixed sequence No specifics on event, location, or sequence</p> <p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-4 Median: 3.8E-5 EF: 10 UCB: 3.8E-4 LCB: 3.7E-6 E: 0.100 N: 2659.500</p>	<p>1.0E-4 3.8E-4 3.7E-6 0.100 2659.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 B-3 Origin: Laboratory Reference: 1-67 Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1605160- 1- 1*	<p>Personnel POSITIONS the Multiposition Selector operator sets switch to wrong position given: operator set switch to correct position 10 position rotary selector switch</p> <p>Mean: 6.0E-3 Median: 3.0E-3 EF: 7 UCB: 2.0E-2 LCB: 4.5E-4 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.8E-3 Median: 3.0E-3 EF: --- UCB: 2.0E-2 LCB: 4.5E-4 E: 0.500 N: 166.600</p>	<p>7 4.5E-4 0.500 166.600</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. c-8, item 20 Origin: Psychological Scaling Reference: ---:---:--- Vend/EqLvl:Subj PlantCode: BWR</p>
1605160- 2- 1*	<p>Personnel POSITIONS the Multiposition Selector SPM mode selector switch A not left in auto position given: independent verification seq=no; local; ev=pre ie,poa; the;p</p> <p>Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 8.0E-3 Median: 3.0E-3 EF: 10 UCB: 3.0E-2 LCB: 3.0E-4 E: 0.100 N: 33.300</p>	<p>8.0E-3 --- 0.100 33.300</p>	<p>ATime: 00:00:00 PTime: 00:00:00 Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-87 chapt IV, pg 200 #13 Origin: Subjective Reference: 4-87 Vend/EqLvl:Subj PlantCode: GGS1</p>
1605260- 1- 1*	<p>Personnel POSITIONS the J-Handle Switch Operator fails to remove pull lock condition given: Seq = ALL</p> <p>Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 Error type: OMISSION Recovery: CONSIDERED</p>	<p>Mean: 7.1E-3 Median: 2.7E-3 EF: 10 UCB: 2.7E-2 LCB: 2.7E-4 E: 0.100 N: 37.500</p>	<p>7.1E-3 --- 0.100 37.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 5-88 19, Table 4.9 - 4 Origin: Subjective Reference: ---:---:--- Vend/EqLvl:Subj PlantCode: SPS1</p>
1605360- 1- 1*	<p>Personnel POSITIONS the Rotary Switch subject attempts to position (turn) rotary control given: place rotary switch in correct position errors of decision not included and no violation of population stereo- types</p> <p>Mean: 1.3E-3 Median: 5.0E-4 EF: 10 UCB: 5.0E-3 LCB: 5.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.3E-3 Median: 5.0E-4 EF: 10 UCB: 5.0E-3 LCB: 5.0E-5 E: 0.100 N: 200.000</p>	<p>1.3E-3 --- 0.100 200.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-28, item 5 Origin: Simulation Modeling Reference: ---:---:--- Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1605360- 2- 1*	<p>Personnel POSITIONS the Rotary Switch operator turns rotary switch in wrong direction given: operator turns on component all controls designed so that they operate similarly</p> <p>Mean: 1.1E-3 Median: 5.0E-4 EF: 8 UCB: 4.0E-3 LCB: 6.3E-5 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 1.1E-3 Median: 5.0E-4 EF: --- UCB: 4.0E-3 LCB: 6.3E-5 E: 0.500 N: 1000.000</p>	<p>1.1E-3 8 6.3E-5 0.500 1000.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: 3 Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. c-7, item 4 Origin: Psychological Scaling Reference: ----- Vend/EqLvl:Subj PlantCode: BWR</p>
1605360- 3- 1*	<p>Personnel POSITIONS the Rotary Switch subject attempts to position (turn) rotary control given: place rotary switch in correct position operation violates a population stereotype; operation performed under high stress</p> <p>Mean: 5.5E-1 Median: 5.0E-1 EF: 2 UCB: 1.0E+0 LCB: 2.5E-1 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 5.5E-1 Median: 5.0E-1 EF: --- UCB: 1.0E+0 LCB: 2.5E-1 E: 6.000 N: 12.000</p>	<p>5.5E-1 2 1.0E+0 2.5E-1 6.000 12.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 4 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 page 20-28, item 7 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1605360- 4- 1*	<p>Personnel POSITIONS the Rotary Switch subject attempts to position (turn) rotary control given: place rotary switch in correct position design violates a strong population stereotype; normal operating conditions</p> <p>Mean: 8.1E-2 Median: 5.0E-2 EF: 5 UCB: 2.5E-1 LCB: 1.0E-2 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 8.1E-2 Median: 5.0E-2 EF: 5 UCB: 2.5E-1 LCB: 1.0E-2 E: 1.000 N: 20.000</p>	<p>8.1E-2 --- 2.5E-1 1.0E-2 1.000 20.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-28, item 6 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1605360- 5- 1*	<p>Personnel POSITIONS the Rotary Switch subject improperly positions rotary switch given: place rotary switch in correct position average plant conditions seq=na; remote; ev=pre-ie,poa; therp</p> <p>Mean: 1.1E-3 Median: 4.0E-4 EF: 10 UCB: 4.0E-3 LCB: 4.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.1E-3 Median: 4.0E-4 EF: 10 UCB: 4.0E-3 LCB: 4.0E-5 E: 0.100 N: 250.000</p>	<p>1.1E-3 --- 4.0E-3 4.0E-5 0.100 250.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-28, item 9 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
1606162- 1- 1*	<p>Personnel ADJUSTS the Continuously Variable Controls subject fails to hold switch until change of state complete given: switch released when correct state achieved average plant conditions</p> <p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-3 Median: 3.0E-3 EF: 3 UCB: 9.0E-3 LCB: 1.0E-3 E: 2.000 N: 666.600</p>	<p>3.8E-3 --- 9.0E-3 1.0E-3 2.000 666.600</p>	<p>ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-28, Item 10 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1607270- 1- 1	<p>Personnel CALCULATES the Calculator Personnel attempt simple arithmetic calculations given: Arrive at accurate calculations Average plant conditions, exclude low light conditions.</p> <p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 E: 2.000 N: 200.000</p>	<p>1.3E-2 --- 3.0E-2 3.3E-3 2.000 200.000</p>	<p>ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-26, Item 10 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1607270- 1- 2*	<p>Personnel CALCULATES the Calculator Personnel attempt simple arithmetic calculations given: Arrive at accurate calculations Average plant conditions, exclude low light conditions.</p> <p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.3E-1 Median: 1.0E-1 EF: 3 UCB: 3.0E-1 LCB: 3.3E-2 E: 2.000 N: 20.000</p>	<p>1.3E-1 --- 3.0E-1 3.3E-2 2.000 20.000</p>	<p>ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 4 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-26, Item 10 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1607270- 2- 1	<p>Personnel CALCULATES the Calculator use calculator very inaccurately given: detect gross arithmetic errors fail to detect calculations are way out of range</p> <p>Mean: 5.5E-1 Median: 5.0E-1 EF: 2 UCB: 1.0E+0 LCB: 2.5E-1 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.5E-1 Median: 5.0E-1 EF: 2 UCB: 1.0E+0 LCB: 2.5E-1 E: 1.000 N: 20.000</p>	<p>8.1E-2 --- 2.5E-1 1.0E-2 1.000 20.000</p>	<p>ATime: ----- PTime: ----- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-26, Item 11 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1607270- 2- 2*	<p>Personnel CALCULATES the Calculator use calculator very inaccurately given: detect gross arithmetic errors fail to detect calculations are way out of range</p> <p>Mean: 5.5E-1 Median: 5.0E-1 EF: 2 UCB: 1.0E+0 LCB: 2.5E-1 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 5.5E-1 Median: 5.0E-1 EF: --- UCB: 1.0E+0 LCB: 2.5E-1 E: 6.000 N:</p>	<p>5.5E-1 2 1.0E+0 2.5E-1 6.000 12.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 4 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 Page 20-26, Item 11 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615161- 1- 1*	<p>Personnel USES the Printed Communications subject fails to use valve change or restoration list given: subject uses valve change or restoration list</p> <p>Mean: 1.3E-2 Median: 1.0E-2 EF: 3 UCB: 3.0E-2 LCB: 3.3E-3 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-2 Median: 1.0E-2 EF: 3 UCB: 3.0E-2 LCB: 3.3E-3 E: 2.00E N:</p>	<p>1.3E-2 --- 3.0E-2 3.3E-3 2.00E 200.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-22, item 5 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615161- 2- 1*	<p>Personnel USES the Printed Communications subject fails to use checklist properly given: subject uses checklist properly includes read, perform, check off item on list; assume correct use of checklist for written entries (e.g. display readings, etc.)</p> <p>Mean: 5.5E-1 Median: 5.0E-1 EF: 2 UCB: 1.0E+0 LCB: 2.5E-1 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 5.0E-1 Median: 5.0E-1 EF: --- UCB: 1.0E+0 LCB: 2.5E-1 E: 6.000 N:</p>	<p>5.5E-1 2 1.0E+0 2.5E-1 6.000 12.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-22, item 8 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615172- 1- 1*	<p>Personnel WRITES the Printed Communications subject omits step in written communication given: subject doesn't omit step in written communication error exclusive of recovery factors; assume full step deleted</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.0E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N:</p>	<p>4.8E-3 --- 1.5E-2 6.0E-4 1.000 333.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 1 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	XUCLARR calc		
1615172- 2- 1*	<p>Personnel WRITFS the Printed Communications subject incorrectly writes step in written communication given: subject correctly writes step in written communication error exclusive of recovery factors; step entered incorrectly; simple reading & writing errors assumed; technical errors not addressed</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 3 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615272- 1- 1*	<p>Personnel WRITES the Tag subject omits step in written communication given: subject doesn't omit step in written communication error exclusive of recovery factors; assume full step deleted</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 1 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615272- 2- 1*	<p>Personnel WRITES the Tag subject incorrectly writes step in written communication given: subject correctly writes step in written communication error exclusive of recovery factors; step entered incorrectly; simple reading & writing errors assumed; technical info errors not addressed</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 3 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615372- 1- 1*	<p>Personnel WRITES the Log Book subject omits step in written communication given: subject doesn't omit step in written communication error exclusive of recovery factors; assume full step deleted</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 1 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

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APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1615372- 2- 1*	<p>Personnel WRITES the Log Book subject incorrectly writes step in written communication given: subject correctly writes step in written communication error exclusive of recovery factors; step entered incorrectly; simple reading & writing errors assumed; technical info errors not addressed</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 --- 1.5E-2 5.0E-4 1.000 333.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 3 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615472- 1- 1*	<p>Personnel WRITES the Administrative Procedure subject omits step in written communication given: subject doesn't omit step in written communication error exclusive of recovery factors; assume full step deleted</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 --- 1.5E-2 6.0E-4 1.000 333.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 1 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615472- 2- 1*	<p>Personnel WRITES the Administrative Procedure subject incorrectly writes step in written communication given: subject correctly writes step in written communication error exclusive of recovery factors; step entered incorrectly; simple reading & writing errors assumed; technical info errors not addressed</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 --- 1.5E-2 6.0E-4 1.000 333.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 3 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615561- 1- 1*	<p>Personnel USES the Operating Procedure subject fails to use written operations procedure given: subject uses written operations procedure normal operating conditions</p> <p>Mean: 1.3E-2 Median: 1.0E-2 EF: 3 UCB: 3.0E-2 LCB: 3.3E-3 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.3E-2 Median: 1.0E-2 EF: 3 UCB: 3.0E-2 LCB: 3.3E-3 E: 2.000 N: 200.000</p>	<p>1.3E-2 --- 3.0E-2 3.3E-3 2.000 200.000</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 1 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-85 pg. 20-22, i/ 3 Origin: Simulation Modeling Reference: ----- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1615561- 2- 1*	<p>Personnel USES the Operating Procedure subject fails to use written operations procedure given: subject uses written operations procedure abnormal operating conditions</p> <p>Mean: 1.3E-2 Median: 5.0E-3 EF: 10 UCB: 5.0E-2 LCB: 5.1E-4 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.3E-2 Median: 5.0E-3 EF: 10 UCB: 5.0E-2 LCB: 5.0E-4 E: 0.100 N: 20.000</p>	<p>1.3E-2 --- 5.0E-2 5.0E-4 0.100 20.000</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 3 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-22, item 4 Origin: Simulation Modeling Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615572- 1- 1*	<p>Personnel WRITES the Operating Procedure subject omits step in written communication given: subject doesn't omit step in written communication error exclusive of recovery factors; assume full step deleted</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 --- 1.5E-2 6.0E-4 1.000 333.300</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 1 Origin: Simulation Modeling Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615572- 2- 1*	<p>Personnel WRITES the Operating Procedure subject incorrectly writes step in written communication given: subject correctly writes step in written communication error exclusive of recovery factors; step entered incorrectly; simple reading & writing errors assumed; technical info errors not addressed</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 --- 1.5E-2 6.0E-4 1.000 333.300</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 3 Origin: Simulation Modeling Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615661- 1- 1*	<p>Personnel USES the Maintenance Procedure subject fails to use written maintenance procedure given: subject uses written maintenance procedure</p> <p>Mean: 3.8E-1 Median: 3.0E-1 EF: 3 UCB: 1.0E+0 LCB: 9.0E-2 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.8E-1 Median: 3.0E-1 EF: 3 UCB: 1.0E+0 LCB: 9.0E-2 E: 2.000 N: 6.600</p>	<p>3.9E-1 --- 3 1.0E+0 9.0E-2 2.000 6.600</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-22, item 7 Origin: Simulation Modeling Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1615672- 1- 1*	<p>Personnel WRITES the Maintenance Procedure subject omits step in written communication given: subject doesn't omit step in written communication error exclusive of recovery factors; assume full step deleted</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 --- 1.5E-2 6.0E-4 1.000 333.300</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 1 Origin: Simulation Modeling Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615672- 2- 1*	<p>Personnel WRITES the Maintenance Procedure subject incorrectly writes step in written communication given: subject correctly writes step in written communication error exclusive of recovery factors; step entered incorrectly; simple reading & writing errors assumed; technical info errors not addressed</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 --- 1.5E-2 6.0E-4 1.000 333.300</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 3 Origin: Simulation Modeling Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615761- 1- 1*	<p>Personnel USES the Test Or Calibration Procedure subject fails to use written test/calibration procedure given: subject uses written test/calibration procedure</p> <p>Mean: 8.1E-2 Median: 5.0E-2 EF: 5 UCB: 2.5E-1 LCB: 1.0E-2 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 8.1E-2 Median: 5.0E-2 EF: 5 UCB: 2.5E-1 LCB: 1.0E-2 E: 1.000 N: 20.000</p>	<p>8.1E-2 --- 2.5E-1 1.0E-2 1.000 20.000</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-22, item 6 Origin: Simulation Modeling Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615772- 1- 1*	<p>Personnel WRITES the Test Or Calibration Procedure subject omits step in written communication given: subject doesn't omit step in written communication error exclusive of recovery factors; assume full step deleted</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: OMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 --- 1.5E-2 6.0E-4 1.000 333.300</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 1 Origin: Simulation Modeling Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1615772- 2- 1*	<p>Personnel WRITES the Test Or Calibration Procedure subject incorrectly writes step in written communication given: subject correctly writes step in written communication error exclusive of recovery factors; step entered incorrectly; simple reading & writing errors assumed; technical info errors not addressed</p> <p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.8E-3 Median: 3.0E-3 EF: 5 UCB: 1.5E-2 LCB: 6.0E-4 E: 1.000 N: 333.300</p>	<p>4.8E-3 ---</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: 1 Stress : 2 Supervision: U Tagging: U Training: U</p>	<p>Document: 1-83 pg. 20-21, item 3 Origin: Simulation Modeling Reference: --- Vend/EqLvl:Subj PlantCode: ALLP</p>
1615866- 1- 1*	<p>Personnel READS the Graph operator incorrectly reads graph given: operator correctly reads graph information graphed in a procedure</p> <p>Mean: 1.0E-2 Median: 7.0E-3 EF: 4 UCB: 3.0E-2 LCB: 1.6E-3 Error type: COMMISSION Recovery: CONSIDERED</p>	<p>Mean: 7.0E-3 Median: 7.0E-3 EF: --- UCB: 3.0E-2 LCB: 1.6E-3 E: 1.000 N: 142.800</p>	<p>1.0E-2 4</p>	<p>ATime: --- PTime: --- Experience: 3 Feedback: U Procedure: 3 Staffing: 1 Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 2-84 pg. c-8, item 13 Origin: Psychological Scaling Reference: --- Vend/EqLvl:Subj PlantCode: BWR</p>
1616166- 1- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 1 or 2 words; legibility potentially ambiguous; print height = 1/5" or + No specifics on event, location, or sequence; perf. time = 1 sec (.45)</p> <p>Mean: 7.0E-4 Median: 2.6E-4 EF: 10 UCB: 2.6E-3 LCB: 2.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 7.0E-4 Median: 2.6E-4 EF: 10 UCB: 2.6E-3 LCB: 2.6E-5 E: 0.100 N: 380.200</p>	<p>7.0E-4 ---</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1616166- 2- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 6 - 11 words; legibility clear & concise; print height = 1/5" or more No specifics on event, location, or sequence; perf. time = 1 sec (.4)</p> <p>Mean: 1.9E-3 Median: 7.1E-4 EF: 10 UCB: 7.1E-3 LCB: 7.1E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 7.1E-4 Median: 7.1E-4 EF: 10 UCB: 7.1E-3 LCB: 7.1E-5 E: 0.100 N: 140.000</p>	<p>1.9E-3 ---</p>	<p>ATime: --- PTime: --- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1616166- 3- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 1 or 2 words; legibility clear & concise; print height = 1/5" or more No specifics on event, location, or sequence; perf. time = 1 sec (.20)</p> <p>Mean: 5.0E-4 Median: 1.9E-4 EF: 10 UCB: 1.9E-3 LCB: 1.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 5.0E-4 Median: 1.9E-4 EF: 10 UCB: 1.9E-3 LCB: 1.9E-5 E: 0.100 N: 531.900</p>	<p>5.0E-4 --- 1.9E-3 1.9E-5 0.100 531.900</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP</p>
1616166- 4- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 6 - 7 digits; legibility potentially ambiguous; print height = 1/5" or + No specifics on event, location, or sequence; perf. time = 1 sec (1.16)</p> <p>Mean: 1.5E-3 Median: 5.6E-4 EF: 10 UCB: 5.6E-3 LCB: 5.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.5E-3 Median: 5.6E-4 EF: 10 UCB: 5.6E-3 LCB: 5.6E-5 E: 0.100 N: 177.500</p>	<p>1.5E-3 --- 5.6E-3 5.6E-5 0.100 177.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP</p>
1616166- 5- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 3 digits; legibility potentially ambiguous; print height = 1/5" or + No specifics on event, location, or sequence; perf. time = 1 sec (.56)</p> <p>Mean: 1.2E-3 Median: 4.5E-4 EF: 10 UCB: 4.5E-3 LCB: 4.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.2E-3 Median: 4.5E-4 EF: 10 UCB: 4.5E-3 LCB: 4.5E-5 E: 0.100 N: 221.700</p>	<p>1.2E-3 --- 4.5E-3 4.5E-5 0.100 221.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP</p>
1616166- 6- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 6-7 digits; legibility clear & concise; print height = 1/5" or more No specifics on event, location, or sequence; perf. time = 1 sec (.91)</p> <p>Mean: 1.3E-3 Median: 4.9E-4 EF: 10 UCB: 4.9E-3 LCB: 4.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.3E-3 Median: 4.9E-4 EF: 10 UCB: 4.9E-3 LCB: 4.9E-5 E: 0.100 N: 204.500</p>	<p>1.3E-3 --- 4.9E-3 4.9E-5 0.100 204.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl: Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	MUCLARR calc		
1616166- 7- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 3 digits; legibility clear & concise; print height = 1/5" or more No specifics on event, location, or sequence; perf. time = 1 sec (.31)</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 265.900</p>	<p>1.0E-3 3.8E-4 3.8E-3 3.8E-5 0.100 265.900</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1616166- 8- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 6-11 words; legibility potentially ambiguous; print height = 1/5" or + No specifics on event, location, or sequence; perf. time = 3 sec (2.1)</p> <p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 E: 0.100 N: 126.700</p>	<p>2.1E-3 7.9E-4 7.9E-3 7.9E-5 0.100 126.700</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1616166- 9- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 3 digits; legibility clear & concise; print height = 1/8" No specifics on event, location, or sequence; perf. time = 1 sec (.5)</p> <p>Mean: 1.3E-3 Median: 4.9E-4 EF: 10 UCB: 4.9E-3 LCB: 4.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.3E-3 Median: 4.9E-4 EF: 10 UCB: 4.9E-3 LCB: 4.9E-5 E: 0.100 N: 204.500</p>	<p>1.3E-3 4.9E-4 4.9E-3 4.9E-5 0.100 204.500</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1616166-10- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 3 digits; legibility potentially ambiguous; print height = 1/8" No specifics on event, location, or sequence; perf. time = 1 sec (.76)</p> <p>Mean: 1.5E-3 Median: 5.6E-4 EF: 10 UCB: 5.6E-3 LCB: 5.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.5E-3 Median: 5.6E-4 EF: 10 UCB: 5.6E-3 LCB: 5.6E-5 E: 0.100 N: 177.300</p>	<p>1.5E-3 5.6E-4 5.6E-3 5.6E-5 0.100 177.300</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1616166-11- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 6-7 digits; legibility clear & concise; print height = 1/8" No specifics on event, location, or sequence; perf. time = 2 sec(1.11)</p> <p>Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 E: 0.100 N: 166.100</p>	<p>1.6E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1616166-12- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 6-11 words; legibility clear & concise; print height = 1/8" No specifics on event, location, or sequence; perf. time = 3 sec(2.05)</p> <p>Mean: 2.2E-3 Median: 8.3E-4 EF: 10 UCB: 8.3E-3 LCB: 8.3E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.2E-3 Median: 8.3E-4 EF: 10 UCB: 8.3E-3 LCB: 8.3E-5 E: 0.100 N: 120.900</p>	<p>2.2E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1616166-13- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 1 or 2 words; legibility clear & concise; print height = 1/8" No specifics on event, location, or sequence; perf. time = 1 sec (.4)</p> <p>Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 8.0E-4 Median: 3.0E-4 EF: 10 UCB: 3.0E-3 LCB: 3.0E-5 E: 0.100 N: 333.300</p>	<p>8.0E-4 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1616166-14- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 6-7 digits; legibility potentially ambiguous; print height = 1/8" No specifics on event, location, or sequence; perf. time = 2 sec(1.36)</p> <p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 E: 0.100 N: 147.700</p>	<p>1.8E-3 ---</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress: U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1616166-15- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 1 or 2 words; legibility potentially ambiguous; print height = 1/8" No specifics on event, location, or sequence; perf.time = 1 sec (.65)</p> <p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.0E-3 Median: 3.8E-4 EF: 10 UCB: 3.8E-3 LCB: 3.8E-5 E: 0.100 N: 265.900</p>	<p>1.0E-3 --- 3.8E-3 3.8E-5 0.100 265.900</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1616166-16- 1*	<p>Personnel READS the Label Personnel fails to read label properly given: 6-11 words; legibility potentially ambiguous; print height = 1/8" No specifics on event, location, or sequence; perf.time = 3 sec (2.3)</p> <p>Mean: 2.4E-3 Median: 9.0E-4 EF: 10 UCB: 9.0E-3 LCB: 9.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.4E-3 Median: 9.0E-4 EF: 10 UCB: 9.0E-3 LCB: 9.0E-5 E: 0.100 N: 111.100</p>	<p>2.4E-3 --- 9.0E-3 9.0E-5 0.100 111.100</p>	<p>ATime: ---:---:--- PTime: ---:---:--- Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-4 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160- 1- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fails to connect cable properly given: required force =< 5 lbs., no locking method, standard tool used; no specifics on event, location, or sequence; performance time = 1.65 sec</p> <p>Mean: 2.6E-3 Median: 9.7E-4 EF: 10 UCB: 9.7E-3 LCB: 9.7E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.6E-3 Median: 9.7E-4 EF: 10 UCB: 9.7E-3 LCB: 9.7E-5 E: 0.100 N: 102.600</p>	<p>2.6E-3 --- 9.7E-3 9.7E-5 0.100 102.600</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160- 2- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fails to connect cable properly given: required force > 5 lbs., locking method < 1/4 turn, special tool used no info on event, location, or sequence; performance time = 1.75 sec</p> <p>Mean: 2.3E-3 Median: 8.6E-4 EF: 10 UCB: 8.6E-3 LCB: 8.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.3E-3 Median: 8.6E-4 EF: 10 UCB: 8.6E-3 LCB: 8.6E-5 E: 0.100 N: 116.200</p>	<p>2.3E-3 --- 8.6E-3 8.6E-5 0.100 116.200</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values			
		Raw	NUCLARR calc	PSFs	Document Information
1618160- 3- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fails to connect cable properly given: required force > 5 lbs., no locking method, standard tool used; no info on event, location, or sequence; performance time = 2.40 sec</p> <p>Mean: 3.1E-3 Median: 1.2E-3 EF: 10 UCB: 1.2E-2 LCB: 1.2E-4 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 3.1E-3 Median: 1.2E-3 EF: 10 UCB: 1.2E-2 LCB: 1.2E-4 E: 0.100 N: 86.200</p>	<p>3.1E-3 --- 1.2E-2 1.2E-4 0.100 86.200</p>	<p>ATime: ---:---:--- PTime: 00:00:03 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 pg. A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160- 4- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force<=5lbs,lock<1/4turn,standard tool used no specifics on event, location, or sequence</p> <p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 E: 0.100 N: 126.500</p>	<p>2.1E-3 --- 7.9E-3 7.9E-5 0.100 126.500</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160- 5- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force >5lbs,lock<1/4turn,standard tool used no specifics on event, location, or sequence</p> <p>Mean: 2.6E-3 Median: 9.8E-4 EF: 10 UCB: 9.8E-3 LCB: 9.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.6E-3 Median: 9.8E-4 EF: 10 UCB: 9.8E-3 LCB: 9.8E-5 E: 0.100 N: 102.400</p>	<p>2.6E-3 --- 9.8E-3 9.8E-5 0.100 102.400</p>	<p>ATime: ---:---:--- PTime: 00:00:03 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160- 6- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force<=5lbs,lock=thread, standard tool used no specifics on event, location, or sequence</p> <p>Mean: 1.4E-3 Median: 5.2E-4 EF: 10 UCB: 5.2E-3 LCB: 5.2E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.4E-3 Median: 5.2E-4 EF: 10 UCB: 5.2E-3 LCB: 5.2E-5 E: 0.100 N: 192.300</p>	<p>1.4E-3 --- 5.2E-3 5.2E-5 0.100 192.300</p>	<p>ATime: ---:---:--- PTime: 00:00:05 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1618160- 7- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force >5lbs,lock=thread, standard tool used no specifics on event, location, or sequence</p> <p>Mean: 1.9E-3 Median: 7.1E-4 EF: 10 UCB: 7.1E-3 LCB: 7.1E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.9E-3 Median: 7.1E-4 EF: 10 UCB: 7.1E-3 LCB: 7.1E-5 E: 0.100 N: 140.800</p>	<p>1.9E-3 --- 7.1E-3 7.1E-5 0.100 140.800</p>	<p>ATime: ---:---:--- PTime: 00:00:09 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160- 8- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force<=5lbs,no lock, special tool used no specifics on event, location, or sequence</p> <p>Mean: 2.3E-3 Median: 8.6E-4 EF: 10 UCB: 8.6E-3 LCB: 8.6E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.3E-3 Median: 8.6E-4 EF: 10 UCB: 8.6E-3 LCB: 8.6E-5 E: 0.100 N: 116.200</p>	<p>2.3E-3 --- 8.6E-3 8.6E-5 0.100 116.200</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160- 9- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force >5lbs,no lock, special tool used no specifics on event, location, or sequence</p> <p>Mean: 2.6E-3 Median: 9.7E-4 EF: 10 UCB: 9.7E-3 LCB: 9.7E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.6E-3 Median: 9.7E-4 EF: 10 UCB: 9.7E-3 LCB: 9.7E-5 E: 0.100 N: 103.000</p>	<p>2.6E-3 --- 9.7E-3 9.7E-5 0.100 103.000</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160-10- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force<=5lbs,lock=thread, special tool used no specifics on event, location, or sequence</p> <p>Mean: 1.1E-3 Median: 4.1E-4 EF: 10 UCB: 4.1E-3 LCB: 4.1E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.1E-3 Median: 4.1E-4 EF: 10 UCB: 4.1E-3 LCB: 4.1E-5 E: 0.100 N: 243.900</p>	<p>1.1E-3 --- 4.1E-3 4.1E-5 0.100 243.900</p>	<p>ATime: ---:---:--- PTime: 00:00:18 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task Level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1618160-11- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force<=5lbs,lock<1/4turn, special tool used no specifics on event, location, or sequence</p> <p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.8E-3 Median: 6.8E-4 EF: 10 UCB: 6.8E-3 LCB: 6.8E-5 E: 0.100 N: 147.000</p>	<p>1.8E-3 --- 6.8E-3 6.8E-5 0.100 147.000</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160-12- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force >5lbs, lock=threaded, special tool used no specifics on event, location, or sequence</p> <p>Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 E: 0.100 N: 166.600</p>	<p>1.6E-3 --- 6.0E-3 6.0E-5 0.100 166.600</p>	<p>ATime: ---:---:--- PTime: 00:00:08 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160-13- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force<=5lbs, no locking, no tools used no specifics on event, location, or sequence</p> <p>Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 E: 0.100 N: 166.600</p>	<p>1.6E-3 --- 6.0E-3 6.0E-5 0.100 166.600</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160-14- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force<=5lbs, locking<1/4turn, no tools used no specifics on event, location, or sequence</p> <p>Mean: 1.1E-3 Median: 4.1E-4 EF: 10 UCB: 4.1E-3 LCB: 4.1E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.1E-3 Median: 4.1E-4 EF: 10 UCB: 4.1E-3 LCB: 4.1E-5 E: 0.100 N: 242.100</p>	<p>1.1E-3 --- 4.1E-3 4.1E-5 0.100 242.100</p>	<p>ATime: ---:---:--- PTime: 00:00:01 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

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* Data point is used in Task level calculations.

APPENDIX C. TASK LEVEL AGGREGATIONS AND RAW DATA

Cell-Task-Src	Task Description and Aggregated Task Values	Data Values		PSFs	Document Information
		Raw	NUCLARR calc		
1618160-15- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force<=5lbs, locking=threaded, no tools used no specifics on event, location, or sequence</p> <p>Mean: 4.0E-4 Median: 1.5E-4 EF: 10 UCB: 1.5E-3 LCB: 1.5E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 4.0E-4 Median: 1.5E-4 EF: 10 UCB: 1.5E-3 LCB: 1.5E-5 E: 0.100 N: 666.600</p>	<p>4.0E-4 --- 1.5E-3 1.5E-5 0.100 666.600</p>	<p>ATime: ---:---:--- PTime: 00:00:07 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160-16- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force >5lbs, no locking method, no tools used no specifics on event, location, or sequence</p> <p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 2.1E-3 Median: 7.9E-4 EF: 10 UCB: 7.9E-3 LCB: 7.9E-5 E: 0.100 N: 126.700</p>	<p>2.1E-3 --- 7.9E-3 7.9E-5 0.100 126.700</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160-17- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force >5lbs, lock<1/4 turn, no tools used no specifics on event, location, or sequence</p> <p>Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 1.6E-3 Median: 6.0E-4 EF: 10 UCB: 6.0E-3 LCB: 6.0E-5 E: 0.100 N: 166.300</p>	<p>1.6E-3 --- 6.0E-3 6.0E-5 0.100 166.300</p>	<p>ATime: ---:---:--- PTime: 00:00:02 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>
1618160-18- 1*	<p>Personnel POSITIONS the Equipment - Nonspecific personnel fail to connect cable properly given: requir. force >5lbs, lock=threaded, no tools used no specifics on event, location, or sequence</p> <p>Mean: 9.0E-4 Median: 3.4E-4 EF: 10 UCB: 3.4E-3 LCB: 3.4E-5 Error type: COMMISSION Recovery: NOT CONSIDERED</p>	<p>Mean: 9.0E-4 Median: 3.4E-4 EF: 10 UCB: 3.4E-3 LCB: 3.4E-5 E: 0.100 N: 295.800</p>	<p>9.0E-4 --- 3.4E-3 3.4E-5 0.100 295.800</p>	<p>ATime: ---:---:--- PTime: 00:00:08 Experience: U Feedback: U Procedure: U Staffing: U Stress : U Supervision: U Tagging: U Training: U</p>	<p>Document: 1-82 Appendix A-11 Origin: Laboratory Reference: 1-62 Vend/EqLvl:Subj PlantCode: ALLP</p>

* Data point is used in Task Level calculations.

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APPENDIX D
HEP CODES AND DOCUMENT LISTING

CONTENTS

TABLE 1. HUMAN ACTION VERBS	D-1
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TABLE 1. HUMAN ACTION VERBS

<u>Code</u>	<u>Human Action</u>
01	TESTS
02	OPERATES
03	MONITORS
04	DIAGNOSES
05	MAINTAINS
06	INSPECTS
07	CHECKS
08	FILLS/DRAINS
09	OPENS/CLOSES
10	STARTS/STOPS
11	CALIBRATES
12	REPAIRS
13	POSITIONS
14	USES
15	ADJUSTS
16	SELECTS
17	IDENTIFIES
18	VERIFIES
19	READS
20	REMEMBERS
21	CALCULATES
22	RECEIVES
23	WRITES

TABLE 2. PLANT IDENTIFICATION CODES

Code	Plants	Code	Plants
ALLP	ALL PLANTS	EIH2	HATCH 2
ANO1	ARKANSAS 1	EPRA	UNFINISHED PRA "E"
ANO2	ARKANSAS 2	EUR	EUROPEAN COMM (SAIC)
APRA	PROPRIETARY PRA "A"	FCS1	FORT CALHOUN
AREL	PROPRIETARY REL "A"	FFTF	FAST FLUX TEST FAC.
ATR	ADV. TEST REACT. - INEL	FPRA	PROPRIETARY PRA "F"
AWV1	VOGTLE 1	FSV1	FORT ST. VRAIN
B&W	BABCOCK & WILCOX	GE	GENERAL ELECTRIC
BEP	ALL BRUNSWICK	GG51	GRAND GULF
BEP1	BRUNSWICK 1	GPRA	UNFINISHED PRA "G"
BEP2	BRUNSWICK 2	HBR2	ROBINSON 2
BPRA	PROPRIETARY PRA "B"	HCS1	HOPE CREEK
BREL	PROPRIETARY REL "B"	HMB1	HUMBOLT BAY
BRF1	BROWNS FERRY 1	HNP1	HADDAM NECK
BRF2	BROWNS FERRY 2	IP1	IPRDS PLANT 1
BRF3	BROWNS FERRY 3	IP2	IPRDS PLANT 2
BRP1	BIG ROCK POINT	IP3	IPRDS 3, UNITS 1-3
BRS1	BRAIDWOOD 1	IP4	IPRDS PLANT 4
BVS1	BEAVER VALLEY 1	IP5	IPRDS 5, UNITS 1-3
BWR	ALL BWR PLANTS	IPS2	INDIAN POINT 2
BYS1	BYRON 1	IPS3	INDIAN POINT 3
BYS2	BYRON 2	JAF1	FITZPATRICK
CAY1	CALLAWAY	JMF	ALL FARLEY
CCN	ALL CALVERT CLIFFS	JMF1	FARLEY 1
CCN1	CALVERT CLIFFS 1	JMF2	FARLEY 2
CCN2	CALVERT CLIFFS 2	KNP1	KEWAUNEE
CE	COMBUSTION ENGINEER.	LBR1	LA CROSSE
CNS1	CATAWBA 1	LGS1	LIMERICK
CNS2	CATAWBA 2	LSC	ALL LASALLE
CPP1	CLINTON 1	LSC1	LASALLE 1
CPRI	COOPER STATION	LSC2	LASALLE 2
CPRA	UNPUBLISHED PRA "C"	LSC3	LASALLE 3
CPS	ALL COMANCHE PEAK	MGS1	MCGUIRE 1
CRP3	CRYSTAL RIVER 3	MGS2	MCGUIRE 2
DAC1	DUANE ARNOLD	MNP1	MONTICELLO
DBS1	DAVIS-BESSE	MNS1	MILLSTONE 1
DCC1	COOK 1	MNS2	MILLSTONE 2
DCC2	COOK 2	MNS3	MILLSTONE 3
DCP1	DIABLO CANYON 1	MYP1	MAINE YANKEE
DCP2	DIABLO CANYON 2	NAS1	NORTH ANNA 1
DPRA	UNPUBLISHED PRA "D"	NAS2	NORTH ANNA 2
DRS	ALL DRESDEN	NEE1	OCONEE 1
DRS1	DRESDEN 1	NEE2	OCONEE 2
DRS2	DRESDEN 2	NEE3	OCONEE 3
DRS3	DRESDEN 3	NMP1	NINE MILE PT. 1
EFP2	FERMI 2	NMP2	NINE MILE PT. 2
EIH1	HATCH 1	NONP	NON-PLANT SPECIFIC

TABLE 2. PLANT IDENTIFICATION CODES (con't)

Code	Plants	Code	Plants
OCP1	OYSTER CREEK	SLS2	ST. LUCIE 2
PAL1	PALISADES	SNP1	SEQUOYAH 1
PAV1	PALO VERDE 1	SNP2	SEQUOYAH 2
PAV2	PALO VERDE 2	SNS1	SHOREHAM
PBH	ALL POINT BEACH	SOS1	SAN ONOFRE 1
PBH1	POINT BEACH 1	SOS2	SAN ONOFRE 2
PBH2	POINT BEACH 2	SOS3	SAN ONOFRE 3
PBS	ALL PEACH BOTTOM	SPS	ALL SURRY
PBS2	PEACH BOTTOM 2	SPS1	SURRY 1
PBS3	PEACH BOTTOM 3	SPS2	SURRY 2
PIN	ALL PRAIRIE ISLAND	SVR1	SAVANAH RIV. K REACT
PIN1	PRAIRIE ISLAND 1	TMI1	THREE MILE ISL. 1
PIN2	PRAIRIE ISLAND 2	TMI2	THREE MILE ISL. 2
PNP1	PERRY	TNP1	TROJAN
PPS1	PILGRIM	TPS	ALL TURKEY POINT
PWR	ALL PWR PLANTS	TPS3	TURKEY POINT 3
QAD	ALL QUAD CITIES	TPS4	TURKEY POINT 4
QAD1	QUAD CITIES 1	VCS1	SUMMER
QAD2	QUAD CITIES 2	VYS1	VERMONT YANKEE 1
RBS1	RIVER BEND	WCS1	WOLF CREEK
REG1	GINNA	WEST	WESTINGHOUSE
RGLS	RINGHALS 2 (SWEDISH)	WGS3	WATERFORD 3
RSS1	RANCHO SECO	WNF2	WASH. NUCLEAR 2
SBK1	SEABROOK	X	PLANT X (SAIC DATA)
SES	ALL SUSQUEHANNA	Y1	PLANT Y, (1ST U) SAIC
SES1	SUSQUEHANNA 1	Y2	PLANT Y, (2ND U) SAIC
SES2	SUSQUEHANNA 2	YKR1	YANKEE-ROWE
SGS1	SALEM 1	ZIS	ALL ZION
SGS2	SALEM 2	ZIS1	ZION 1
SHS1	HARRIS 1	ZIS2	ZION 2
SLS1	ST. LUCIE 1		

TABLE 3. MATRIX ORGANIZATION

LEVEL 1

- Matrix 1 - General Electric Systems/Control Room Operator Duty
- Matrix 2 - General Electric Systems/Equipment Operator Duty
- Matrix 3 - General Electric Systems/Maintenance Technician Duty
- Matrix 4 - Westinghouse Systems/Control Room Operator Duty
- Matrix 5 - Westinghouse Systems/Equipment Operator Duty
- Matrix 6 - Westinghouse Systems/Maintenance Technician Duty
- Matrix 7 - Combustion Engineering Systems/Control Room Operator Duty
- Matrix 8 - Combustion Engineering Systems/Equipment Operator Duty
- Matrix 9 - Combustion Engineering Systems/Maintenance Technician Duty
- Matrix 10 - Babcock & Wilcox Systems/Control Room Operator Duty
- Matrix 11 - Babcock & Wilcox Systems/Equipment Operator Duty
- Matrix 12 - Babcock & Wilcox Systems/Maintenance Technician Duty

LEVEL 2

- Matrix 13 - Components/Control Room Operator Tasks
- Matrix 14 - Components/Equipment Operator Tasks
- Matrix 15 - Components/Maintenance Technician Tasks

LEVEL 3

- Matrix 16 - Displays/Instruments/Controls/Task Elements
-

TABLE 4. MATRIX SUMMARY

<p>Matrix : 1</p> <p>Taxonomy Level : 1</p> <p>General Electric</p> <p>CRO</p>	<p>T O M D</p> <p>E P O I</p> <p>S E N A</p> <p>T R I G</p> <p>S A T N</p> <p>T O O</p> <p>E R S</p> <p>S S E</p> <p>S</p>
<p style="text-align: center;">KEY</p> <p>■ = Invalid, Illogical Cell</p> <p>□ = Invalid, Logical Cell</p> <p>* = Valid Cell Containing Data</p> <p>- = Valid Cell Containing No Data</p>	
<p>ID Equipment Description</p>	<p>0 0 0 0</p> <p>0 1 2 3</p>
000 SUMMARY OF AIR SYSTEMS	- * * *
001 Air Systems	- - - -
002 Instrument Air System	- * * *
003 Service Air System	- - - -
010 SUMMARY OF ANNUNCIATOR SYSTEMS	- - - -
011 Annunciator Systems	- - - -
020 SUMMARY OF COMMUNICATION SYSTEMS	- * - -
021 Communication Systems	- * - -
030 SUMMARY OF COMPRESSED GAS SYSTEMS	- - - -
031 Compressed Gas Systems	- - - -
040 SUMMARY OF CONDENSATE SYSTEMS	- * - -
041 Condensate Systems	- * - -
042 Condensate Cleanup System	- - - -
043 Condenser Air Removal System	- - - -
050 SUMMARY OF CONTAINMENT SYSTEMS	- * * *
051 Containment Systems	- * - *

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
052	Containment Atmosphere Cooling System	-	-	-	-
053	Containment Combustible Gas Control System	-	-	-	-
054	Containment Penetration/Isolation System	-	*	-	-
055	Containment Spray (RHR) System	-	*	-	-
056	Standby Gas Treatment System	-	-	*	-
057	Suppression Pool Support System	-	*	-	-
070	SUMMARY OF CONTROL ROD DRIVE SYSTEMS	-	*	-	*
071	Control Rod Drive Systems	-	*	-	*
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	-	*	-	-
081	Electrical Distribution Systems	-	*	-	-
082	AC Instrument Power System	-	-	-	-
083	DC Power System	-	-	-	-
084	Plant AC Distribution System	-	*	-	-
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	-	*	*	*
095	Emergency Core Cooling Systems	-	*	-	*
096	High Pressure Coolant Injection System	-	*	*	-
097	High Pressure Core Spray System	-	*	-	-
098	Low Pressure Core Spray System	-	*	*	-
099	Residual Heat Removal/Low Press Coolant Inject Syst	-	*	-	-
130	SUMMARY OF GENERATOR SYSTEMS	-	*	-	-
131	Generator Systems	-	-	-	-
132	Generator Excitation System	-	-	-	-
133	Generator H2 Cooling/CO2 Purge System	-	*	-	-
134	Generator Seal Oil System	-	-	-	-
135	Generator Stator Water Cooling System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	*	-	-
141	Heating, Ventilation & Air Conditioning Systems	-	*	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	-	*	-	-
151	Instrumentation and Control Systems	-	-	-	-
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-
156	Leak Detection System	-	-	-	-
161	Reactor Protection System	-	*	-	-
162	Remote Shutdown System	-	-	-	-
167	Area Radiation Monitoring System	-	-	-	-
168	MSIV Leakage Control System	-	-	-	-
169	Neutron Monitoring System	-	*	-	-
171	Nuclear Steam Supply Shutoff System	-	-	-	-
172	Process Radiation Monitoring System	-	-	-	-
173	Rod Control and Information System	-	-	-	-
174	Traversing Incore Probe System	-	-	-	-
179	Automatic Depressurization System	-	*	-	-
181	Containment Atmosphere Monitoring System	-	-	-	-
182	Feedwater Control System	-	*	-	-
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-
191	Radwaste Systems	-	-	-	-
193	Liquid Radwaste System	-	-	-	-
194	Solid Radwaste System	-	-	-	-
195	Offgas System	-	-	-	-
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
211	Refueling Systems	-	-	-	-
212	Fuel Handling System	-	-	-	-
214	Fuel Pool Cooling and Cleanup System	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	-	*
221	Turbine Systems	-	-	-	-
222	Extraction Steam System	-	-	-	*
223	Turbine Lube Oil System	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	-	*	-	*
231	Water Systems	-	*	-	-
232	Circulating Water System	-	-	-	*
236	Emergency (RHR) Service Water System	-	-	-	-
237	Essential Service Water System	-	-	-	-
238	Reactor Building Closed Cooling Water System	-	-	-	-
239	Turbine Building Closed Cooling Water System	-	-	-	-
241	Station Service Water System	-	*	-	-
250	SUMMARY OF REACTOR COOLANT SYSTEM/CONNECTED SYSTEM	-	*	-	-
251	Reactor Coolant Systems and Connected Systems	-	*	-	-
252	Feedwater System	-	-	-	-
253	Isolation Condenser System	-	-	-	-
254	Reactor Core Isolation Cooling System	-	*	-	-
255	Reactor Recirculation System	-	-	-	-
256	Reactor Water Cleanup System	-	-	-	-
257	Standby Liquid Control System	-	*	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
260	SUMMARY OF STANDBY DIESEL GENERATOR SYSTEMS	-	*	-	-
261	Standby Diesel Generator Systems	-	*	-	-
262	Standby Diesel Generator Cooling Water System	-	-	-	-
263	Standby Diesel Gen Fuel Oil Storage/Transfer Syst	-	-	-	-
264	Standby Diesel Generator Lube Oil System	-	-	-	-
265	Standby Diesel Generator Starting Air System	-	-	-	-
270	SUMMARY OF STEAM SYSTEMS	-	*	-	-
271	Steam Systems	-	-	-	-
272	Auxiliary Steam System	-	-	-	-
273	Main Steam System	-	*	-	-
280	SUMMARY OF HI PRESS CORE SPRAY DIESEL GEN SYST	-	-	-	-
281	Hi Press Core Spray (HPCS) Diesel Generator Systems	-	-	-	-
282	HPCS Cooling Water System	-	-	-	-
283	HPCS Fuel Oil Storage and Transfer System	-	-	-	-
284	HPCS Lube Oil System	-	-	-	-
285	HPCS Starting Air System	-	-	-	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-
311	Process Sampling Systems	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 2 Taxonomy Level : 1 General Electric EO		T O D M I E P I A N S E A I S T R G N P S A N T E T O A C E S I T S E N S S S
<p style="text-align: center;">KEY</p> ■ = Invalid, Illogical Cell = Invalid, Logical Cell * = Valid Cell Containing Data - = Valid Cell Containing No Data		
ID	Equipment Description	1 1 1 1 1 0 1 2 3 4
000	SUMMARY OF AIR SYSTEMS	- * - - -
001	Air Systems	- - - - -
002	Instrument Air System	- * - - -
003	Service Air System	- - - - -
010	SUMMARY OF ANNUNCIATOR SYSTEMS	- - - - -
011	Annunciator Systems	- - - - -
020	SUMMARY OF COMMUNICATION SYSTEMS	- - - - -
021	Communication Systems	- - - - -
030	SUMMARY OF COMPRESSED GAS SYSTEMS	- - - - -
031	Compressed Gas Systems	- - - - -
040	SUMMARY OF CONDENSATE SYSTEMS	- - - * -
041	Condensate Systems	- - - * -
042	Condensate Cleanup System	- - - - -
043	Condenser Air Removal System	- - - - -
050	SUMMARY OF CONTAINMENT SYSTEMS	- * - - -
051	Containment Systems	- * - - -

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
052	Containment Atmosphere Cooling System	-	-	-	-	-
053	Containment Combustible Gas Control System	-	-	-	-	-
054	Containment Penetration/Isolation System	-	-	-	-	-
055	Containment Spray (RHR) System	-	-	-	-	-
056	Standby Gas Treatment System	-	-	-	-	-
057	Suppression Pool Support System	-	*	-	-	-
070	SUMMARY OF CONTROL ROD DRIVE SYSTEMS	-	*	-	-	-
071	Control Rod Drive Systems	-	*	-	-	-
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	-	*	-	*	*
081	Electrical Distribution Systems	-	*	-	*	-
082	AC Instrument Power System	-	-	-	-	-
083	Dc Power System	-	*	-	*	*
084	Plant AC Distribution System	-	*	-	*	*
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	-	*	-	-	-
095	Emergency Core Cooling Systems	-	*	-	-	-
096	High Pressure Coolant Injection System	-	*	-	-	-
097	High Pressure Core Spray System	-	*	-	-	-
098	Low Pressure Core Spray System	-	*	-	-	-
099	Residual Heat Removal/Low Press Coolant Inject Syst	-	*	-	-	-
120	SUMMARY OF FIRE PROTECTION SYSTEMS	-	-	-	-	-
121	Fire Protection Systems	-	-	-	-	-
130	SUMMARY OF GENERATOR SYSTEMS	-	-	-	-	-
131	Generator Systems	-	-	-	-	-
132	Generator Excitation System	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
133	Generator H2 Cooling/CO2 Purge System	-	-	-	-	-
134	Generator Seal Oil System	-	-	-	-	-
135	Generator Stator Water Cooling System	-	-	-	-	-
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	-	-	-	-
141	Heating, Ventilation & Air Conditioning Systems	-	-	-	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	-	*	-	*	-
151	Instrumentation and Control Systems	-	-	-	-	-
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-	-
156	Leak Detection System	-	-	-	-	-
161	Reactor Protection System	-	-	-	-	-
162	Remote Shutdown System	-	-	-	-	-
167	Area Radiation Monitoring System	-	-	-	-	-
168	MSIV Leakage Control System	-	-	-	-	-
169	Neutron Monitoring System	-	-	-	-	-
171	Nuclear Steam Supply Shutoff System	-	-	-	-	-
172	Process Radiation Monitoring System	-	-	-	-	-
173	Rod Control and Information System	-	-	-	-	-
174	Traversing Incore Probe System	-	-	-	-	-
179	Automatic Depressurization System	-	-	-	-	-
181	Containment Atmosphere Monitoring System	-	-	*	-	-
182	Feedwater Control System	-	*	-	-	-
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-	-
191	Radwaste Systems	-	-	-	-	-
193	Liquid Radwaste System	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
194	Solid Radwaste System	-	-	-	-	-
195	Offgas System	-	-	-	-	-
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-	-
211	Refueling Systems	-	-	-	-	-
212	Fuel Handling System	-	-	-	-	-
214	Fuel Pool Cooling and Cleanup System	-	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	-	-	-
221	Turbine Systems	-	-	-	-	-
222	Extraction Steam System	-	-	-	-	-
223	Turbine Lube Oil System	-	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	-	-	-	-	-
231	Water Systems	-	-	-	-	-
232	Circulating Water System	-	-	-	-	-
236	Emergency (RHR) Service Water System	-	-	-	-	-
237	Essential Service Water System	-	-	-	-	-
238	Reactor Building Closed Cooling Water System	-	-	-	-	-
239	Turbine Building Closed Cooling Water System	-	-	-	-	-
241	Station Service Water System	-	-	-	-	-
250	SUMMARY OF REACTOR COOLANT SYSTEM/CONNECTED SYSTEM	-	*	-	-	-
251	Reactor Coolant Systems and Connected Systems	-	-	-	-	-
252	Feedwater System	-	-	-	-	-
253	Isolation Condenser System	-	-	-	-	-
254	Reactor Core Isolation Cooling System	-	*	-	-	-
255	Reactor Recirculation System	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
256	Reactor Water Cleanup System	-	-	-	-	-
257	Standby Liquid Control System	-	-	-	-	-
260	SUMMARY OF STANDBY DIESEL GENERATOR SYSTEMS	-	*	-	-	-
261	Standby Diesel Generator Systems	-	*	-	-	-
262	Standby Diesel Generator Cooling Water System	-	-	-	-	-
263	Standby Diesel Gen Fuel Oil Storage/Transfer Syst	-	-	-	-	-
264	Standby Diesel Generator Lube Oil System	-	-	-	-	-
265	Standby Diesel Generator Starting Air System	-	-	-	-	-
270	SUMMARY OF STEAM SYSTEMS	-	*	-	*	-
271	Steam Systems	-	-	-	-	-
272	Auxiliary Steam System	-	-	-	-	-
273	Main Steam System	-	*	-	*	-
280	SUMMARY OF HI PRESS CORE SPRAY DIESEL GEN SYST	-	-	-	-	-
281	Hi Press Core Spray (HPCS) Diesel Generator Systems	-	-	-	-	-
282	HPCS Cooling Water System	-	-	-	-	-
283	HPCS Fuel Oil Storage and Transfer System	-	-	-	-	-
284	HPCS Lube Oil System	-	-	-	-	-
285	HPCS Starting Air System	-	-	-	-	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-	*
311	Process Sampling Systems	-	-	-	-	*

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 3 Taxonomy Level : 1 General Electric MT		T C D M E H I A S E A I T C G N S K N T S O A S I E N S S
KEY ■ = Invalid, Illogical Cell - = Invalid, Logical Cell * = Valid Cell Containing Data - = Valid Cell Containing No Data		
ID	Equipment Description	2 2 2 2 0 1 2 3
000	SUMMARY OF AIR SYSTEMS	- - - -
001	Air Systems	- - - -
002	Instrument Air System	- - - -
003	Service Air System	- - - -
010	SUMMARY OF ANNUNCIATOR SYSTEMS	- - - -
011	Annunciator Systems	- - - -
020	SUMMARY OF COMMUNICATION SYSTEMS	- - - -
021	Communication Systems	- - - -
030	SUMMARY OF COMPRESSED GAS SYSTEMS	- - - -
031	Compressed Gas Systems	- - - -
040	SUMMARY OF CONDENSATE SYSTEMS	- - - *
041	Condensate Systems	- - - *
042	Condensate Cleanup System	- - - -
043	Condenser Air Removal System	- - - -
050	SUMMARY OF CONTAINMENT SYSTEMS	* - - *
051	Containment Systems	- - - -

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
052	Containment Atmosphere Cooling System	-	-	-	-
053	Containment Combustible Gas Control System	-	-	-	-
054	Containment Penetration/Isolation System	-	-	-	-
055	Containment Spray (RHR) System	-	-	-	*
056	Standby Gas Treatment System	-	-	-	-
057	Suppression Pool Support System	*	-	-	-
070	SUMMARY OF CONTROL ROD DRIVE SYSTEMS	*	-	-	-
071	Control Rod Drive Systems	*	-	-	-
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	*	-	-	*
081	Electrical Distribution Systems	-	-	-	-
082	AC Instrument Power System	-	-	-	-
083	DC Power System	*	-	-	*
084	Plant AC Distribution System	*	-	-	*
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	-	-	-	*
095	Emergency Core Cooling Systems	-	-	-	*
096	High Pressure Coolant Injection System	-	-	-	-
097	High Pressure Core Spray System	-	-	-	*
098	Low Pressure Core Spray System	-	-	-	*
099	Residual Heat Removal/Low Press Coolant Inject Syst	-	-	-	-
120	SUMMARY OF FIRE PROTECTION SYSTEMS	-	-	-	-
121	Fire Protection Systems	-	-	-	-
130	SUMMARY OF GENERATOR SYSTEMS	-	-	-	-
131	Generator Systems	-	-	-	-
132	Generator Excitation System	-	-	-	-
133	Generator H2 Cooling/CO2 Purge System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
134	Generator Seal Oil System	-	-	-	-
135	Generator Stator Water Cooling System	-	-	-	-
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	-	-	-
141	Heating, Ventilation & Air Conditioning Systems	-	-	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	*	-	-	*
151	Instrumentation and Control Systems	*	-	-	*
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-
156	Leak Detection System	-	-	-	-
161	Reactor Protection System	-	-	-	-
162	Remote Shutdown System	-	-	-	-
167	Area Radiation Monitoring System	-	-	-	-
168	MSIV Leakage Control System	-	-	-	-
169	Neutron Monitoring System	-	-	-	-
171	Nuclear Steam Supply Shutoff System	-	-	-	-
172	Process Radiation Monitoring System	-	-	-	-
173	Rod Control and Information System	-	-	-	-
174	Traversing Incore Probe System	-	-	-	-
179	Automatic Depressurization System	-	-	-	-
181	Containment Atmosphere Monitoring System	-	-	-	*
182	Feedwater Control System	-	-	-	-
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-
191	Radwaste Systems	-	-	-	-
193	Liquid Radwaste System	-	-	-	-
194	Solid Radwaste System	-	-	-	-
195	Offgas System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-
211	Refueling Systems	-	-	-	-
212	Fuel Handling System	-	-	-	-
214	Fuel Pool Cooling and Cleanup System	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	-	-
221	Turbine Systems	-	-	-	-
222	Extraction Steam System	-	-	-	-
223	Turbine Lube Oil System	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	-	-	-	*
231	Water Systems	-	-	-	-
232	Circulating Water System	-	-	-	-
236	Emergency (RHR) Service Water System	-	-	-	-
237	Essential Service Water System	-	-	-	-
238	Reactor Building Closed Cooling Water System	-	-	-	-
239	Turbine Building Closed Cooling Water System	-	-	-	-
241	Station Service Water System	-	-	-	*
250	SUMMARY OF REACTOR COOLANT SYSTEM/CONNECTED SYSTEM	*	-	-	*
251	Reactor Coolant Systems and Connected Systems	-	-	-	-
252	Feedwater System	-	-	-	-
253	Isolation Condenser System	-	-	-	-
254	Reactor Core Isolation Cooling System	-	-	-	*
255	Reactor Recirculation System	-	-	-	-
256	Reactor Water Cleanup System	-	-	-	-
257	Standby Liquid Control System	*	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
260	SUMMARY OF STANDBY DIESEL GENERATOR SYSTEMS	-	-	-	-
261	Standby Diesel Generator Systems	-	-	-	-
262	Standby Diesel Generator Cooling Water System	-	-	-	-
263	Standby Diesel Gen Fuel Oil Storage/Transfer Syst	-	-	-	-
264	Standby Diesel Generator Lube Oil System	-	-	-	-
265	Standby Diesel Generator Starting Air System	-	-	-	-
270	SUMMARY OF STEAM SYSTEMS	-	-	-	-
271	Steam Systems	-	-	-	-
272	Auxiliary Steam System	-	-	-	-
273	Main Steam System	-	-	-	-
280	SUMMARY OF HI PRESS CORE SPRAY DIESEL GEN SYST	-	-	-	-
281	Hi Press Core Spray (HPCS) Diesel Generator Systems	-	-	-	-
282	HPCS Cooling Water System	-	-	-	-
283	HPCS Fuel Oil Storage and Transfer System	-	-	-	-
284	HPCS Lube Oil System	-	-	-	-
285	HPCS Starting Air System	-	-	-	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-
311	Process Sampling Systems	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 4	
Taxonomy Level : 1	
Westinghouse	
CRO	
KEY	
■	= Invalid, Illogical Cell
□	= Invalid, Logical Cell
*	= Valid Cell Containing Data
-	= Valid Cell Containing No Data

T O M D
E P O I
S E N A
T R I G
S A T N
T O O
E R S E
S S E S

ID	Equipment Description	0	0	0	0
		0	1	2	3
000	SUMMARY OF AIR SYSTEMS	-	*	*	*
001	Air Systems	-	*	-	-
002	Instrument Air System	-	*	*	*
003	Service Air System	-	-	-	-
010	SUMMARY OF ANNUNCIATOR SYSTEMS	-	-	-	-
011	Annunciator Systems	-	-	-	-
020	SUMMARY OF COMMUNICATION SYSTEMS	-	*	-	-
021	Communication Systems	-	*	-	-
030	SUMMARY OF COMPRESSED GAS SYSTEMS	-	-	-	-
031	Compressed Gas Systems	-	-	-	-
040	SUMMARY OF CONDENSATE SYSTEMS	-	*	*	-
041	Condensate Systems	-	*	*	-
042	Condensate Cleanup System	-	-	-	-
050	SUMMARY OF CONTAINMENT SYSTEMS	*	*	*	*
051	Containment Systems	-	*	-	*
058	Annulus Ventilation System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
059	Combustible Gas Control System	-	-	-	-
061	Containment/Reactor Building Penetration System	-	-	-	-
062	Containment Fan Cooling System	-	-	-	-
063	Containment Isolation System	-	*	-	-
064	Containment Spray System	*	*	*	-
065	Containment Ventilation System	-	-	-	-
066	Ice Condenser System	-	-	-	-
070	SUMMARY OF CONTROL ROD DRIVE SYSTEMS	-	*	-	*
071	Control Rod Drive Systems	-	*	-	*
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	-	*	*	-
081	Electrical Distribution Systems	-	*	*	-
082	AC Instrument Power System	-	-	-	-
083	DC Power System	-	-	-	-
084	Plant AC Distribution System	-	*	-	-
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	*	*	*	*
091	Emergency Core Cooling Systems	*	*	*	*
092	High Pressure Safety Injection System	-	*	-	-
093	Residual Heat Removal/Low Press Safety Inject Syst	-	*	-	*
094	Upper Head Injection System	-	-	-	-
110	SUMMARY OF FEEDWATER SYSTEMS	-	*	*	*
111	Feedwater Systems	-	*	*	*
112	Auxiliary Feedwater System	-	*	*	*
113	Main Feedwater System	-	*	*	-
120	SUMMARY OF FIRE PROTECTION SYSTEMS	-	-	-	-
121	Fire Protection Systems	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
130	SUMMARY OF GENERATOR SYSTEMS	-	-	-	-
131	Generator Systems	-	-	-	-
132	Generator Excitation System	-	-	-	-
133	Generator H2 Cooling/CO2 Purge System	-	-	-	-
134	Generator Seal Oil System	-	-	-	-
135	Generator Stator Water Cooling System	-	-	-	-
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	-	-	*
141	Heating, Ventilation & Air Conditioning Systems	-	-	-	*
142	Penetration Room Ventilation System	-	-	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	-	*	*	*
151	Instrumentation and Control Systems	-	*	*	*
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-
153	Engineered Safeguards Actuation and Logic System	-	*	-	-
154	Excore Nuclear Instrumentation System	-	-	-	-
155	Incore Instrumentation System	-	-	-	-
156	Leak Detection System	-	-	-	-
157	Pressurizer Level Control System	-	*	-	-
158	Pressurizer Pressure Control System	-	*	*	-
159	Radiation Monitoring System	-	-	-	-
161	Reactor Protection System	-	*	-	-
162	Remote Shutdown System	-	-	-	-
163	Rod Control System	-	-	-	-
164	Rod Position Indication System	-	-	-	-
165	Steam Dump Control System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
166	Steam Generator Water Level Control System	-	*	*	*
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-
191	Radwaste Systems	-	-	-	-
192	Gaseous Radwaste System	-	-	-	-
193	Liquid Radwaste System	-	-	-	-
194	Solid Radwaste System	-	-	-	-
200	SUMMARY OF REACTOR COOLANT SYSTEMS	-	*	*	*
201	Reactor Coolant Systems	-	*	*	*
202	Boron Thermal Regeneration System	-	-	-	-
203	Chemical And Volume Control System	-	*	-	*
210	SUMMARY OF REFUELING SYSTEMS	-	*	-	-
211	Refueling Systems	-	-	-	-
212	Fuel Handling System	-	-	-	-
213	Spent Fuel Pit Cooling System	-	*	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	*	*	*
221	Turbine Systems	-	*	-	*
222	Extraction Steam System	-	-	*	-
223	Turbine Lube Oil System	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	-	*	-	-
231	Water Systems	-	-	-	-
232	Circulating Water System	-	-	-	-
233	Component Cooling Water System	-	*	-	-
234	Essential Raw Cooling Water System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
235	Nuclear Service Water System	-	*	-	-
280	SUMMARY OF EMERGENCY POWER SYSTEMS	-	-	-	-
281	Emergency Power Systems	-	-	-	-
282	Diesel Generator Cooling Water System	-	-	-	-
283	Diesel Generator Fuel Oil Storage/Transfer System	-	-	-	-
284	Diesel Generator Lube Oil System	-	-	-	-
285	Diesel Generator Starting Air System	-	-	-	-
290	SUMMARY OF MAIN STEAM SYSTEMS	-	*	-	-
291	Main Steam System	-	*	-	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-
311	Process Sampling Systems	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 5 Taxonomy Level : 1 Westinghouse EU		T O D M I E P I A N S E A I S T R G N P S A N T E T O A C E S I T S E N S S S
<p style="text-align: center;">KEY</p> ■ = Invalid, Illogical Cell = Invalid, Logical Cell * = Valid Cell Containing Data - = Valid Cell Containing No Data		
ID	Equipment Description	1 1 1 1 1 0 1 2 3 4
000	SUMMARY OF AIR SYSTEMS	- - - - -
001	Air Systems	- - - - -
002	Instrument Air System	- - - - -
003	Service Air System	- - - - -
010	SUMMARY OF ANNUNCIATOR SYSTEMS	- - - - -
011	Annunciator Systems	- - - - -
020	SUMMARY OF COMMUNICATION SYSTEMS	- - - - -
021	Communication Systems	- - - - -
030	SUMMARY OF COMPRESSED GAS SYSTEMS	- - - - -
031	Compressed Gas Systems	- - - - -
040	SUMMARY OF CONDENSATE SYSTEMS	- - - * -
041	Condensate Systems	- - - * -
042	Condensate Cleanup System	- - - - -
050	SUMMARY OF CONTAINMENT SYSTEMS	- - - * -
051	Containment Systems	- - - - -
058	Annulus Ventilation System	- - - - -

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
059	Combustible Gas Control System	-	-	-	-	-
061	Containment/Reactor Building Penetration System	-	-	-	*	-
062	Containment Fan Cooling System	-	-	-	-	-
063	Containment Isolation System	-	-	-	-	-
064	Containment Spray System	-	-	-	-	-
065	Containment Ventilation System	-	-	-	-	-
066	Ice Condenser System	-	-	-	-	-
070	SUMMARY OF CONTROL ROD DRIVE SYSTEMS	-	-	-	-	-
071	Control Rod Drive Systems	-	-	-	-	-
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	-	*	-	*	*
081	Electrical Distribution Systems	-	-	-	-	-
082	AC Instrument Power System	-	-	-	-	-
083	DC Power System	-	*	-	*	*
084	Plant AC Distribution System	-	*	-	*	*
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	-	*	-	*	-
091	Emergency Core Cooling Systems	-	*	-	*	-
092	High Pressure Safety Injection System	-	-	-	-	-
093	Residual Heat Removal/Low Press Safety Inject Syst	-	-	-	-	-
094	Upper Head Injection System	-	-	-	-	-
110	SUMMARY OF FEEDWATER SYSTEMS	-	-	-	*	-
111	Feedwater Systems	-	-	-	*	-
112	Auxiliary Feedwater System	-	-	-	-	-
113	Main Feedwater System	-	-	-	-	-
120	SUMMARY OF FIRE PROTECTION SYSTEMS	-	-	-	-	-
121	Fire Protection Systems	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
130	SUMMARY OF GENERATOR SYSTEMS	-	-	-	-	-
131	Generator Systems	-	-	-	-	-
132	Generator Excitation System	-	-	-	-	-
133	Generator H2 Cooling/CO2 Purge System	-	-	-	-	-
134	Generator Seal Oil System	-	-	-	-	-
135	Generator Stator Water Cooling System	-	-	-	-	-
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	-	-	-	-
141	Heating, Ventilation & Air Conditioning Systems	-	-	-	-	-
142	Penetration Room Ventilation System	-	-	-	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	-	-	-	-	-
151	Instrumentation and Control Systems	-	-	-	-	-
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-	-
153	Engineered Safeguards Actuation and Logic System	-	-	-	-	-
154	Excore Nuclear Instrumentation System	-	-	-	-	-
155	Incore Instrumentation System	-	-	-	-	-
156	Leak Detection System	-	-	-	-	-
157	Pressurizer Level Control System	-	-	-	-	-
158	Pressurizer Pressure Control System	-	-	-	-	-
159	Radiation Monitoring System	-	-	-	-	-
161	Reactor Protection System	-	-	-	-	-
162	Remote Shutdown System	-	-	-	-	-
163	Rod Control System	-	-	-	-	-
164	Rod Position Indication System	-	-	-	-	-
165	Steam Dump Control System	-	-	-	-	-
166	Steam Generator Water Level Control System	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-	-
191	Radwaste Systems	-	-	-	-	-
192	Gaseous Radwaste System	-	-	-	-	-
193	Liquid Radwaste System	-	-	-	-	-
194	Solid Radwaste System	-	-	-	-	-
200	SUMMARY OF REACTOR COOLANT SYSTEMS	-	*	-	-	-
201	Reactor Coolant Systems	-	*	-	-	-
202	Boron Thermal Regeneration System	-	-	-	-	-
203	Chemical And Volume Control System	-	-	-	-	-
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-	-
211	Refueling Systems	-	-	-	-	-
212	Fuel Handling System	-	-	-	-	-
213	Spent Fuel Pit Cooling System	-	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	-	-	-
221	Turbine Systems	-	-	-	-	-
222	Extraction Steam System	-	-	-	-	-
223	Turbine Lube Oil System	-	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	-	-	-	-	-
231	Water Systems	-	-	-	-	-
232	Circulating Water System	-	-	-	-	-
233	Component Cooling Water System	-	-	-	-	-
234	Essential Raw Cooling Water System	-	-	-	-	-
235	Nuclear Service Water System	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
280	SUMMARY OF EMERGENCY POWER SYSTEMS	-	-	-	-	-
281	Emergency Power Systems	-	-	-	-	-
282	Diesel Generator Cooling Water System	-	-	-	-	-
283	Diesel Generator Fuel Oil Storage/Transfer System	-	-	-	-	-
284	Diesel Generator Lube Oil System	-	-	-	-	-
285	Diesel Generator Starting Air System	-	-	-	-	-
290	SUMMARY OF MAIN STEAM SYSTEMS	-	-	-	-	-
291	Main Steam System	-	-	-	-	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-	*
311	Process Sampling Systems	-	-	-	-	*

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 6 Taxonomy Level : 1 Westinghouse MT	T C D M E H I A S E A I T C G N S K N T S O A S I E S S S
<p style="text-align: center;">KEY</p> ■ = Invalid, Illogical Cell - = Invalid, Logical Cell * = Valid Cell Containing Data - = Valid Cell Containing No Data	
ID Equipment Description	2 2 2 2 0 : 2 3
000 SUMMARY OF AIR SYSTEMS	- - - -
001 Air Systems	- - - -
002 Instrument Air System	- - - -
003 Service Air System	- - - -
010 SUMMARY OF ANNUNCIATOR SYSTEMS	- - - -
011 Annunciator Systems	- - - -
020 SUMMARY OF COMMUNICATION SYSTEMS	- - - -
021 Communication Systems	- - - -
030 SUMMARY OF COMPRESSED GAS SYSTEMS	- - - -
031 Compressed Gas Systems	- - - -
040 SUMMARY OF CONDENSATE SYSTEMS	- - - *
041 Condensate Systems	- - - *
042 Condensate Cleanup System	- - - -
050 SUMMARY OF CONTAINMENT SYSTEMS	* - - *
051 Containment Systems	- - - *
058 Annulus Ventilation System	- - - -

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
059	Combustible Gas Control System	-	-	-	-
061	Containment/Reactor Building Penetration System	-	-	-	-
062	Containment Fan Cooling System	-	-	-	-
063	Containment Isolation System	-	-	-	-
064	Containment Spray System	*	-	-	*
065	Containment Ventilation System	-	-	-	-
066	Ice Condenser System	-	-	-	-
070	SUMMARY OF CONTROL ROD DRIVE SYSTEMS	-	-	-	-
071	Control Rod Drive Systems	-	-	-	-
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	*	*	-	*
081	Electrical Distribution Systems	-	-	-	-
082	AC Instrument Power System	-	-	-	-
083	DC Power System	*	*	-	*
084	Plant AC Distribution System	*	*	-	*
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	*	-	-	*
091	Emergency Core Cooling Systems	-	-	-	*
092	High Pressure Safety Injection System	-	-	-	-
093	Residual Heat Removal/Low Press Safety Inject Syst	*	-	-	-
094	Upper Head Injection System	-	-	-	-
110	SUMMARY OF FEEDWATER SYSTEMS	-	-	-	*
111	Feedwater Systems	-	-	-	*
112	Auxiliary Feedwater System	-	-	-	-
113	Main Feedwater System	-	-	-	-
120	SUMMARY OF FIRE PROTECTION SYSTEMS	-	-	-	-
121	Fire Protection Systems	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
130	SUMMARY OF GENERATOR SYSTEMS	-	-	-	-
131	Generator Systems	-	-	-	-
132	Generator Excitation System	-	-	-	-
133	Generator H2 Cooling/CO2 Purge System	-	-	-	-
134	Generator Seal Oil System	-	-	-	-
135	Generator Stator Water Cooling System	-	-	-	-
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	-	-	-
141	Heating, Ventilation & Air Conditioning Systems	-	-	-	-
142	Penetration Room Ventilation System	-	-	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	-	-	-	*
151	Instrumentation and Control Systems	-	-	-	-
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-
153	Engineered Safeguards Actuation and Logic System	-	-	-	*
154	Excore Nuclear Instrumentation System	-	-	-	-
155	Incore Instrumentation System	-	-	-	-
156	Leak Detection System	-	-	-	-
157	Pressurizer Level Control System	-	-	-	-
158	Pressurizer Pressure Control System	-	-	-	-
159	Radiation Monitoring System	-	-	-	-
161	Reactor Protection System	-	-	-	-
162	Remote Shutdown System	-	-	-	-
163	Rod Control System	-	-	-	-
164	Rod Position Indication System	-	-	-	-
165	Steam Dump Control System	-	-	-	-
166	Steam Generator Water Level Control System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-
191	Radwaste Systems	-	-	-	-
192	Gaseous Radwaste System	-	-	-	-
193	Liquid Radwaste System	-	-	-	-
194	Solid Radwaste System	-	-	-	-
200	SUMMARY OF REACTOR COOLANT SYSTEMS	-	-	-	-
201	Reactor Coolant Systems	-	-	-	-
202	Boron Thermal Regeneration System	-	-	-	-
203	Chemical And Volume Control System	-	-	-	-
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-
211	Refueling Systems	-	-	-	-
212	Fuel Handling System	-	-	-	-
213	Spent Fuel Pit Cooling System	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	-	-
221	Turbine Systems	-	-	-	-
222	Extraction Steam System	-	-	-	-
223	Turbine Lube Oil System	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	*	-	-	-
231	Water Systems	-	-	-	-
232	Circulating Water System	-	-	-	-
233	Component Cooling Water System	*	-	-	-
234	Essential Raw Cooling Water System	-	-	-	-
235	Nuclear Service Water System	*	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
280	SUMMARY OF EMERGENCY POWER SYSTEMS	-	-	-	-
281	Emergency Power Systems	-	-	-	-
282	Diesel Generator Cooling Water System	-	-	-	-
283	Diesel Generator Fuel Oil Storage/Transfer System	-	-	-	-
284	Diesel Generator Lube Oil System	-	-	-	-
285	Diesel Generator Starting Air System	-	-	-	-
290	SUMMARY OF MAIN STEAM SYSTEMS	-	-	-	-
291	Main Steam System	-	-	-	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-
311	Process Sampling Systems	-	-	-	-

TABLE 4. MATRIX SUMMARY (cont)

Matrix : 7	T O M D
Taxonomy Level : 1	E P O I
Combustion Engineering	S E N A
CRO	T R I G
	S A T N
	T O O
	E R S E
	S S E
	S

KEY

- = Invalid, Illogical Cell
- = Invalid, Logical Cell
- * = Valid Cell Containing Data
- = Valid Cell Containing No Data

ID	Equipment Description	0	1	2	3
000	SUMMARY OF AIR SYSTEMS	-	*	*	*
001	Air Systems	-	-	-	-
002	Instrument Air System	-	*	*	*
003	Service Air System	-	-	-	-
010	SUMMARY OF ANNUNCIATOR SYSTEMS	-	-	-	-
011	Annunciator Systems	-	-	-	-
020	SUMMARY OF COMMUNICATION SYSTEMS	-	*	-	-
021	Communication Systems	-	*	-	-
030	SUMMARY OF COMPRESSED GAS SYSTEMS	-	-	-	-
031	Compressed Gas Systems	-	-	-	-
040	SUMMARY OF CONDENSATE SYSTEMS	-	*	*	-
041	Condensate Systems	-	*	*	-
044	Condensate Storage System	-	-	-	-
050	SUMMARY OF CONTAINMENT SYSTEMS	-	*	-	*
051	Containment Systems	-	*	-	*
059	Combustible Gas Control System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
061	Containment/Reactor Building Penetration System	-	-	-	-
063	Containment Isolation System	-	-	-	-
064	Containment Spray System	-	*	-	-
065	Containment Ventilation System	-	-	-	-
067	Containment Cooling System	-	-	-	-
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	-	*	-	-
081	Electrical Distribution Systems	-	-	-	-
082	AC Instrument Power System	-	-	-	-
083	DC Power System	-	-	-	-
085	Plant AC Power System	-	*	-	-
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	*	*	*	*
091	Emergency Core Cooling Systems	*	*	*	*
092	High Pressure Safety Injection System	-	*	-	-
101	Low Press Safety Injection/Shutdown Cooling Sys	-	-	-	-
110	SUMMARY OF FEEDWATER SYSTEMS	-	*	*	-
111	Feedwater Systems	-	*	*	-
113	Main Feedwater System	-	*	*	-
114	Auxiliary/Emergency Feedwater System	-	*	-	-
120	SUMMARY OF FIRE PROTECTION SYSTEMS	-	-	-	-
121	Fire Protection Systems	-	-	-	-
130	SUMMARY OF GENERATOR SYSTEMS	-	-	-	-
131	Generator Systems	-	-	-	-
132	Generator Excitation System	-	-	-	-
133	Generator H2 Cooling/CO2 Purge System	-	-	-	-
134	Generator Seal Oil System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
135	Generator Stator Water Cooling System	-	-	-	-
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	-	-	-
141	Heating, Ventilation & Air Conditioning Systems	-	-	-	-
142	Penetration Room Ventilation System	-	-	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	-	-	-	-
151	Instrumentation and Control Systems	-	-	-	-
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-
153	Engineered Safeguards Actuation and Logic System	-	-	-	-
154	Excore Nuclear Instrumentation System	-	-	-	-
155	Incore Instrumentation System	-	-	-	-
156	Leak Detection System	-	-	-	-
157	Pressurizer Level Control System	-	-	-	-
158	Pressurizer Pressure Control System	-	-	-	-
159	Radiation Monitoring System	-	-	-	-
161	Reactor Protection System	-	x	-	-
162	Remote Shutdown System	-	-	-	-
166	Steam Generator Water Level Control System	-	-	-	-
175	Control Element Assembly Position Monitoring System	-	-	-	-
176	Process Monitoring System	-	-	-	-
177	Reactor Regulator System	-	-	-	-
178	Steam Bypass Control System	-	-	-	-
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-
191	Radwaste Systems	-	-	-	-
192	Gaseous Radwaste System	-	-	-	-
193	Liquid Radwaste System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

194	Solid Radwaste System	-	-	-	-
200	SUMMARY OF REACTOR COOLANT SYSTEMS	-	*	-	-
201	Reactor Coolant Systems	-	-	-	-
203	Chemical And Volume Control System	-	*	-	-
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-
211	Refueling Systems	-	-	-	-
212	Fuel Handling System	-	-	-	-
214	Spent Fuel Pool Cooling and Purification System	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	*	-
221	Turbine Systems	-	-	-	-
222	Extraction Steam System	-	-	*	-
223	Turbine Lube Oil System	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	-	*	-	-
231	Water Systems	-	*	-	-
232	Circulating Water System	-	-	-	-
233	Component Cooling Water System	-	-	-	-
235	Nuclear Service Water System	-	-	-	-
280	SUMMARY OF EMERGENCY POWER SYSTEMS	-	-	-	-
281	Emergency Power Systems	-	-	-	-
282	Diesel Generator Cooling Water System	-	-	-	-
283	Diesel Generator Fuel Oil Storage/Transfer System	-	-	-	-
284	Diesel Generator Lube Oil System	-	-	-	-
285	Diesel Generator Starting Air System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
290	SUMMARY OF MAIN STEAM SYSTEMS	-	-	-	-
291	Main Steam System	-	-	-	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-
311	Process Sampling Systems	-	-	-	-
320	SUMMARY OF CONTROL ELEMENT ASSEMBLY SYSTEMS	-	-	-	-
321	Control Element Assembly Systems	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 8 Taxonomy Level : 1 Combustion Engineering EO	T O D M I E P I A N S E A I S T R G N P S A N T E T O A C E S I T S E N S S S	
KEY ■ = Invalid, Illogical Cell □ = Invalid, Logical Cell * = Valid Cell Containing Data - = Valid Cell Containing No Data		
ID Equipment Description	1 1 1 1 1 0 1 2 3 4	
000	SUMMARY OF AIR SYSTEMS	- - - - -
001	Air Systems	- - - - -
002	Instrument Air System	- - - - -
003	Service Air System	- - - - -
010	SUMMARY OF ANNUNCIATOR SYSTEMS	- - - - -
011	Annunciator Systems	- - - - -
020	SUMMARY OF COMMUNICATION SYSTEMS	- - - - -
021	Communication Systems	- - - - -
030	SUMMARY OF COMPRESSED GAS SYSTEMS	- - - - -
031	Compressed Gas Systems	- - - - -
040	SUMMARY OF CONDENSATE SYSTEMS	- - - * -
041	Condensate Systems	- - - * -
044	Condensate Storage System	- - - - -
050	SUMMARY OF CONTAINMENT SYSTEMS	- - - * -
051	Containment Systems	- - - * -
059	Combustible Gas Control System	- - - - -

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
061	Containment/Reactor Building Penetration System	-	-	-	-	-
063	Containment Isolation System	-	-	-	-	-
064	Containment Spray System	-	-	-	-	-
065	Containment Ventilation System	-	-	-	-	-
067	Containment Cooling System	-	-	-	-	-
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	-	*	-	*	*
081	Electrical Distribution Systems	-	-	-	-	-
082	AC Instrument Power System	-	-	-	-	-
083	DC Power System	-	*	-	*	*
085	Plant AC Power System	-	*	-	*	*
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	-	*	-	*	-
091	Emergency Core Cooling Systems	-	*	-	*	-
092	High Pressure Safety Injection System	-	-	-	-	-
101	Low Press Safety Injection/Shutdown Cooling Sys	-	-	-	-	-
110	SUMMARY OF FEEDWATER SYSTEMS	-	-	-	*	-
111	Feedwater Systems	-	-	-	*	-
113	Main Feedwater System	-	-	-	-	-
114	Auxiliary/Emergency Feedwater System	-	-	-	-	-
120	SUMMARY OF FIRE PROTECTION SYSTEMS	-	-	-	-	-
121	Fire Protection Systems	-	-	-	-	-
130	SUMMARY OF GENERATOR SYSTEMS	-	-	-	-	-
131	Generator Systems	-	-	-	-	-
132	Generator Excitation System	-	-	-	-	-
133	Generator H2 Cooling/CO2 Purge System	-	-	-	-	-
134	Generator Seal Oil System	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
135	Generator Stator Water Cooling System	-	-	-	-	-
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	-	-	-	-
141	Heating, Ventilation & Air Conditioning Systems	-	-	-	-	-
142	Penetration Room Ventilation System	-	-	-	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	-	-	-	-	-
151	Instrumentation and Control Systems	-	-	-	-	-
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-	-
153	Engineered Safeguards Actuation and Logic System	-	-	-	-	-
154	Excore Nuclear Instrumentation System	-	-	-	-	-
155	Incore Instrumentation System	-	-	-	-	-
156	Leak Detection System	-	-	-	-	-
157	Pressurizer Level Control System	-	-	-	-	-
158	Pressurizer Pressure Control System	-	-	-	-	-
159	Radiation Monitoring System	-	-	-	-	-
161	Reactor Protection System	-	-	-	-	-
162	Remote Shutdown System	-	-	-	-	-
166	Steam Generator Water Level Control System	-	-	-	-	-
175	Control Element Assembly Position Monitoring System	-	-	-	-	-
176	Process Monitoring System	-	-	-	-	-
177	Reactor Regulator System	-	-	-	-	-
178	Steam Bypass Control System	-	-	-	-	-
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-	-
191	Radwaste Systems	-	-	-	-	-
192	Gaseous Radwaste System	-	-	-	-	-
193	Liquid Radwaste System	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
194	Solid Radwaste System	-	-	-	-	-
200	SUMMARY OF REACTOR COOLANT SYSTEMS	-	*	-	-	-
201	Reactor Coolant Systems	-	*	-	-	-
203	Chemical And Volume Control System	-	-	-	-	-
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-	-
211	Refueling Systems	-	-	-	-	-
212	Fuel Handling System	-	-	-	-	-
214	Spent Fuel Pool Cooling and Purification System	-	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	-	-	-
221	Turbine Systems	-	-	-	-	-
222	Extraction Steam System	-	-	-	-	-
223	Turbine Lube Oil System	-	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	-	-	-	-	-
231	Water Systems	-	-	-	-	-
232	Circulating Water System	-	-	-	-	-
233	Component Cooling Water System	-	-	-	-	-
235	Nuclear Service Water System	-	-	-	-	-
280	SUMMARY OF EMERGENCY POWER SYSTEMS	-	-	-	-	-
281	Emergency Power Systems	-	-	-	-	-
282	Diesel Generator Cooling Water System	-	-	-	-	-
283	Diesel Generator Fuel Oil Storage/Transfer System	-	-	-	-	-
284	Diesel Generator Lube Oil System	-	-	-	-	-
285	Diesel Generator Starting Air System	-	-	-	-	-
290	SUMMARY OF MAIN STEAM SYSTEMS	-	-	-	*	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
291	Main Steam System	-	-	-	*	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-	*
311	Process Sampling Systems	-	-	-	-	*
320	SUMMARY OF CONTROL ELEMENT ASSEMBLY SYSTEMS	-	-	-	-	-
321	Control Element Assembly Systems	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
194	Solid Radwaste System	-	-	-	-	-
200	SUMMARY OF REACTOR COOLANT SYSTEMS	-	*	-	-	-
201	Reactor Coolant Systems	-	*	-	-	-
203	Chemical And Volume Control System	-	-	-	-	-
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-	-
211	Refueling Systems	-	-	-	-	-
212	Fuel Handling System	-	-	-	-	-
214	Spent Fuel Pool Cooling and Purification System	-	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	-	-	-
221	Turbine Systems	-	-	-	-	-
222	Extraction Steam System	-	-	-	-	-
223	Turbine Lube Oil System	-	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	-	-	-	-	-
231	Water Systems	-	-	-	-	-
232	Circulating Water System	-	-	-	-	-
233	Component Cooling Water System	-	-	-	-	-
235	Nuclear Service Water System	-	-	-	-	-
280	SUMMARY OF EMERGENCY POWER SYSTEMS	-	-	-	-	-
281	Emergency Power Systems	-	-	-	-	-
282	Diesel Generator Cooling Water System	-	-	-	-	-
283	Diesel Generator Fuel Oil Storage/Transfer System	-	-	-	-	-
284	Diesel Generator Lube Oil System	-	-	-	-	-
285	Diesel Generator Starting Air System	-	-	-	-	-
290	SUMMARY OF MAIN STEAM SYSTEMS	-	-	-	*	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
291	Main Steam System	-	-	-	*	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-	*
311	Process Sampling Systems	-	-	-	-	*
320	SUMMARY OF CONTROL ELEMENT ASSEMBLY SYSTEMS	-	-	-	-	-
321	Control Element Assembly Systems	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 9
 Taxonomy Level : 1
 Combustion Engineering
 MT

KEY
 ■ = Invalid, Illogical Cell
 □ = Invalid, Logical Cell
 * = Valid Cell Containing Data
 - = Valid Cell Containing No Data

T C D M
 E H I A
 S E A I
 T C G N
 S K N T
 S O A
 S I
 E N
 S S

ID	Equipment Description	2	2	2	2
		0	1	2	3
000	SUMMARY OF AIR SYSTEMS	-	-	-	-
001	Air Systems	-	-	-	-
002	Instrument Air System	-	-	-	-
003	Service Air System	-	-	-	-
010	SUMMARY OF ANNUNCIATOR SYSTEMS	-	-	-	-
011	Annunciator Systems	-	-	-	-
020	SUMMARY OF COMMUNICATION SYSTEMS	-	-	-	-
021	Communication Systems	-	-	-	-
030	SUMMARY OF COMPRESSED GAS SYSTEMS	-	-	-	-
031	Compressed Gas Systems	-	-	-	-
040	SUMMARY OF CONDENSATE SYSTEMS	-	-	-	*
041	Condensate Systems	-	-	-	*
044	Condensate Storage System	-	-	-	-
050	SUMMARY OF CONTAINMENT SYSTEMS	-	-	-	*
051	Containment Systems	-	-	-	*
059	Combustible Gas Control System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
061	Containment/Reactor Building Penetration System	-	-	-	-
063	Containment Isolation System	-	-	-	-
064	Containment Spray System	-	-	-	-
065	Containment Ventilation System	-	-	-	-
067	Containment Cooling System	-	-	-	-
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	*	*	-	*
081	Electrical Distribution Systems	-	-	-	-
082	AC Instrument Power System	-	-	-	-
083	DC Power System	*	*	-	*
085	Plant AC Power System	*	*	-	*
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	-	-	-	*
091	Emergency Core Cooling Systems	-	-	-	*
092	High Pressure Safety Injection System	-	-	-	-
101	Low Press Safety Injection/Shutdown Cooling Sys	-	-	-	-
110	SUMMARY OF FEEDWATER SYSTEMS	*	-	-	*
111	Feedwater Systems	-	-	-	*
113	Main Feedwater System	-	-	-	-
114	Auxiliary/Emergency Feedwater System	*	-	-	*
120	SUMMARY OF FIRE PROTECTION SYSTEMS	-	-	-	-
121	Fire Protection Systems	-	-	-	-
130	SUMMARY OF GENERATOR SYSTEMS	-	-	-	-
131	Generator Systems	-	-	-	-
132	Generator Excitation System	-	-	-	-
133	Generator H2 Cooling/CO2 Purge System	-	-	-	-
134	Generator Seal Oil System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
135	Generator Stator Water Cooling System	-	-	-	-
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	-	-	-
141	Heating, Ventilation & Air Conditioning Systems	-	-	-	-
142	Penetration Room Ventilation System	-	-	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	-	-	-	-
151	Instrumentation and Control Systems	-	-	-	-
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-
153	Engineered Safeguards Actuation and Logic System	-	-	-	-
154	Excore Nuclear Instrumentation System	-	-	-	-
155	Incore Instrumentation System	-	-	-	-
156	Leak Detection System	-	-	-	-
157	Pressurizer Level Control System	-	-	-	-
158	Pressurizer Pressure Control System	-	-	-	-
159	Radiation Monitoring System	-	-	-	-
161	Reactor Protection System	-	-	-	-
162	Remote Shutdown System	-	-	-	-
166	Steam Generator Water Level Control System	-	-	-	-
175	Control Element Assembly Position Monitoring System	-	-	-	-
176	Process Monitoring System	-	-	-	-
177	Reactor Regulator System	-	-	-	-
178	Steam Bypass Control System	-	-	-	-
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-
191	Radwaste Systems	-	-	-	-
192	Gaseous Radwaste System	-	-	-	-
193	Liquid Radwaste System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

194	Solid Radwaste System	-	-	-	-
200	SUMMARY OF REACTOR COOLANT SYSTEMS	-	-	-	-
201	Reactor Coolant Systems	-	-	-	-
203	Chemical And Volume Control System	-	-	-	-
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-
211	Refueling Systems	-	-	-	-
212	Fuel Handling System	-	-	-	-
214	Spent Fuel Pool Cooling and Purification System	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	-	-
221	Turbine Systems	-	-	-	-
222	Extraction Steam System	-	-	-	-
223	Turbine Lube Oil System	-	-	-	-
224	Turbine Seal Steam System	-	.	-	-
230	SUMMARY OF WATER SYSTEMS	-	-	-	-
231	Water Systems	-	-	-	-
232	Circulating Water System	-	-	-	-
233	Component Cooling Water System	-	-	-	-
235	Nuclear Service Water System	-	-	-	-
280	SUMMARY OF EMERGENCY POWER SYSTEMS	-	-	-	-
281	Emergency Power Systems	-	-	-	-
282	Diesel Generator Cooling Water System	-	-	-	-
283	Diesel Generator Fuel Oil Storage/Transfer System	-	-	-	-
284	Diesel Generator Lube Oil System	-	-	-	-
285	Diesel Generator Starting Air System	-	-	-	-
290	SUMMARY OF MAIN STEAM SYSTEMS	-	-	-	*

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
291	Main Steam System	-	-	-	*
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-
311	Process Sampling Systems	-	-	-	-
320	SUMMARY OF CONTROL ELEMENT ASSEMBLY SYSTEMS	-	-	-	-
321	Control Element Assembly Systems	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 10	T O M D
Taxonomy Level : 1	E P O I
Babcock & Wilcox	S E N A
CRO	T R I G
	S A T N
	T O O
	E R S
	S S E
	S

KEY

■ = Invalid, Illogical Cell
 □ = Invalid, Logical Cell
 * = Valid Cell Containing Data
 - = Valid Cell Containing No Data

ID	Equipment Description	0	0	0	0
		0	1	2	3
000	SUMMARY OF AIR SYSTEMS	-	*	*	*
001	Air Systems	-	*	-	-
002	Instrument Air System	-	*	*	*
003	Service Air System	-	-	-	-
010	SUMMARY OF ANNUNCIATOR SYSTEMS	-	-	-	-
011	Annunciator Systems	-	-	-	-
020	SUMMARY OF COMMUNICATION SYSTEMS	-	*	-	-
021	Communication Systems	-	*	-	-
030	SUMMARY OF COMPRESSED GAS SYSTEMS	-	-	-	-
031	Compressed Gas Systems	-	-	-	-
040	SUMMARY OF CONDENSATE SYSTEMS	-	*	*	-
041	Condensate Systems	-	*	*	-
045	Condensate Demineralizer System	-	-	-	-
050	SUMMARY OF CONTAINMENT SYSTEMS	-	*	-	*
051	Containment Systems	-	*	-	*
052	Combustible Gas Control System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
061	Containment/Reactor Building Penetration System	-	-	-	-
063	Containment Isolation System	-	-	-	-
065	Containment Ventilation System	-	-	-	-
067	Reactor Building Cooling System	-	-	-	-
068	Reactor Building Spray System	-	*	-	-
070	SUMMARY OF CONTROL ROD DRIVE SYSTEMS	-	-	-	*
071	Control Rod Drive Systems	-	-	-	*
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	-	*	-	-
081	Electrical Distribution Systems	-	-	-	-
082	AC Instrument Power System	-	-	-	-
083	DC Power System	-	-	-	-
085	Plant AC Power System	-	*	-	-
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	*	*	*	*
091	Emergency Core Cooling Systems	*	*	*	*
092	High Pressure Safety Injection System	-	*	-	-
093	Decay Heat Removal/Core Flooding System	-	*	-	-
094	Decay Heat Removal/Low Press Safety Inject System	-	*	-	-
110	SUMMARY OF FEEDWATER SYSTEMS	-	*	*	-
111	Feedwater Systems	-	*	*	-
113	Main Feedwater System	-	*	*	-
114	Emergency Feedwater System	-	*	-	-
120	SUMMARY OF FIRE PROTECTION SYSTEMS	-	-	-	-
121	Fire Protection Systems	-	-	-	-
130	SUMMARY OF GENERATOR SYSTEMS	-	-	-	-
131	Generator Systems	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
132	Generator Excitation System	-	-	-	-
133	Generator H2 Cooling/CO2 Purge System	-	-	-	-
134	Generator Seal Oil System	-	-	-	-
135	Generator Stator Water Cooling System	-	-	-	-
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	-	-	-
141	Heating, Ventilation & Air Conditioning Systems	-	-	-	-
142	Penetration Room Ventilation System	-	-	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	-	-	-	-
151	Instrumentation and Control Systems	-	-	-	-
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-
154	Excore Nuclear Instrumentation System	-	-	-	-
155	Incore Instrumentation System	-	-	-	-
156	Leak Detection System	-	-	-	-
157	Pressurizer Level Control System	-	-	-	-
158	Pressurizer Pressure Control System	-	-	-	-
159	Radiation Monitoring System	-	-	-	-
161	Reactor Protection System	-	-	-	-
162	Remote Shutdown System	-	-	-	-
163	Rod Control System	-	-	-	-
164	Rod Position Indication System	-	-	-	-
165	Steam Dump Control System	-	-	-	-
176	Process Monitoring System	-	-	-	-
179	Integrated Control System	-	-	-	-
182	Main Steam System Steamline Break Control System	-	-	-	-
183	Safety Features Actuation System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	0	0	0	0
		0	1	2	3
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-
191	Radwaste Systems	-	-	-	-
192	Gaseous Radwaste System	-	-	-	-
193	Liquid Radwaste System	-	-	-	-
194	Solid Radwaste System	-	-	-	-
200	SUMMARY OF REACTOR COOLANT SYSTEMS	-	-	-	-
201	Reactor Coolant Systems	-	-	-	-
202	Boron Thermal Regeneration System	-	-	-	-
203	Chemical And Volume Control System	-	-	-	-
204	Letdown, Purification, and Makeup System	-	-	-	-
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-
211	Refueling Systems	-	-	-	-
212	Fuel Handling System	-	-	-	-
215	Spent Fuel Pool Cooling System	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	-	-
221	Turbine Systems	-	-	-	-
222	Extraction Steam System	-	-	-	-
223	Turbine Lube Oil System	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	-	*	-	-
231	Water Systems	-	*	-	-
232	Circulating Water System	-	-	-	-
233	Component Cooling Water System	-	-	-	-
236	Low Pressure Service Water System	-	*	-	-
280	SUMMARY OF EMERGENCY POWER SYSTEMS	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't.)

ID	Equipment Description	0	0	0	0
		0	1	2	3
281	Emergency Power Systems	-	-	-	-
282	Diesel Generator Cooling Water System	-	-	-	-
283	Diesel Generator Fuel Oil Storage/Transfer System	-	-	-	-
284	Diesel Generator Lube Oil System	-	-	-	-
285	Diesel Generator Starting Air System	-	-	-	-
300	SUMMARY OF STEAM SYSTEMS	-	-	-	-
301	Steam Systems	-	-	-	-
302	Auxiliary Boiler/Steam System	-	-	-	-
303	Main Steam System	-	-	-	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-
311	Process Sampling Systems	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 11
 Taxonomy Level : 1
 Babcock & Wilcox
 EO

T O D M I
 E P I A N
 S E A I S
 T R G N P
 S A N T E
 T O A C
 E S I T
 S E N S
 S S

KEY
 ■ = Invalid, Illogical Cell
 □ = Invalid, Logical Cell
 * = Valid Cell Containing Data
 - = Valid Cell Containing No Data

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
000	SUMMARY OF AIR SYSTEMS	-	-	-	-	-
001	Air Systems	-	-	-	-	-
002	Instrument Air System	-	-	-	-	-
003	Service Air System	-	-	-	-	-
010	SUMMARY OF ANNUNCIATOR SYSTEMS	-	-	-	-	-
011	Annunciator Systems	-	-	-	-	-
020	SUMMARY OF COMMUNICATION SYSTEMS	-	-	-	-	-
021	Communication Systems	-	-	-	-	-
030	SUMMARY OF COMPRESSED GAS SYSTEMS	-	-	-	-	-
031	Compressed Gas Systems	-	-	-	-	-
040	SUMMARY OF CONDENSATE SYSTEMS	-	-	-	*	-
041	Condensate Systems	-	-	-	*	-
045	Condensate Demineralizer System	-	-	-	-	-
050	SUMMARY OF CONTAINMENT SYSTEMS	-	-	-	*	-
051	Containment Systems	-	-	-	*	-
052	Combustible Gas Control System	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
061	Containment/Reactor Building Penetration System	-	-	-	-	-
063	Containment Isolation System	-	-	-	-	-
065	Containment Ventilation System	-	-	-	-	-
067	Reactor Building Cooling System	-	-	-	-	-
068	Reactor Building Spray System	-	-	-	-	-
070	SUMMARY OF CONTROL ROD DRIVE SYSTEMS	-	-	-	-	-
071	Control Rod Drive Systems	-	-	-	-	-
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	-	*	-	*	*
081	Electrical Distribution Systems	-	-	-	-	-
082	AC Instrument Power System	-	-	-	-	-
083	DC Power System	-	*	-	*	*
085	Plant AC Power System	-	*	-	*	*
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	-	*	-	*	-
091	Emergency Core Cooling Systems	-	*	-	*	-
092	High Pressure Safety Injection System	-	-	-	-	-
093	Decay Heat Removal/Core Flooding System	-	-	-	-	-
094	Decay Heat Removal/Low Press Safety Inject System	-	*	-	-	-
110	SUMMARY OF FEEDWATER SYSTEMS	-	-	-	*	-
111	Feedwater Systems	-	-	-	*	-
113	Main Feedwater System	-	-	-	-	-
114	Emergency Feedwater System	-	-	-	-	-
120	SUMMARY OF FIRE PROTECTION SYSTEMS	-	-	-	-	-
121	Fire Protection Systems	-	-	-	-	-
130	SUMMARY OF GENERATOR SYSTEMS	-	-	-	-	-
131	Generator Systems	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
132	Generator Excitation System	-	-	-	-	-
133	Generator H2 Cooling/CO2 Purge System	-	-	-	-	-
134	Generator Seal Oil System	-	-	-	-	-
135	Generator Stator Water Cooling System	-	-	-	-	-
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	-	-	-	-
141	Heating, Ventilation & Air Conditioning Systems	-	-	-	-	-
142	Penetration Room Ventilation System	-	-	-	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	-	-	-	*	-
151	Instrumentation and Control Systems	-	-	-	-	-
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-	-
154	Excore Nuclear Instrumentation System	-	-	-	-	-
155	Incore Instrumentation System	-	-	-	-	-
156	Leak Detection System	-	-	-	-	-
157	Pressurizer Level Control System	-	-	-	-	-
158	Pressurizer Pressure Control System	-	-	-	-	-
159	Radiation Monitoring System	-	-	-	-	-
161	Reactor Protection System	-	-	-	-	-
162	Remote Shutdown System	-	-	-	-	-
163	Rod Control System	-	-	-	-	-
164	Rod Position Indication System	-	-	-	-	-
165	Steam Dump Control System	-	-	-	-	-
176	Process Monitoring System	-	-	-	-	-
179	Integrated Control System	-	-	-	-	-
182	Main Steam System Steamline Break Control System	-	-	-	-	-
183	Safety Features Actuation System	-	-	-	*	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-	-
191	Radwaste Systems	-	-	-	-	-
192	Gaseous Radwaste System	-	-	-	-	-
193	Liquid Radwaste System	-	-	-	-	-
194	Solid Radwaste System	-	-	-	-	-
200	SUMMARY OF REACTOR COOLANT SYSTEMS	-	*	-	-	-
201	Reactor Coolant Systems	-	*	-	-	-
202	Boron Thermal Regeneration System	-	-	-	-	-
203	Chemical And Volume Control System	-	-	-	-	-
204	Letdown, Purification, and Makeup System	-	-	-	-	-
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-	-
211	Refueling Systems	-	-	-	-	-
212	Fuel Handling System	-	-	-	-	-
215	Spent Fuel Pool Cooling System	-	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	-	-	-
221	Turbine Systems	-	-	-	-	-
222	Extraction Steam System	-	-	-	-	-
223	Turbine Lube Oil System	-	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	-	-	-	-	-
231	Water Systems	-	-	-	-	-
232	Circulating Water System	-	-	-	-	-
233	Component Cooling Water System	-	-	-	-	-
236	Low Pressure Service Water System	-	-	-	-	-
280	SUMMARY OF EMERGENCY POWER SYSTEMS	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	1	1	1	1	1
		0	1	2	3	4
281	Emergency Power Systems	-	-	-	-	-
282	Diesel Generator Cooling Water System	-	-	-	-	-
283	Diesel Generator Fuel Oil Storage/Transfer System	-	-	-	-	-
284	Diesel Generator Lube Oil System	-	-	-	-	-
285	Diesel Generator Starting Air System	-	-	-	-	-
300	SUMMARY OF STEAM SYSTEMS	-	-	-	*	-
301	Steam Systems	-	-	-	*	-
302	Auxiliary Boiler/Steam System	-	-	-	-	-
303	Main Steam System	-	-	-	-	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-	*
311	Process Sampling Systems	-	-	-	-	*

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 12 Taxonomy Level : 1 Babcock & Wilcox MT		T C D M E H I A S E A I T C G N S K N T S O A S I E N S S
KEY ■ = Invalid, Illogical Cell □ = Invalid, Logical Cell * = Valid Cell Containing Data - = Valid Cell Containing No Data		
ID	Equipment Description	2 2 2 2 0 1 2 3
000	SUMMARY OF AIR SYSTEMS	- - - -
001	Air Systems	- - - -
002	Instrument Air System	- - - -
003	Service Air System	- - - -
010	SUMMARY OF ANNUNCIATOR SYSTEMS	- - - -
011	Annunciator Systems	- - - -
020	SUMMARY OF COMMUNICATION SYSTEMS	- - - -
021	Communication Systems	- - - -
030	SUMMARY OF COMPRESSED GAS SYSTEMS	- - - -
031	Compressed Gas Systems	- - - -
040	SUMMARY OF CONDENSATE SYSTEMS	- - - *
041	Condensate Systems	- - - *
045	Condensate Demineralizer System	- - - -
050	SUMMARY OF CONTAINMENT SYSTEMS	- - - *
051	Containment Systems	- - - *
052	Combustible Gas Control System	- - - -

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
061	Containment/Reactor Building Penetration System	-	-	-	-
063	Containment Isolation System	-	-	-	-
065	Containment Ventilation System	-	-	-	-
067	Reactor Building Cooling System	-	-	-	-
068	Reactor Building Spray System	-	-	-	-
070	SUMMARY OF CONTROL ROD DRIVE SYSTEMS	-	-	-	-
071	Control Rod Drive Systems	-	-	-	-
080	SUMMARY OF ELECTRICAL DISTRIBUTION SYSTEMS	*	*	-	*
081	Electrical Distribution Systems	-	-	-	-
082	AC Instrument Power System	-	-	-	-
083	DC Power System	*	*	-	*
085	Plant AC Power System	*	*	-	*
090	SUMMARY OF EMERGENCY CORE COOLING SYSTEMS	-	-	-	*
091	Emergency Core Cooling Systems	-	-	-	*
092	High Pressure Safety Injection System	-	-	-	-
093	Decay Heat Removal/Core Flooding System	-	-	-	-
094	Decay Heat Removal/Low Press Safety Inject System	-	-	-	-
110	SUMMARY OF FEEDWATER SYSTEMS	-	-	-	*
111	Feedwater Systems	-	-	-	*
113	Main Feedwater System	-	-	-	-
114	Emergency Feedwater System	-	-	-	-
120	SUMMARY OF FIRE PROTECTION SYSTEMS	-	-	-	-
121	Fire Protection Systems	-	-	-	-
130	SUMMARY OF GENERATOR SYSTEMS	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
131	Generator Systems	-	-	-	-
132	Generator Excitation System	-	-	-	-
133	Generator H2 Cooling/CO2 Purge System	-	-	-	-
134	Generator Seal Oil System	-	-	-	-
135	Generator Stator Water Cooling System	-	-	-	-
140	SUMMARY OF HEATING, VENTILATION & AIR COND SYST	-	-	-	-
141	Heating, Ventilation & Air Conditioning Systems	-	-	-	-
142	Penetration Room Ventilation System	-	-	-	-
150	SUMMARY OF INSTRUMENTATION AND CONTROL SYSTEMS	-	-	-	*
151	Instrumentation and Control Systems	-	-	-	-
152	Electrohydraulic Control (Turbine Control) System	-	-	-	-
154	Excore Nuclear Instrumentation System	-	-	-	-
155	Incore Instrumentation System	-	-	-	-
156	Leak Detection System	-	-	-	-
157	Pressurizer Level Control System	-	-	-	-
158	Pressurizer Pressure Control System	-	-	-	-
159	Radiation Monitoring System	-	-	-	-
161	Reactor Protection System	-	-	-	-
162	Remote Shutdown System	-	-	-	-
163	Rod Control System	-	-	-	-
164	Rod Position Indication System	-	-	-	-
165	Steam Dump Control System	-	-	-	-
176	Process Monitoring System	-	-	-	-
179	Integrated Control System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
182	Main Steam System Steamline Break Control System	-	-	-	-
183	Safety Features Actuation System	-	-	-	*
190	SUMMARY OF RADWASTE SYSTEMS	-	-	-	-
191	Radwaste Systems	-	-	-	-
192	Gaseous Radwaste System	-	-	-	-
193	Liquid Radwaste System	-	-	-	-
194	Solid Radwaste System	-	-	-	-
200	SUMMARY OF REACTOR COOLANT SYSTEMS	-	-	-	-
201	Reactor Coolant Systems	-	-	-	-
202	Boron Thermal Regeneration System	-	-	-	-
203	Chemical And Volume Control System	-	-	-	-
204	Letdown, Purification, and Makeup System	-	-	-	-
210	SUMMARY OF REFUELING SYSTEMS	-	-	-	-
211	Refueling Systems	-	-	-	-
212	Fuel Handling System	-	-	-	-
215	Spent Fuel Pool Cooling System	-	-	-	-
220	SUMMARY OF TURBINE SYSTEMS	-	-	-	-
221	Turbine Systems	-	-	-	-
222	Extraction Steam System	-	-	-	-
223	Turbine Lube Oil System	-	-	-	-
224	Turbine Seal Steam System	-	-	-	-
230	SUMMARY OF WATER SYSTEMS	-	-	-	-
231	Water Systems	-	-	-	-
232	Circulating Water System	-	-	-	-
233	Component Cooling Water System	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	2	2	2	2
		0	1	2	3
236	Low Pressure Service Water System	-	-	-	-
280	SUMMARY OF EMERGENCY POWER SYSTEMS	-	-	-	-
281	Emergency Power Systems	-	-	-	-
282	Diesel Generator Cooling Water System	-	-	-	-
283	Diesel Generator Fuel Oil Storage/Transfer System	-	-	-	-
284	Diesel Generator Lube Oil System	-	-	-	-
285	Diesel Generator Starting Air System	-	-	-	-
300	SUMMARY OF STEAM SYSTEMS	-	-	-	*
301	Steam Systems	-	-	-	*
302	Auxiliary Boiler/Steam System	-	-	-	-
303	Main Steam System	-	-	-	-
310	SUMMARY OF PROCESS SAMPLING SYSTEMS	-	-	-	-
311	Process Sampling Systems	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 13
 Taxonomy Level : 2
 Components
 CRO

D M O F O S
 I O P I P T
 A N E L E A
 G I R L N R
 N T A S S T
 O O T / / S
 S R E D C /
 E S S R L S
 S A O T
 I S O
 N E P
 S S S

KEY
 ■ = Invalid, Illogical Cell
 ■ = Invalid, Logical Cell
 * = Valid Cell Containing Data
 - = Valid Cell Containing No Data

ID	Equipment Description	3	3	3	3	3	3
		0	1	2	3	4	5
000	SUMMARY OF ACCUMULATORS	-	-	-	-	-	-
001	Accumulators	-	-	-	-	-	-
002	Gas Accumulator	-	-	-	-	-	-
003	Liquid Accumulator	-	-	-	-	-	-
010	SUMMARY OF AIR/GAS DRYERS	-	-	-	■	■	-
011	Air/Gas Dryers	-	-	-	■	■	-
020	SUMMARY OF BATTERIES	-	-	-	■	-	-
021	Batteries	-	-	-	■	-	-
030	SUMMARY OF BATTERY CHARGERS	-	-	-	■	■	-
031	Battery Chargers	-	-	-	■	■	-
040	SUMMARY OF CIRCUIT CLOSURES/INTERRUPTERS	-	-	*	■	*	■
041	Circuit Closures/Interrupters	-	-	-	■	-	■
042	Circuit Breaker	-	-	*	■	*	■
043	Contractor	-	-	-	■	-	■
044	Disconnect	-	-	-	■	■	■
045	Motor/Load Controller	-	-	-	■	■	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	3	3	3	3	3	3
		0	1	2	3	4	5
046	Switch	-	-	*	█	-	█
047	Switchgear	-	-	-	█	*	█
050	SUMMARY OF COMPUTERS	-	-	-	█	█	-
051	Computers	-	-	-	█	█	-
060	SUMMARY OF CONTROL INSTRUMENTS	-	*	*	█	█	
061	Control Instruments	-	-	*	█	█	
062	Flow Control Instrument	-	*	-	█	█	
063	Flux Control Instrument	-	*	*	█	█	
064	Level Control Instrument	-	*	-	█	█	
065	Position Control Instrument	-	-	-	█	█	
066	Pressure Control Instrument	-	*	-	█	█	
067	RPM Control Instrument	-	-	-	█	█	
068	Temperature Control Instrument	-	-	-	█	█	
069	Voltage Control Instrument	-	-	-	█	█	
080	SUMMARY OF CONTROL RODS	-	-	█	█	█	█
081	Control Rods	-	-	█	█	█	█
090	SUMMARY OF CONTROL ROD DRIVE MECHANISMS	-	-	*	█	█	
091	Control Rod Drive Mechanisms	-	-	*	█	█	
100	SUMMARY OF DEMINERALIZERS	-	-	-	-	-	
101	Demineralizers	-	-	-	-	-	
110	SUMMARY OF EDUCATORS	-	-	█	█		
111	Eductors	-	-	█	█		
112	Jet Pump	-	-	█	█		
113	Steam Jet Air Ejector	-	-	█	█		

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	3	3	3	3	3	3
		0	1	2	3	4	5
120	SUMMARY OF ELECTRICAL CONDUCTORS	-	█	█	█	█	█
121	Electrical Conductors	-	█	█	█	█	█
122	Insulated Cable	-	█	█	█	█	█
123	Shielded Cable	-	█	█	█	█	█
130	SUMMARY OF ELECTRICAL EQUIPMENT	-	-	█	█	*	
131	Electrical Equipment	-	-	█	█	*	
132	Amplifier	-	-	█	█	-	
133	Converter	-	-	█	█	-	
134	Inverter	-	-	█	█	-	
135	Rectifier	-	-	█	█	-	
136	Transformer	-	-	█	█	-	
137	Voltage Regulator	-	-	█	█	-	
140	SUMMARY OF ELECTRIC GENERATORS	-	-	█	█	-	
141	Electric Generators	-	-	█	█	-	
142	Alternator	-	-	█	█	-	
143	Amplidyne	-	-	█	█	-	
144	Generator	-	-	█	█	-	
150	SUMMARY OF ELECTRIC HEATERS	-	-	█	█	-	
151	Electric Heaters	-	-	█	█	-	
160	SUMMARY OF EQUIPMENT - NONSPECIFIC	-	-	-	-	-	
161	Equipment - Nonspecific	-	-	-	-	-	
170	SUMMARY OF FANS/VENTILATORS	-	-	█	█	-	
171	Fans/Ventilators	-	-	█	█	-	
180	SUMMARY OF FILTERS/STRAINERS	-	-	█	█	█	
181	Filters/Strainers	-	-	█	█	█	

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	3	3	3	3	3	3
		0	1	2	3	4	5
190	SUMMARY OF HEAT EXCHANGERS	-	-	-	-	█	
191	Heat Exchangers	-	-	-	-	█	
192	Boiler	-	-	-	-	█	
193	Condenser	-	-	-	-	█	
194	Cooler	-	-	-	-	█	
200	SUMMARY OF MOTORS	-	-	-	█	█	-
201	Motors	-	-	-	█	█	-
202	Electric AC Motor	-	-	-	█	█	-
203	Electric DC Motor	-	-	-	█	█	-
204	Hydraulic Motor	-	-	-	█	█	-
205	Pneumatic Motor	-	-	-	█	█	-
210	SUMMARY OF PIPES	-	-	█	█	█	█
211	Pipes	-	-	█	█	█	█
212	Elbow	-	-	█	█	█	█
213	Nozzle	-	-	█	█	█	█
214	Reducer/Orifice	-	-	█	█	█	█
215	Rupture Diaphragm	-	-	█	█	█	█
216	Tee	-	-	█	█	█	█
220	SUMMARY OF PUMPS	-	-	*	█	█	*
221	Pumps	-	-	*	█	█	*
222	Centrifugal Pump	-	-	-	█	█	*
223	Reciprocating Pump	-	-	-	█	█	-
224	Rotary Pump	-	-	-	█	█	-
225	Vacuum Pump	-	-	-	█	█	-
230	SUMMARY OF RECOMBINERS	-	-	-	█	█	█

TABLE 4. MATRIX SUMMARY (cont)

ID	Equipment Description	3	3	3	3	3	3
		0	1	2	3	4	5
231	Recombiners	-	-	-	█	█	█
232	Catalytic Recombiner	-	-	-	█	█	█
233	Flame Recombiner	-	-	-	█	█	█
234	Thermal Recombiner	-	-	-	█	█	█
240	SUMMARY OF SENSORS	-	-	-	█	█	█
241	Sensors	-	-	-	█	█	█
242	Conductivity Sensor	-	-	-	█	█	█
243	Current Sensor	-	-	-	█	█	█
244	Flow Sensor	-	-	-	█	█	█
245	Frequency Sensor	-	-	-	█	█	█
246	Flux Sensor	-	-	-	█	█	█
247	Humidity Sensor	-	-	-	█	█	█
248	Level Sensor	-	-	-	█	█	█
249	Position Sensor	-	-	-	█	█	█
251	Pressure Sensor	-	-	-	█	█	█
252	Radiation Sensor	-	-	-	█	█	█
253	RPM Sensor	-	-	-	█	█	█
254	Temperature Sensor	-	-	-	█	█	█
255	Velocity Sensor	-	-	-	█	█	█
256	Vibration Sensor	-	-	-	█	█	█
257	Voltage Sensor	-	-	-	█	█	█
270	SUMMARY OF STEAM GENERATORS	-	-	*	-	█	█
271	Steam Generators	-	-	*	-	█	█
280	SUMMARY OF TURBINES	-	-	*	█	█	█
281	Turbines	-	-	*	█	█	█

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	3	3	3	3	3	3
		0	1	2	3	4	5
290	SUMMARY OF VALVES	-	*	*	█	*	█
291	Valves	-	*	*	█	*	█
292	Angle Valve	-	-	-	█	-	█
293	Ball Valve	-	-	-	█	-	█
294	Check Valve	-	-	-	█	-	█
295	Diaphragm Valve	-	-	-	█	-	█
296	Four-Way Valve	-	-	-	█	-	█
297	Gate Valve	-	-	-	█	-	█
298	Globe Valve	-	-	-	█	-	█
299	Needle Valve	-	-	-	█	-	█
301	Plug Valve	-	-	-	█	-	█
302	Relief Valve	-	-	-	█	*	█
303	Three-Way Valve	-	-	-	█	-	█
310	SUMMARY OF VALVE OPERATORS	-	-	*	█	█	
311	Valve Operators	-	-	*	█	█	
312	Electric Motor-AC	-	-	*	█	█	
313	Electric Motor-DC	-	-	-	█	█	
314	Explosive, Squib	-	-	-	█	█	
315	Hydraulic	-	-	-	█	█	
316	Pneumatic	-	-	-	█	█	
317	Solenoid-DC	-	-	-	█	█	
330	SUMMARY OF VESSELS/TANKS	-	-	-	█	█	
331	Vessels/Tanks	-	-	-	█	█	
332	Pressure Vessel	-	-	-	█	█	
333	Tank	-	-	-	█	█	

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 14
 Taxonomy Level : 2
 Components
 EO

KEY
 ■ = Invalid, Illogical Cell
 - = Invalid, Logical Cell
 * = Valid Cell Containing Data
 - = Valid Cell Containing No Data

D I O F O S
 I N P I P T
 A S E L E A
 G P R L N R
 N E A S S T
 O C T / / S
 S T E R D C /
 E S S R L S
 S A O T
 I S O
 N E P
 S S S

ID	Equipment Description	4	4	4	4	4	4
		0	1	2	3	4	5
000	SUMMARY OF ACCUMULATORS	-	-	-	-		
001	Accumulators	-	-	-	-		
002	Gas Accumulator	-	-	-	-		
003	Liquid Accumulator	-	-	-	-		
010	SUMMARY OF AIR/GAS DRYERS	-	-	-	-	■	-
011	Air/Gas Dryers	-	-	-	-	■	-
020	SUMMARY OF BATTERIES	-	-	■	■		
021	Batteries	-	-	■	■		
030	SUMMARY OF BATTERY CHARGERS	-	-	-	■	■	-
031	Battery Chargers	-	-	-	■	■	-
040	SUMMARY OF CIRCUIT CLOSURES/INTERRUPTERS	-	*	-	■	*	■
041	Circuit Closures/Interrupters	-	-	-	■	-	■
042	Circuit Breaker	-	*	-	■	*	■
043	Contractor	-	-	-	■	-	■
044	Disconnect	-	-	-	■	*	■
045	Motor/Load Controller	-	-	-	■	-	■

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	4	4	4	4	4	4
		0	1	2	3	4	5
046	Switch	-	-	-	■	-	■
047	Switchgear	-	-	-	■	-	■
050	SUMMARY OF COMPUTERS	-	-	-	■	■	-
051	Computers	-	-	-	■	■	-
060	SUMMARY OF CONTROL INSTRUMENTS	-	-	*	■	■	-
061	Control Instruments	-	-	-	■	■	-
062	Flow Control Instrument	-	-	*	■	■	-
063	Flux Control Instrument	-	-	-	■	■	-
064	Level Control Instrument	-	-	*	■	■	-
065	Position Control Instrument	-	-	-	■	■	-
066	Pressure Control Instrument	-	-	*	■	■	-
067	RPM Control Instrument	-	-	-	■	■	-
068	Temperature Control Instrument	-	-	*	■	■	-
069	Voltage Control Instrument	-	-	-	■	■	-
080	SUMMARY OF CONTROL RODS	■	■	■	■	■	-
081	Control Rods	■	■	■	■	■	-
090	SUMMARY OF CONTROL ROD DRIVE MECHANISMS	-	-	■	■	■	-
091	Control Rod Drive Mechanisms	-	-	■	■	■	-
100	SUMMARY OF DEMINERALIZERS	-	-	-	-	■	■
101	Demineralizers	-	-	-	-	■	■
110	SUMMARY OF EDUCTORS	-	-	-	■	■	-
111	Eductors	-	-	-	■	■	-
112	Jet Pump	-	-	-	■	■	-
113	Steam Jet Air Ejector	-	-	-	■	■	-
120	SUMMARY OF ELECTRICAL CONDUCTORS	-	-	-	■	■	■

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	4	4	4	4	4	4
		0	1	2	3	4	5
121	Electrical Conductors	-	-	-	█	█	█
122	Insulated Cable	-	-	-	█	█	█
123	Shielded Cable	-	-	-	█	█	█
130	SUMMARY OF ELECTRICAL EQUIPMENT	-	-	*	█	█	
131	Electrical Equipment	-	-	*	█	█	
132	Amplifier	-	-	-	█	█	
133	Converter	-	-	-	█	█	
134	Inverter	-	-	-	█	█	
135	Rectifier	-	-	-	█	█	
136	Transformer	-	-		█	█	
137	Voltage Regulator	-	-	-	█	█	
140	SUMMARY OF ELECTRIC GENERATORS	-	-	*	█	█	-
141	Electric Generators	-	-	-	█	█	-
142	Alternator	-	-	-	█	█	-
143	Amplidyne	-	-	-	█	█	-
144	Generator	-	-	*	█	█	-
150	SUMMARY OF ELECTRIC HEATERS	-	-		█	█	-
151	Electric Heaters	-	-		█	█	-
160	SUMMARY OF EQUIPMENT - NONSPECIFIC	-	-	-	-	-	-
161	Equipment - Nonspecific	-	-	-	-	-	-
170	SUMMARY OF FANS/VENTILATORS	-	-	-	█		-
171	Fans/Ventilators	-	-	-	█		-
180	SUMMARY OF FILTERS/STRAINERS	-	-	-	-	█	█
181	Filters/Strainers	-	-	-	-	█	█

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	4	4	4	4	4	4
		0	1	2	3	4	5
190	SUMMARY OF HEAT EXCHANGERS	-	-	-	-		
191	Heat Exchangers	-	-	-	-		
192	Boiler	-	-	-	-		
193	Condenser	-	-	-	-		
194	Cooler	-	-	-	-		
200	SUMMARY OF MOTORS	-	-	-	■	■	-
201	Motors	-	-	-	■	■	-
202	Electric AC Motor	-	-	-	■	■	-
203	Electric DC Motor	-	-	-	■	■	-
204	Hydraulic Motor	-	-	-	■	■	-
205	Pneumatic Motor	-	-	-	■	■	-
210	SUMMARY OF PIPES	-	-	■	-		■
211	Pipes	-	-	■	-		■
212	Elbow	-	-	■	-		■
213	Nozzle	-	-	■	-		■
214	Reducer/Orifice	-	-	■	-		■
215	Rupture Diaphragm	-	-	■	■		■
216	Tee	-	-	■	-		■
220	SUMMARY OF PUMPS	-	*	-	-	■	*
221	Pumps	-	-	-	-	■	-
222	Centrifugal Pump	-	*	-	-	■	*
223	Reciprocating Pump	-	-	-	-	■	-
224	Rotary Pump	-	-	-	-	■	-
225	Vacuum Pump	-	-	-	-	■	-
230	SUMMARY OF RECOMBINERS	-	-	-		■	

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	4	4	4	4	4	4
		0	1	2	3	4	5
231	Recombiners	-	-	-			
232	Catalytic Recombiner	-	-	-			
233	Flame Recombiner	-	-	-			
234	Thermal Recombiner	-	-	-			
240	SUMMARY OF SENSORS	-	*	-			
241	Sensors	-	-	-			
242	Conductivity Sensor	-	-	-			
243	Current Sensor	-	-	-			
244	Flow Sensor	-	-	-			
245	Frequency Sensor	-	-	-			
246	Flux Sensor	-	-	-			
247	Humidity Sensor	-	-	-			
248	Level Sensor	-	*	-			
249	Position Sensor	-	-	-			
251	Pressure Sensor	-	-	-			
252	Radiation Sensor	-	-	-			
253	RPM Sensor	-	-	-			
254	Temperature Sensor	-	-	-			
255	Velocity Sensor	-	-	-			
256	Vibration Sensor	-	-	-			
257	Voltage Sensor	-	-	-			
270	SUMMARY OF STEAM GENERATORS	-	-	-			
271	Steam Generators	-	-	-			
280	SUMMARY OF TURBINES	-	-	-			
281	Turbines	-	-	-			

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	4	4	4	4	4	4
		0	1	2	3	4	5
290	SUMMARY OF VALVES	-	*	*	*		█
291	Valves	-	*	*	*		█
292	Angle Valve	-	-	-	-		█
293	Ball Valve	-	-	-	-		█
294	Check Valve	-	-	-	-		█
295	Diaphragm Valve	-	-	-	-		█
296	Four-Way Valve	-	-	-	-		█
297	Gate Valve	-	-	*	*		█
298	Globe Valve	-	-	-	-		█
299	Needle Valve	-	-	-	-		█
301	Plug Valve	-	-	-	-		█
302	Relief Valve	-	-	-	-		█
303	Three-Way Valve	-	-	-	-		█
310	SUMMARY OF VALVE OPERATORS	-	-	*		█	█
311	Valve Operators	-	-	-		█	█
312	Electric Motor-AC	-	-	*		█	█
313	Electric Motor-DC	-	-	-		█	█
314	Explosive, Squib	-	-	-		█	█
315	Hydraulic	-	-			█	█
316	Pneumatic	-	-	*		█	█
317	Solenoid-DC	-	-	-		█	█
330	SUMMARY OF VESSELS/TANKS	-	*			█	█
331	Vessels/Tanks	-	*			█	█
332	Pressure Vessel	-	-			█	█
333	Tank	-	-			█	█

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 15 Taxonomy Level : 2 Components MT	C D M R T A I A E E L A I P S I G N A T B N T I S R O A R A S I S T E N E S S S	
<p style="text-align: center;">KEY</p> ■ = Invalid, Illogical Cell = Invalid, Logical Cell * = Valid Cell Containing Data - = Valid Cell Containing No Data		
ID Equipment Description	5 5 5 5 5 0 1 2 3 4	
000	SUMMARY OF ACCUMULATORS	- - - -
001	Accumulators	- - - -
002	Gas Accumulator	- - - -
003	Liquid Accumulator	- - - -
010	SUMMARY OF AIR/GAS DRYERS	- - - -
011	Air/Gas Dryers	- - - -
020	SUMMARY OF BATTERIES	■ - - - -
021	Batteries	■ - - - -
030	SUMMARY OF BATTERY CHARGERS	- - - -
031	Battery Chargers	- - - -
040	SUMMARY OF CIRCUIT CLOSURES/INTERRUPTERS	- - * * *
041	Circuit Closures/Interrupters	- - - - -
042	Circuit Breaker	■ - * * *
043	Contractor	- - - - -
044	Disconnect	■ - * * *
045	Motor/Load Controller	■ - - - -

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	5	5	5	5	5
		0	1	2	3	4
046	Switch	-	-	-	-	*
047	Switchgear	■	-	-	-	-
050	SUMMARY OF COMPUTERS	■	-	-	-	-
051	Computers	■	-	-	-	-
060	SUMMARY OF CONTROL INSTRUMENTS	*	*	-	-	-
061	Control Instruments	-	-	-	-	-
062	Flow Control Instrument	*	*	-	-	-
063	Flux Control Instrument	-	-	-	-	-
064	Level Control Instrument	*	-	-	-	-
065	Position Control Instrument	-	-	-	-	-
056	Pressure Control Instrument	*	-	-	-	-
067	RPM Control Instrument	-	-	-	-	-
068	Temperature Control Instrument	*	-	-	-	-
069	Voltage Control Instrument	-	*	-	-	-
080	SUMMARY OF CONTROL RODS	■	-	-	-	■
081	Control Rods	■	-	-	-	■
090	SUMMARY OF CONTROL ROD DRIVE MECHANISMS	-	-	-	-	-
091	Control Rod Drive Mechanisms	-	-	-	-	-
100	SUMMARY OF DEMINERALIZERS	■	-	-	-	-
101	Demineralizers	■	-	-	-	-
110	SUMMARY OF EDUCTORS	■	-	-	-	-
111	Eductors	■	-	-	-	-
112	Jet Pump	■	-	-	-	-
113	Steam Jet Air Ejector	■	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	5	5	5	5	5
		0	1	2	3	4
120	SUMMARY OF ELECTRICAL CONDUCTORS	■	-	-	-	-
121	Electrical Conductors	■	-	-	-	-
122	Insulated Cable	■	-	-	-	-
123	Shielded Cable	■	-	-	-	-
130	SUMMARY OF ELECTRICAL EQUIPMENT	*	*	-	-	*
131	Electrical Equipment	*	*	-	-	*
132	Amplifier	-	-	-	-	-
133	Converter	-	-	-	-	-
134	Inverter	-	-	-	-	-
135	Rectifier	-	-	-	-	-
136	Transformer	-	-	-	-	-
137	Voltage Regulator	-	-	-	-	-
140	SUMMARY OF ELECTRIC GENERATORS	-	-	-	-	*
141	Electric Generators	-	-	-	-	-
142	Alternator	-	-	-	-	-
143	Amplidyne	-	-	-	-	-
144	Generator	-	-	-	-	*
150	SUMMARY OF ELECTRIC HEATERS	■	-	-	-	-
151	Electric Heaters	■	-	-	-	-
160	SUMMARY OF EQUIPMENT - NONSPECIFIC	-	-	-	-	*
161	Equipment - Nonspecific	-	-	-	-	*
170	SUMMARY OF FANS/VENTILATORS	■	-	-	-	-
171	Fans/Ventilators	■	-	-	-	-
180	SUMMARY OF FILTERS/STRAINERS	■	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	5	5	5	5	5
		0	1	2	3	4
181	Filters/Strainers	█	-	-	-	-
190	SUMMARY OF HEAT EXCHANGERS	█	-	-	-	-
191	Heat Exchangers	█	-	-	-	-
192	Boiler	█	-	-	-	-
193	Condenser	█	-	-	-	-
194	cooler	█	-	-	-	-
200	SUMMARY OF MOTORS	█	-	-	-	-
201	Motors	█	-	-	-	-
202	Electric AC Motor	█	-	-	-	-
203	Electric DC Motor	█	-	-	-	-
204	Hydraulic Motor	█	-	-	-	-
205	Pneumatic Motor	█	-	-	-	-
210	SUMMARY OF PIPES	█	-	-	-	-
211	Pipes	█	-	-	-	-
212	Elbow	█	-	-	-	-
213	Nozzle	█	-	-	-	-
214	Reducer/Orifice	█	-	-	-	-
215	Rupture Diaphragm	█	-	-	-	-
216	Tee	█	-	-	-	-
220	SUMMARY OF PUMPS	-	-	*	-	-
221	Pumps	-	-	*	-	-
222	Centrifugal Pump	-	-	-	-	-
223	Reciprocating Pump	-	-	-	-	-
224	Rotary Pump	-	-	-	-	-
225	Vacuum Pump	-	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	5	5	5	5	5
		0	1	2	3	4
230	SUMMARY OF RECOMBINERS	■	-	-	-	-
231	Recombiners	■	-	-	-	-
232	Catalytic Recombiner	■	-	-	-	-
233	Flame Recombiner	■	-	-	-	-
234	Thermal Recombiner	■	-	-	-	-
240	SUMMARY OF SENSORS	*	-	-	-	*
241	Sensors	*	-	-	-	*
242	Conductivity Sensor	-	-	-	-	-
243	Current Sensor	-	-	-	-	-
244	Flow Sensor	-	-	-	-	-
245	Frequency Sensor	-	-	-	-	-
246	Flux Sensor	-	-	-	-	-
247	Humidity Sensor	-	-	-	-	-
248	Level Sensor	*	-	-	-	-
249	Position Sensor	-	-	-	-	-
251	Pressure Sensor	*	-	-	-	-
252	Radiation Sensor	-	-	-	-	-
253	RPM Sensor	-	-	-	-	-
254	Temperature Sensor	-	-	-	-	-
255	Velocity Sensor	-	-	-	-	-
256	Vibration Sensor	-	-	-	-	-
257	Voltage Sensor	-	-	-	-	-
270	SUMMARY OF STEAM GENERATORS	■	-	-	-	-
271	Steam Generators	■	-	-	-	-
280	SUMMARY OF TURBINES	■	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	5	5	5	5	5
		0	1	2	3	4
281	Turbines	■	-	-	-	-
290	SUMMARY OF VALVES	■	*	*	-	*
291	Valves	■	*	*	-	*
292	Angle Valve	■	-	-	-	-
293	Ball Valve	■	-	-	-	-
294	Check Valve	■	-	-	-	-
295	Diaphragm Valve	■	-	-	-	-
296	Four-Way Valve	■	-	-	-	-
297	Gate Valve	■	-	-	-	-
298	Globe Valve	■	-	-	-	-
299	Needle Valve	■	-	-	-	-
301	Plug Valve	■	-	-	-	-
302	Relief Valve	■	-	-	-	-
303	Three-Way Valve	■	-	-	-	-
310	SUMMARY OF VALVE OPERATORS	■	-	-	-	*
311	Valve Operators	■	-	-	-	-
312	Electric Motor-AC	■	-	-	-	-
313	Electric Motor-DC	■	-	-	-	-
314	Explosive, Squib	■	-	-	-	-
315	Hydraulic	■	-	-	-	-
316	Pneumatic	■	-	-	-	*
317	Solenoid-DC	■	-	-	-	-
330	SUMMARY OF VESSELS/TANKS	■	-	-	-	-
331	Vessels/Tanks	■	-	-	-	-
332	Pressure Vessel	■	-	-	-	-
333	Tank	■	-	-	-	-

TABLE 4. MATRIX SUMMARY (con't)

Matrix : 16 Taxonomy Level : 3 Displays/Instr/Controls Subject	P U A S I V R M R D C R W M C O S D E D E E O E I A E R A A S E J L E R A N M A L C I I L I S U E N I D I E G C E T N I T S C T F S T M N U I E T B I T T I I O B O L V S A R A O S S F E R E S A E I A N S I S S R E T S S N T S E S S S E S S E S
<p style="text-align: center;">KEY</p> ■ = Invalid, Illogical Cell - = Invalid, Logical Cell * = Valid Cell Containing Data - = Valid Cell Containing No Data	
ID Equipment Description	6 6 6 6 6 6 6 6 6 6 7 7 7 7 7 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
000 SUMMARY OF QUALITATIVE DISPLAYS	■ ■ - * - * * - * ■ ■ ■ - -
001 Qualitative Displays	■ ■ - - - * - - - ■ ■ ■ - -
002 Indicator Light	■ ■ - * - - - - - ■ ■ ■ - -
003 Legend Light	■ ■ - * - - - - - ■ ■ ■ - -
004 Computer Alarm Printer	■ ■ - - - - - - - ■ ■ ■ - ■
005 Annunciator	■ ■ - - - - - * ■ ■ ■ - -
006 CRT Text	■ ■ - - - * - - - ■ ■ ■ ■ ■
010 SUMMARY OF QUANTITATIVE DISPLAYS	■ ■ - - - * * - - - ■ ■ - -
011 Quantitative Displays	■ ■ - - - * - - - - ■ ■ - -
012 Counter-Digital Readout	■ ■ - - - * - - - - ■ ■ - -
013 Meter	■ ■ - - - * * - - - ■ ■ - -
014 Printing Recorder	■ ■ - - - - - - - ■ ■ - -
015 Chart Recorder	■ ■ - - - * * - - - ■ ■ - -
016 CRT Graphic Display	■ ■ - - - * - - - ■ ■ ■ ■
017 CRT Alphanumeric Display	■ ■ - - - * - - - ■ ■ ■ ■
018 Computer Printer	■ ■ - - - - - - - ■ ■ - -

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7
		0	1	2	3	4	5	6	7	8	9	0	1	2	3	4
030	SUMMARY OF TWO-POSITION SWITCHES	*		*	-	-	-	-	-	-	-	■	■	■	-	■
031	Two-Position Switches	*		*	-	-	-	-	-	-	-	■	■	■	-	■
032	Push-Button (Illuminated Legend)	-		*	-	-	-	-	-	-	-	■	■	■	-	■
033	Push-Button (Other)	-		*	-	-	-	-	-	-	-	■	■	■	-	■
034	Toggle Switch/Two-Position	-		*	-	-	-	-	-	-	-	■	■	■	-	■
035	Knob	-		-	-	-	-	-	-	-	-	■	■	■	-	■
036	Rocker	-		-	-	-	-	-	-	-	-	■	■	■	-	■
037	Keylock	-		-	-	-	■	-	-	-	-	■	■	■	-	■
038	Multifunction Push-Button Matrix	-		-	-	-	-	-	-	-	-	■	■	■	-	■
050	SUMMARY OF MULTIPOSITION SELECTORS	*		-	-	-	-	-	-	-	-	■	■	■	-	■
051	Multiposition Selectors	*		-	-	-	-	-	-	-	-	■	■	■	-	■
052	J-Handle Switch	*		-	-	-	-	-	-	-	-	■	■	■	-	■
053	Rotary Switch	*		-	-	-	-	-	-	-	-	■	■	■	-	■
054	Toggle Switch	-		-	-	-	-	-	-	-	-	■	■	■	-	■
055	Stepping Push-Button	-		-	-	-	-	-	-	-	-	■	■	■	-	■
060	SUMMARY OF CONTINUOUSLY VARIABLE CONTROLS			*	-	-	-	■	-	-	-	■	■	■	-	-
061	Continuously Variable Controls			*	-	-	-	■	-	-	-	■	■	■	-	-
062	Knob			-	-	-	-	■	-	-	-	■	■	■	-	-
063	Lever			-	-	-	-	■	-	-	-	■	■	■	-	-
064	Thumb Wheel			-	-	-	-	■	-	-	-	■	■	■	-	-
070	SUMMARY OF KEYBOARDS	■	-					■	■	■	■	-	-	*	■	-
071	Keyboards	■	-					■	■	■	■	-	-	-	■	-
072	Calculator	■	-					■	■	■	■	-	-	*	■	■
073	Computer Terminal	■	-					■	■	■	■	-	-	-	■	-
074	Typewriter	■	-					■	■	■	■	-	-	-	■	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	6	6	6	6	6	6	6	6	6	7	7	7	7	7
		0	1	2	3	4	5	6	7	8	9	0	1	2	3
075	Teletype	■	-			■	■	■	■	■	-	-	■	■	-
080	SUMMARY OF TOOLS	■	-	■	-	■	■	■	■	■	■	■	■	■	■
081	Tools	■	-	■	-	■	■	■	■	■	■	■	■	■	■
082	Wrench	■	-	■	-	■	■	■	■	■	■	■	■	■	■
083	Pliers	■	-	■	-	■	■	■	■	■	■	■	■	■	■
084	Screwdriver	■	-	■	-	■	■	■	■	■	■	■	■	■	■
085	Ratchet And Socket	■	-	■	-	■	■	■	■	■	■	■	■	■	■
086	Torch	■	-	■	-	■	■	■	■	■	■	■	■	■	■
087	Welding Rod	■	-	■	-	■	■	■	■	■	■	■	■	■	■
088	Torque Wrench	■	-	■	-	■	■	■	■	■	■	■	■	■	-
089	Impact Wrench	■	-	■	-	■	■	■	■	■	■	■	■	■	■
091	Fuse Puller	■	-	■	-	■	■	■	■	■	■	■	■	■	■
092	Clippers	■	-	■	-	■	■	■	■	■	■	■	■	■	■
093	Shorting Probe	■	-	■	-	■	■	■	■	■	■	■	■	■	■
100	SUMMARY OF LIFTING/MOVING DEVICES	-	-	■	-	■	-	-	■	■	■	■	-	■	■
101	Lifting/Moving Devices	-	-	■	-	■	-	-	■	■	■	■	-	■	■
102	Hoist	-	-	■	-	■	-	-	■	■	■	■	-	■	■
103	Crane	-	-	■	-	■	-	-	■	■	■	■	-	■	■
104	Come-Along	-	-	■	-	■	-	-	■	■	■	■	-	■	■
105	Sling	-	-	■	-	■	-	-	■	■	■	■	-	■	■
106	Wire Rope	-	-	■	-	■	-	-	■	■	■	■	-	■	■
107	Jack	-	-	■	-	■	-	-	■	■	■	■	-	■	■
110	SUMMARY OF ELECTRICAL TEST EQUIPMENT	-	-	-	-	-	-	-	-	-	-	■	■	-	-
111	Electrical Test Equipment	-	-	-	-	-	-	-	-	-	-	■	■	-	-
112	Amprobe	-	-	-	-	-	-	-	-	-	-	■	■	-	-

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7
		0	1	2	3	4	5	6	7	8	9	0	1	2	3	4
113	Decade Box	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
114	Digital Meter	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
115	Multimeter	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
116	Oscilloscope	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
117	Signal Generator	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
118	Resistance/Impedance Bridge	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
119	Voltage Test Lamp	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
121	Frequency Counter	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
130	SUMMARY OF MEASUREMENT TEST EQUIPMENT	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
131	Measurement Test Equipment	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
132	Gas Detector	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
133	Hydrometer	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
134	Micrometer	-	-	-	-	-	-	-	-	-	-	■	■	-	-	
135	Pyrometer, Thermometer	-	-	-	-	-	-	-	-	-	-	■	■	-	-	

TABLE 4. MATRIX SUMMARY (con't)

ID	Equipment Description	6	6	6	6	6	6	6	6	6	7	7	7	7	7
		0	1	2	3	4	5	6	7	8	9	0	1	2	3
136	Scale	-	-	-	-	-	-	-	-	-	-	-	-	-	-
137	Stroboscope	-	-	-	-	-	-	-	-	-	-	-	-	-	-
138	Test Gauge	-	-	-	-	-	-	-	-	-	-	-	-	-	-
139	Vibration Detector	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	SUMMARY OF PRINTED COMMUNICATIONS	*	*	*	*	*	*	*	*	*	*	*	*	*	*
151	Printed Communications	*	*	*	*	*	*	*	*	*	*	*	*	*	*
152	Tag	*	*	*	*	*	*	*	*	*	*	*	*	*	*
153	Log Book	*	*	*	*	*	*	*	*	*	*	*	*	*	*
154	Administrative Procedure	*	*	*	*	*	*	*	*	*	*	*	*	*	*
155	Operating Procedure	*	*	*	*	*	*	*	*	*	*	*	*	*	*
156	Maintenance Procedure	*	*	*	*	*	*	*	*	*	*	*	*	*	*
157	Test Or Calibration Procedure	*	*	*	*	*	*	*	*	*	*	*	*	*	*
158	Graph	*	*	*	*	*	*	*	*	*	*	*	*	*	*
159	Table	*	*	*	*	*	*	*	*	*	*	*	*	*	*
161	Label	*	*	*	*	*	*	*	*	*	*	*	*	*	*
170	SUMMARY OF VERBAL COMMUNICATIONS	*	*	*	*	*	*	*	*	*	*	*	*	*	*
171	Verbal Communications	*	*	*	*	*	*	*	*	*	*	*	*	*	*
172	Face-To-Face Communication	*	*	*	*	*	*	*	*	*	*	*	*	*	*
173	Telephone Communication	*	*	*	*	*	*	*	*	*	*	*	*	*	*
174	Page-Party System (PA) Communication	*	*	*	*	*	*	*	*	*	*	*	*	*	*
175	Sound-Powered Phone Communication	*	*	*	*	*	*	*	*	*	*	*	*	*	*
176	Two-Way Radio Communication	*	*	*	*	*	*	*	*	*	*	*	*	*	*
180	SUMMARY OF EQUIPMENT - NONSPECIFIC	*	*	*	*	*	*	*	*	*	*	*	*	*	*
181	Equipment - Nonspecific	*	*	*	*	*	*	*	*	*	*	*	*	*	*

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Code	Document
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11 ABSTRACT (200 words or less) <p>The Nuclear Computerized Library for Assessing Reactor Reliability (NUCLARR) is an automated data management system for processing and storing human error probability and hardware component failure data. The NUCLARR system software resides on an IBM (or compatible) personal computer. NUCLARR can furnish an end user with data inputs for both human and hardware reliability analysis in support of a variety of risk assessment activities.</p> <p>The NUCLARR system is documented in a five-volume series of reports. <u>Volume 5: Data Manual</u> provides a hard-copy representation of all data and related information available with the NUCLARR system software. This document is organized in three sections. Part 1 is the summary description, which presents an overview of the NUCLARR system and data processing procedures. Part 2 contains all data and information relevant to the human error probability (HEP) side of NUCLARR. Data and information for the hardware component failure data (HCFD) side are presented within Part 3.</p>		
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