WISCONSIN PUBLIC SERVICE CORPORATION

Kewaunee Nuclear Power Plant

ENGINEERING CONTROL PROCEDURE

NO. ECP 4.2 Rev. 0

Human Engineering Review Process for Control Room Modifications

DATE 06/19/86 Page 1 of 14

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1.0 PURPOSE

The purpose of this procedure is to:

1.1 ensure that human factors engineering techniques are applied to all control room modifications; and

1.2 ensure that all control room modifications will remain consistent with the Detailed Control Room Design Review (DCRDR) base line control room.

2.0 APPLICABILITY

This procedure applies to all design change requests (DCR's) which involve a physical modification to the Kewaunee Nuclear Power Plant (KNPP) control room. Applicability is recommended by the Nuclear Design Change Supervisor (NDCS) early in the normal DCR process (see ECD 4.1, step 5.1.5). This procedure may also be used to implement human factors engineering in control room modifications which are accomplished by means other than DCR's.

Not all human factors principles outlined by this procedure need be applied to every DCR. The Human Factors Assessment and Implementation Review Committee will determine which human factors engineering steps in this procedure are applicable and which may be deleted for each DCR. The Committee's decision will

be transmitted to the Responsible Engineer/Responsible Supervisor (RE/RS) prior to beginning design.

3.0 DEFINITIONS

3.1 BASE LINE CONTROL ROOM A human factors base line for the Kewaunee Nuclear Power Plant control room was established by the Detailed Control Room Design Review (DCRDR) in accordance with NUREG-0737, Supplement 1, in June, 1985. The base line control room includes both equipment and procedures, so changes to equipment or changes to procedures affect the base line control room.

3.2 CONTROL ROOM MODIFICATION A control room modification is any physical change to the control room. Control room modifications may include changes which do not affect design documents (see design change definition below).

3.3 DESIGN CHANGE A design change is a change in the physical plant which causes a system, structure, or component to differ from the applicable design document for that item.

3.4 DESIGN CHANGE REQUEST A Design Change Request (DCR) is a formal system described in ECD 4.1, Design Change Control, and ACD 8.5, Plant Modifications, for administering design changes.

3.5 HUMAN FACTORS ENGINEERING Human factors engineering is the practice of engineering design so that human performance is optimized and human errors are minimized.

3.6 SCOPE The scope of a control room modification consists of a group of elements that together perform one or more functions to accomplish a purpose. Elements may include equipment, structures, and humans. To scope an effort involves identifying all of the elements required to accomplish a purpose.

3.7 SYSTEM ANALYSIS System analysis consists of two parts: modeling, in which each element of the system is described; and optimization, in which adjustable elements are set at values that give the best possible system performance.

3.8 TASK ANALYSIS Task analysis is a process by which the functions to be performed by operators are described as a series of one or more task elements and examined.

3.9 VERIFICATION Verification is a process by which it is confirmed that the design change selection of equipment is suitable, is located in the optimum location, and does not result in introduction of new human factors engineering problems.

3.10 VALIDATION Validation is a process by which the design change is tested within actual control room physical and organizational constraints under dynamic, real-time conditions.

4.0 RESPONSIBILITIES

4.1 The Human Factors Assessment and Implementation Committee is responsible for determining the scope of human factors engineering principles to be applied to each DCR (step 5.1), reviewing the design change request for human factors engineering prior to simulator modification (step 5.9), and reviewing the design change request for human factors engineering after validation (step 5.13).

4.2 The Nuclear Oesign Change Supervisor (NDCS) is responsible for determining whether or not this procedure is applicable to each DCR (steps 2.0 and 5.1.1) and for assisting the RE/RS with budget requests (step 5.5).

4.3 The Superintendent - Plant Operations is responsible for providing operators to assist with design verification (step 5.7) and design validation (step 5.11).

4.4 The Responsible Engineer/Responsible Supervisor (RE/RS) is responsible for performing the system analysis (step 5.2), task analysis (step 5.3), conceptual design (steps 5.4, 5.8, and 5.12), estimating costs and budgets (step 5.5), modification of the mockup (step 5.6), design verification (step 5.7), obtaining human factors review (steps 5.9 and 5.13), modifying the simulator hardware (steps 5.10 and 5.14), design validation (step 5.11), and control room modification (step 5.15).

4.5 The Nuclear Simulator Supervisor is responsible for making available simulator time to perform design validation (step 5.11).

4.6 The Nuclear Simulator Engineer (NSE) is responsible for processing and implementing simulator plant math model changes (step 5.10).

4.7 The Nuclear Technical Review Supervisor (NTRS) is responsible for providing human factors engineering expertise during validation (step 5.11).

5.0 REQUIREMENTS

5.1 Determine the human factors scope.

5.1.1 The NDCS will complete the top half of form ECP 4.2-1, attach form ACD 8.5, and submit the DCR documents to the Human Factors Assessment and Implementation Committee. If the control room modification is being accomplished by means other than a DCR, and human factors review is desired, the initiator will complete the top half of form ECP 4.2-1 and and submit it to the Human Factors Assessment and Implementation Committee.

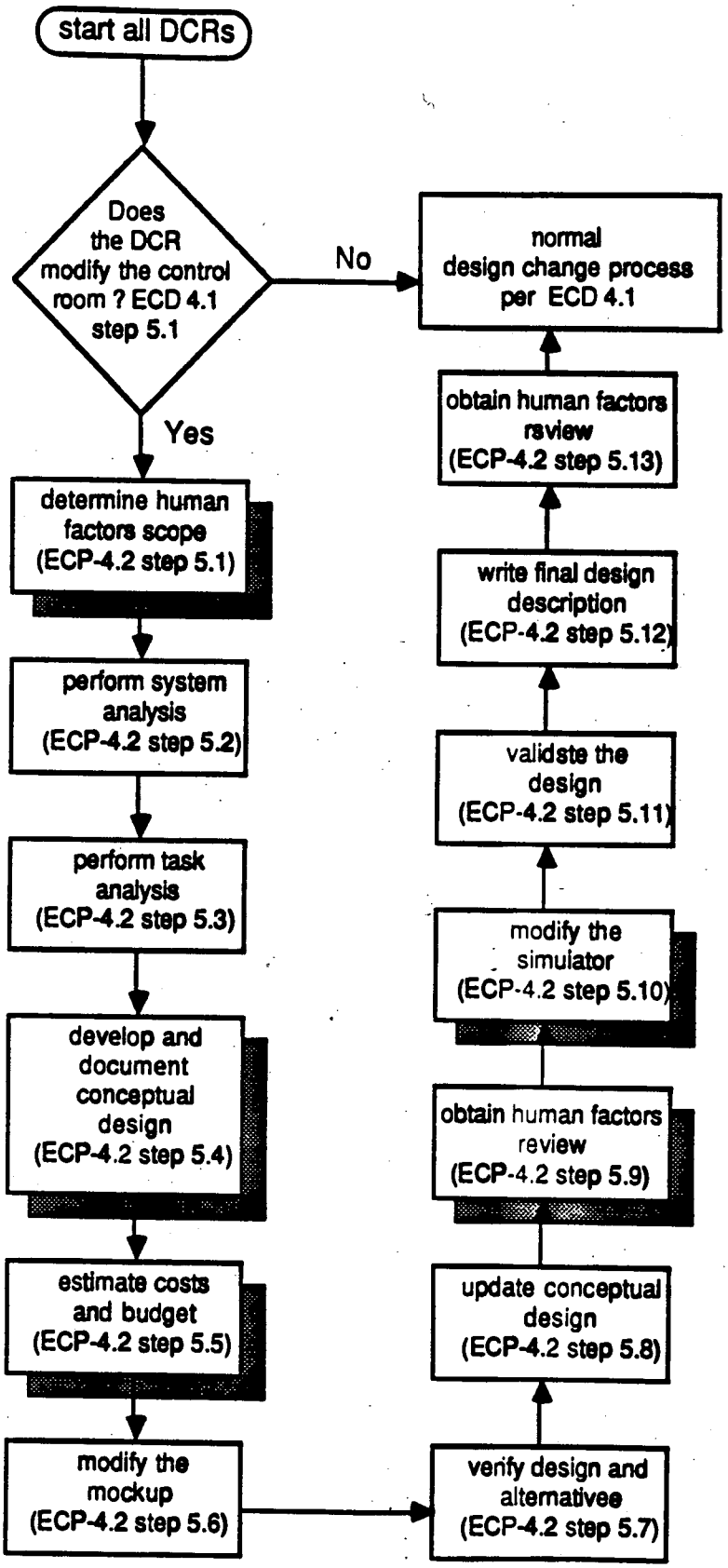
5.1.2 The Human Factors Assessment and Implementation Committee will employ their operational experience and sound engineering judgement to determine which

human factors engineering steps in this procedure are applicable and which may be deleted. The minimum recommended set of human factors engineering steps for control room modifications are: 5.1, determine human factors scope; 5.4, develop and document conceptual design; 5.5, estimate costs and budget; 5.9, obtain human factors review; and 5.1D, modify the simulator. The minimum set of human factors engineering steps which will be performed for all control room modifications are backshadowed on Figure ECP 4.2-1.

5.1.3 The Human Factors Assessment and Implementation Committee Chairman will document the committee's decision on the bottom half of form ECP 4.2-1 and forward the original documents to the RE/RS. Form ECP 4.2-1 becomes a permanent part of the DCR package. A copy of Form ECP 4.2-1 will be retained in the QA Vault as part of the Human Factors Assessment and Implementation Committee meeting records.

5.1.4 The RE/RS may elect to perform human factors engineering steps not recommended by the Committee.

5.1.5 If, during the course of investigation/design, the RE/RS discovers human factors engineering steps which may not be needed, the RE/RS will document his ideas on form ECP 4.2-1 and seek Human Factors Assessment and Implementation Review Committee concurrence. It should also be noted that although Figure ECP 4.2-1 describes a structured linear progression of procedure steps, actual implementation will dictate a more iterative process.


start all DCRs
Does the DCR modify the control room ? ECD 4.1 step 5.1
No
Yes
normal design change process per ECD 4.1
obtain human factors rsview (ECP-4.2 step 5.13)
write final design description (ECP-4.2 step 5.12)
validste the design (ECP-4.2 step 5.11)
modify the simulator (ECP-4.2 step 5.10)
obtain human factors review (ECP-4.2 step 5.9)
update conceptual design (ECP-4.2 step 5.8)
verify design and alternativee (ECP-4.2 step 5.7)
determine human factors scope (ECP-4.2 step 5.1)
perform system analysis (ECP-4.2 step 5.2)
perform task analysis (ECP-4.2 step 5.3)
develop and document conceptual design (ECP-4.2 step 5.4)
estimate costs and budget (ECP-4.2 step 5.5)
modify the mockup (ECP-4.2 step 5.6)

5.2 Perform system analysis.

The RE/RS will perform a system analysis of the control room modification in accordance with the following steps. The system analysis will result in a written document consisting of five sections as described below. The system analysis should be performed without preconceived ideas about equipment selection.

5.2.1 Scope the modification.

Using the problem statement from form ACD 8.5, define a boundary which envelopes the modification. Describe all boundary interfaces (points at which energy, material, or information are exchanged across the boundary) between the modification and plant systems. A control room operator will either be inside the boundary or will be an interface. Modification boundaries may be defined verbally or using graphics.

5.2.2 Describe the purpose.

For modifications to existing systems, the best source for a description of purpose will most likely be the Technical Specification "Bases" section. Other possible sources include the Updated Final Safety Analysis Report and the System Design Descriptions (when completed in 1989). For an entirely new system, the purpose will most likely be found in the documents cited in the reference section of form ACD 8.5.

5.2.3 List constraints on design.

A physical constraint on design is the human limits of control room operators. Some physical constraints on design have already been established by convention at KNPP: abbreviations, annunciator letter size, some color codings, some switch shapes, etc. Some of these conventions are documented in appendices to the Engineering Control Procedures. Other examples of physical constraints are control panel size and availability, and control room lighting.

5.2.4 State the functions

Functions should be action statements. Functions are frequently event or time dependent, so block diagrams or flow charts may be better than verbal descriptions alone. Don't forget monitoring functions. This set of functions will accomplish the modification purpose (step 5.2.2).

5.2.5 Allocate the functions.

Determine which of the functions stated in step 5.2.4 are best performed by equipment and which are best performed by control room operators. Briefly describe the reasons for your decision.

5.3 Perform task analysis.

The RE/RS will perform a task analysis of the DCR in accordance with the following steps. The task analysis will result in a written document consisting of four sections as described below. Ideally, the task analysis should be performed without preconceived ideas about equipment selection. However, in some circumstances it may necessary to perform this step in parallel with, or after, equipment selection. The RE/RS may wish to solicit assistance from operations and simulator personnel to perform this step.

5.3.1 Group human functions by operational events.

In step 5.2.5 above, certain system functions were allocated to humans. Now group these human functions by operational events. There are four major categories of operational events and associated procedures as listed below. A DCR may not have human functions in all categories. List each system function assigned to humans, its operational event, and its associated procedure.

OPERATIONAL EVENT	ASSOCIATED PROCEDURES
normal startup/shutdown	Operating Procedures

	Surveillance Procedures
normal operations	Operating Procedures Surveillance Procedures
emergency operations	Emergency Operating Procedures
maintenance	General Maintenance Procedures .Instrument Calibration Procedures Surveillance Procedures

5.3.2 Develop human operator information and control requirements list

Based upon the human assigned functions, develop an operator information and control requirements list. The information list should include the instrument range, calibrated units, display type, required accuracy, and panel location of each information input. The control (output) list should include the panel location of each control device.

5.3.3 Draw traffic link diagrams.

Using a plan view of the control room (Figure 4.2-2), develop traffic link diagrams (the development of traffic link diagrams is described in paragraph 1.6, page 1-10, of the DCRDR System Review, Task Analysis, Verification and Validation Report). It is desirable to develop a traffic link diagram for each procedure identified in step 5.3.1. However, the RE/RS shall develop a traffic link diagram for each of the following selected operational events which is affected by the control room modification:

- Reactor Trip (E-0, ES-0.1, ES-0.2)
- Large Break LOCA (E-0, E-1, ES-1.1)
- Loss of Secondary Coolant (E-0, E-1, ES-1.3)
- SG Tube Rupture (E-0, E-3)
- Loss of all AC Power (E-0, ECA-0.D, ECA-0.2)
- ATWS (E-0, FR-S.1)
- Plant Startup

Markup each of the procedures that will be changed by the control room modification. As a minimum, show the operator positions for two procedure steps prior to each use of the modification and two steps after each use of the modification. It is desirable to minimize operator movement.

FIGURE 4.2-2

CONTROL ROOM PANEL LAYOUT

5.3.4 Draw operational sequence diagrams.

Review each of the procedures identified in step 5.3.1 and marked-up in step 5.3.3, excluding those procedures associated with maintenance events, to determine if four or more sequential operator steps will be performed on the panel(s) involving the modification. If fewer than four, omit this step. If four or more, draw an operational sequence diagram of those steps for that panel using the techniques described in paragraph 1.7, pages 1-10 and 1-11, of the DCRDR System Review, Task Analysis, Verification and Validation Report. It is desirable to group devices used in sequential steps close together and in a logical sequence (top to bottom or left to right).

5.4 Develop a conceptual design and document it.

The RE/RS will develop a conceptual design which satisfies the need stated on form ACD 8.5, which optimizes human factors considerations, and which can be implemented with commercially available equipment. The RE/RS will prepare a written conceptual design description consisting of four sections as described below.

5.4.1 State the problem.

Describe the problem (refer to form ACD 8.5 and to step 5.2.2, if performed).

5.4.2 List the design requirements, including human factors engineering requirements.

Simply reference the system analysis (step 5.2) and task analysis (step 5.3), if performed. If not performed, provide similar information, with special emphasis on human factors engineering requirements.

5.4.3 Describe the conceptual design.

There may be more than one conceptual design which will adequately solve the problem. Describe each design in sufficient detail to demonstrate the design requirements of step 5.4.2 are met by the design. If human factors compromises are necessitated, describe them in detail. The design description should include details of operation.

5.4.4 Describe alternatives.

Briefly (one or two sentences per alternative) describe alternative designs that were considered, but rejected, and the reason why they were rejected.

5.5 Estimate costs and budget.

The RE/RS will prepare a written estimate of the cost of implementing the conceptual design. The cost estimate should include the cost of mockup modification; simulator hardware and math model modification; and control room modification. In concert with the NDCS, prepare necessary budget requests. This step should be performed in parallel with a similar requirement in ECD 4.1.

5.6 Modify the mockup.

Using photographs or 1:1 scale drawings, the RE/RS will implement the conceptual design(s) on the control room mockup in accordance with ECP 4.5.

5.7 Verify the design and evaluate alternatives.

The RE/RS will use the mockup to verify the design in accordance with the steps below. This will result in a written document consisting of five sections as described below. The RE/RS may also use the mockup to evaluate any conceptual design alternatives.

The RE/RS will use each of the procedures identified in step 5.3.1 and marked-up in step 5.3.3, excluding those associated with maintenance. The Superintendent - Plant Operations will assign experienced operators to perform a walk/talk through of the marked-up procedures on the mockup.

5.7.1 Verify availability

Using the information and control requirements list developed in step 5.3.2, verify that all control room information inputs and control room control station outputs exist on the modified mockup. Also verify availability by procedure walk/talk through.

5.7.2 Verify control room panel assignments.

Verify the traffic link diagrams which were developed in step 5.3.3 and operational sequence diagrams which were developed in step 5.3.4. Verify that operator movement is minimized and that instruments and controls are grouped close together and in a logical arrangement.

5.7.3 Verify that the DCR does not introduce other human factors engineering problems.

Closely monitor operator performance during the walk/talk through. Verify that the DCR does not introduce other human factors engineering problems. The Nuclear Technical Review Supervisor, or his designee, will provide human factors engineering assistance during this step.

5.7.4 Solicit operator human factors comments.

Provide each operator with a copy of form ECP 4.2-2 and solicit human factors comments not otherwise accounted for in this verification process. A more elaborate survey form may need to be developed by the RE/RS, especially for evaluating two or more

design alternatives. The RE/RS will respond in writing to each operator comment on the form. Retain the original forms with the written verification document. Route one copy of each completed form to the Superintendent - Plant Operations.

5.7.5 Iterate verification for other design alternatives and select the best alternative.

Repeat steps 5.7.1 through 5.7.4 for each alternative (if applicable). It is preferable to develop a method for evaluating and ranking the alternatives prior to performing verification.

5.8 Revise the written conceptual design, if necessary.

The RE/RS will revise the written conceptual design as required to reflect the results of the design verification, step 5.7.

5.9 Obtain human factors review.

The RE/RS will obtain a review of the system analysis, task analysis, conceptual design, and design verification by the Human Factors Assessment and Implementation Review Committee. The Committee's scope of review shall focus on human factors issues. The review will be documented on form ECP 4.2-1.

5.10 Modify the simulator.

The RE/RS will implement the conceptual design (step 5.8) on the simulator in accordance with ECD 4.6 and/or ECD 8.1. The RE/RS is responsible for hardware modifications and the NSE is responsible for plant math model modifications.

5.11 Validate the design.

The RE/RS will use the modification of the simulator to validate the design in accordance with the following steps. This will result in a written document consisting of operator observations and RE/RS responses as described in the following steps.

The marked-up procedures of step 5.3.3 will be used to perform the validation. The Simulator Supervisor will make available simulator time for more than one crew of operators to perform the validation. The Superintendent - Plant Operations will assign more than one crew of experienced operators to perform the validation.

5.11.1 Brief the operators prior to the validation.

Show the operators the control room modification and answer any questions they may have regarding its operation. Walk/talk through the procedure or partial procedure to be validated.

5.11.2 Perform the marked-up procedure(s) in real-time on the simulator.

Video taping of the simulator exercises is recommended but not required. If video taping is used, the tapes may be erased after the performance of step 5.11.3.

5.11.3 Review simulator results with operators.

Provide each operator with a copy of form ECP 4.2-2 and solicit human factors comments not otherwise accounted for in this validation process. The RE/RS will respond in writing to each operator comment on the form. Retain the original forms with the written validation document. Send one copy of each completed form to the Superintendent - Plant Operations.

5.12 Rewrite the conceptual design as the final design, if necessary.

The RE/RS will revise the written conceptual design as required to reflect the results of the design validation, step 5.11.

5.13 Obtain human factors review.

The RE/RS will obtain a review of the validation and final design report by the Human Factors Assessment and Implementation Review Committee. The Committee's scope of review shall focus on human factors issues. The review will be documented on form ECP 4.2-1.

5.14 Modify the control room.

Modify the control room in accordance with ECD 4.1. All documentation provided by this procedure shall become a permanent part of the DCR package.

Form ECP 4.2—1

HUMAN FACTORS ASSESSMENT AND IMPLEMENTATION REVIEW

DCR Number:_____

DESCRIPTION: .....

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SUBMITTED FOR:

- ☐ Human factors scope review (step 5.1)
- ☐ Verification review (step 5.9)
- ☐ Validation review (step 5.13)

Submitted by: ..... date: .....

Review Committee Action: .....

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Committee Chairman ..... date: .....

continuation sheet used? ☐ Yes ☐ No

Form ECP 4.2—2

CONTROL ROOM OPERATOR HUMAN FACTORS COMMENTS

DCR Number:_____ Procedure number:_____ Date:_____

☐ Verification walk/talk through on mockup

☐ Validation on simulator

COMMENTS: .....

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Operator signature _____

RE/RS RESPONSE: .....

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Signature: ..... date: .....

continuation sheet used? ☐ Yes ☐ No

Attachment 4

To Letter

From D. C. Hintz to M. B. Fairtile

Dated June 26, 1986

Tabulation of HEO "Identified Need"

THE KEWAUNEE NUCLEAR POWER PLANT
DETAILED CONTROL ROOM DESIGN REVIEW
IMPLEMENTATION TRACKING SYSTEM (REPORT HE03)

HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
6.1.001	6.1.001	2C	CLOSED	PROVIDE THE FOLLOWING INFO. IN THE PRIMARY OPERATING AREA OF THE CR: RXCP VIBRATION, SEAL INJECTION FLOW.
6.1.002	**********	4	CLOSED	NO NEED IDENTIFIED
6.1.003	6.1.003	3C	ACTIVE	PROVIDE A MEANS FOR RAPID IDENTIFICATION OF CONTROL ROOM DOCUMENTATION.
6.1.004	6.1.004	3C	ACTIVE	IDENTIFY AND REPLACE WORN OR ILLEGIBLE CONTROL ROOM DOCUMENTATION AS NECESSARY.
6.1.005	6.1.005	3C	ACTIVE	PROVIDE DEDICATED COMMUNICATIONS BETWEEN THE SS OFFICE AND THE CONTROL ROOM
6.1.006	6.1.006	3C	ACTIVE	DESIGNATE A SINGLE ACCESS TO THE CONTROL ROOM FOR NON-EMERGENCY USE.
6.1.007	6.1.007	1C	CLOSED	PROVIDE PROTECTION FOR CONTROLS LESS THAN THREE INCHES FROM THE FRONT EDGE OF CONTROL ROOM CONSOLES.
6.1.008	**********	4	CLOSED	NO NEED IDENTIFIED.
6.1.009	**********	**	CLOSED	NO NEED IDENTIFIED.
6.1.010	**********	4	CLOSED	PROVIDE A MINIMUM OF FOUR INCHES OF FOOT ROOM AT THE CONTROL CONSOLES.
6.1.011	**********	4	CLOSED	NO NEED IDENTIFIED.
6.1.012	**********	4	CLOSED	NO NEED IDENTIFIED.
6.1.013	6.1.013	3C	CLOSED	PROVIDE TRENDING CAPABILITY FOR T-HOT & T-COLD IN THE PRIMARY OPERATING AREA OF THE CONTROL ROOM
6.1.014	**********	4	CLOSED	NO NEED IDENTIFIED.
6.1.015	**********	4	CLOSED	NO NEED IDENTIFIED.
6.1.016	6.1.016	3D	ACTIVE	ADJUST CONTROL ROOM AIR FLOW SO AS NOT TO EXCEED 45 FEET/MIN AT HEAD LEVEL.
6.1.017	**********	4	ACTIVE	PROVIDE ADDITIONAL LIGHTING IN THE OPERATOR REQUAL. STUDY AREAS IF DETERMINED NECESSARY BY A LIGHTING SURVEY.
6.1.018	6.6.019.13	**	ACTIVE	REPLACE SHADOWED CONTROL PANEL LABELS.

THE KEWAUNEE NUCLEAR POWER PLANT
DETAILED CONTROL ROOM DESIGN REVIEW
IMPLEMENTATION TRACKING SYSTEM (REPORT HEO3)

HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
6.1.019	6.1.019	3C	ACTIVE	REDUCE GLARE ON INSTRUMENT FACE COVERS.
6.1.020	**********	**	CLOSED	NO NEED IDENTIFIED.
6.1.021	6.1.021	3C	ACTIVE	REDUCE CR NOISE TO < 65 DBA
6.1.022	**********	**	CLOSED	NO NEED IDENTIFIED.
6.1.023	6.1.023	3C	ACTIVE	PROVIDE A CUSHIONED SOUND DEADENING FLOOR COVERING IN THE CONTROL ROOM.
6.1.024	6.1.024	3C	CLOSED	LIMIT THE USE OF CONTROL ROOM RESTROOM AND KITCHEN FACILITIES TO CONTROL ROOM PERSONNEL.
6.1.025	*********	**	CLOSED	NO NEED IDENTIFIED.
6.1.026	**********	4	ACTIVE	EVAL. NEC. FOR CNTMNT PRESS TREND DATA TO IMPLEMENT EOP'S, IF TREND DATA IS NECESSARY PROVIDE AT OPERATOR EYE LEVEL.
6.1.027	6.1.027	3D	ACTIVE	PROVIDE 4160V MOTOR STATOR TEMPERATURES IN THE PRIMARY OPERATING AREA OF THE CONTROL ROOM.
6.1.028	6.1.028	2C	REEVAL	PROVIDE RXCP SEAL INJECTION FLOW IN THE PRIMARY OPERATING AREA OF THE CONTROL ROOM.
6.2.001	6.2.001	3C	CLOSED	HAVE INCOMING CALLES SCREENED BEFORE GOING TO THE CONTROL ROOM.
6.2.002	6.2.002	3C	CLOSED	PROVIDE FOR COMMUNICATION WITH SYSTEM OPERATING FROM THE ELECTRICAL VERTICAL PANEL.
6.2.003	**********	**	CLOSED	UPGRADE MAINTENANCE OF THE SOUNDPOWERED TELEPHONE SYSTEM TO ENSURE A HIGH LEVEL OF SOUND QUALITY.
6.2.004	**********	4	CLOSED	NO NEED IDENTIFIED.
6.2.005	6.2.005	3D	ACTIVE	PROVIDE FOR SOUND-POWERED PHONE USE @ C WITHOUT PHONE CORDS OBSTRUCTING AISLE BETWEEN PANELS A & B.
6.2.006	6.2.006	2C	CLOSED	PROHIBIT USE OF THE WALKIE TALKIES IN THE RELAY ROOM EXCEPT IN THE CASE OF FIRE.
6.2.007	6.2.007	3C	CLOSED	POST PROCEDURES FOR UHF TRANSCIEVER USE AT THE EQUIPMENT.

THE KEWAUNEE NUCLEAR POWER PLANT
DETAILED CONTROL ROOM DESIGN REVIEW
IMPLEMENTATION TRACKING SYSTEM (REPORT HE03)

HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
6.2.008	6.2.008	3C	ACTIVE	PROVIDE FOR TWO-WAY COMMUNICATION BETWEEN AUX OPERATORS AND THE CONTROL ROOM FOR ALL NOISY PLANT AREAS.
6.2.009	**********	4	CLOSED	NO NEED IDENTIFIED.
6.2.010	6.2.010	3C	CLOSED	PROVIDE FOR VOICE COMMUNICATION WHILE WEARING FACE MASKS.
6.2.011	6.3.024.01	**	ACTIVE	PROVIDE DIRECTIONAL SOUND FOR EACH CR ANNUNCIATOR PANEL.
6.2.012	6.3.024.02	**	ACTIVE	DEVELOP AN AUDITORY CODING TECHNIQUE TO DISTINGUISH INCOMING FROM CLEARING ALARMS.
6.3.001	6.3.024.03	**	ACTIVE	PROVIDE THE FOLLOWING ALARMS IN THE CONTROL ROOM: REACTOR MAKEUP STORAGE TANK HI, HI RADIATION.
6.3.002	6.3.024.04	**	ACTIVE	PROVIDE A METHOD TO RECORD PLANT ALARMS SEQUENTIALLY UNDER ALL PLANT CONDITIONS.
6.3.003	6.3.024.05	**	ACTIVE	PROVIDE REFLASH ON ALL ALARMS.
6.3.004	6.3.024.06	**	ACTIVE	PROVIDE FIRST OUT CAPABILITY FOR ALL ALARMS.
6.3.005	6.3.024.07	**	ACTIVE	MINIMIZE ALERTING SOUNDS BY NOT USING AUDIBLE CODING FOR ALARM PRIORITY.
6.3.006	6.3.024.08	**	ACTIVE	NEED SAME AS 6.2.012.
6.3.007	6.3.024.09	**	ACTIVE	NEED SAME AS 6.2.011.
6.3.008	6.3.024.10	**	ACTIVE	GROUP ANNUNCIATOR TILES BY WORK STATION AND SYSTEM.
6.3.009	6.3.024.11	**	ACTIVE	LABEL ANNUNCIATOR PANELS.
6.3.010	**********	**	CLOSED	NO NEED IDENTIFIED.
6.3.011	6.3.024.12	**	ACTIVE	IMPLEMENT A DARK ANNUNCIATOR PANEL CONCEPT.
6.3.012	6.3.024.13	**	ACTIVE	LABEL THE VERTICAL AND HORIZONTAL AXIS OF THE ANNUNCIATOR PANELS.

THE KEWAUNEE NUCLEAR POWER PLANT
DETAILED CONTROL ROOM DESIGN REVIEW
IMPLEMENTATION TRACKING SYSTEM (REPORT HEO3)

HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
6.3.013	6.3.024.14	**	ACTIVE	LIMIT ALARM TILE MATRIX DENSITY TO A MAXIMUM OF 50.
6.3.014	6.3.024.15	**	ACTIVE	REPLACE SINGLE ANNUNCIATOR TILES THAT ADDRESS TWO CONDITIONS WITH TWO SEPARATE TILES.
6.3.015	6.3.024.16	**	ACTIVE	STANDARDIZE ABBREVIATIONS ON ANNUNCIATOR & STATUS PANELS. REVISE 47025-44/43 WORDS TO ASSURE CORRECT INTERPRETATION.
6.3.016	6.3.024.17	**	ACTIVE	PROVIDE ANNUNCIATOR AND SATATUS PANELS WHICH CAN BE READ BY OPERATORS FROM IN FRONT OF THE ADJACENT CONTROL CONSOLE.
6.3.017	6.3.017	3D	ACTIVE	INSTALL SILENCE AND RESET CAPABILITY ON THE DSDP ANNUNCIATOR
6.3.018	6.3.024.18	**	ACTIVE	PROVIDE AN AUDIBLE ALARM INHIBIT WHICH IS FUNCTIONAL ONLY DURING MULTI-ALARM UPSET CONDITIONS.
6.3.019	**********	4	CLOSED	NO NEED IDENTIFIED.
6.3.020	6.3.020	2C	ACTIVE	PROVIDE ANNUNCIATOR TEST, ACKNOWLEDGE RESET CAPABILITY ON THE LEFT SIDE OF ELECTRICAL CONSOLE A.
6.3.021	**********	4	CLOSED	NO NEED IDENTIFIED.
6.3.022	6.3.024.19	**	ACTIVE	REMOVE UNUSED ANNUNCIATOR MESSAGE TILES.
6.3.023	6.3.024.20	**	ACTIVE	REVISE ANNUNCIATOR AND STATUS PANEL WORDING TO BE CONCISE AND UNAMBIGUOUS.
6.3.024	6.3.024	1A	ACTIVE	REPLACE ANNUNCIATOR HARDWARE.
6.3.025	6.3.025	2C	ACTIVE	RELABEL FIRE ZONE STATUS LIGHTS TO AGREE WITH THE FIRE ZONES
6.4.001	**********	4	ACTIVE	EVALUATE INSTRUMENT #46031 AND 46276 FOR USE, AND REMOVE FROM CONSOLES IF THEY ARE NOT REQUIRED.
6.4.002	6.4.002	3C	ACTIVE	DEVELOP AND IMPLEMENT SHAPE CODING TECHNIQUES TO PROVIDE RECOGNITION OF J-HANDLE SWITCHES IN TERMS OF FUNCTION.
6.4.003	6.4.003	3D	ACTIVE	APPLY SHAPE CODING TECHNIQUES DEVELOPED FOR HED 6.4.002 TO THE RCP OIL LIFT PUMPS.
6.4.004	**********	4	CLOSED	NO NEED IDENTIFIED.
6.4.005	6.4.005	1C	ACTIVE	ESTABLISH CONVENTIONS FOR FOXBORO CONTROLLERS, AND THEN

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HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
				IMPLEMENT THOSE ESTABLISHED CONVENTIONS.
6.4.006	6.4.006	3C	ACTIVE	IDENTIFIED NEED THE SAME AS THAT FOR HED 6.4.002.
6.4.007	**********	4	CLOSED	NO NEED IDENTIFIED.
6.4.008	6.4.008	1C	ACTIVE	NEED IDENTIFIED BY HED 6.4.005.
6.4.009	6.4.009	3D	ACTIVE	MODIFY KEY INSERT TO COMPLY WITH NUREG 0700, 6.4.4.3B,E
6.4.010	**********	4	CLOSED	PROVIDE RESET CAPABILITY FOR THE MSIV TEST SWITCHES.
6.4.011	**********	**	CLOSED	NO NEED IDENTIFIED.
6.5.001	6.5.001	1B	ACTIVE	REMOVE RECORDER #42588 FROM THE MAIN CONTROL PANELS.
6.5.002	6.5.002	1D	ACTIVE	PROVIDE VALVE POSITION INDICATION IN THE CONTROL ROOM FOR MAIN FEEDWATER 7A & 7B.
6.5.003	**********	**	CLOSED	NO NEED IDENTIFIED.
6.5.004	6.5.004	3D	ACTIVE	PROVIDE ZONE CODING FOR 41005-01, EXPAND SCALE RANGE & PROVIDE ADVISORY LABEL REGARDING INTERPRETATION OF THIS DISPLAY
6.5.005	**********	4	CLOSED	NO NEED IDENTIFIED.
6.5.006	6.6.019.17	**	ACTIVE	IDENTIFY PARAMETERS FOR ALL CONTROL ROOM INDICATORS ON OR ABOVE THOSE INDICATORS.
6.5.007	**********	4	ACTIVE	IMPLEMENT STANDARD ABBREVIATIONS, AND DELETE REDUNDANT INFORMATION FOR ALL PANEL METERS.
6.5.008	6.6.019.18	**	ACTIVE	ELIMINATE OR CLARIFY ALL METER SCALES USING A CONVERSION FACTOR.
6.5.009	6.6.019.19	**	ACTIVE	MODIFY METER SCALES SO THAT THERE ARE NO MORE THAN NINE GRADUATIONS BETWEEN SCALE NUMBERS.
6.5.010	6.6.019.20	**	ACTIVE	REDUCE SIZE OF INTERMEDIATE GRADUATIONS ON METER SCALES TO CONFORM WITH NUREG 0700, 6.5.1.5A(3).
6.5.011	6.6.019.21	**	ACTIVE	REVISE METER SCALES TO USE GRADUATIONS OF 1, 2, 5 OR 100.

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HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
6.5.012	**********	4	ACTIVE	MODIFY AFW PUMP DISCHARGE PRESSURE VERTICAL METER SCALES TO BE CONSISTENT WITH ONE ANOTHER & THE CONTROL RM. IN GENERAL.
6.5.013	6.6.019.22	**	ACTIVE	DEVELOP A ZONE MARKING CONVENTION FOR METERS THAT WOULD AID THE OPERATOR IN IDENTIFYING RANGE LIMITS.
6.5.014	**********	4	CLOSED	IDENTIFIED NEED NULLIFIED DUE TO EQUIPMENT REMOVAL.
6.5.015	**********	4	CLOSED	NO NEED IDENTIFIED.
6.5.016	6.5.016	3C	ACTIVE	PROVIDE A TEST CAPABILITY FOR ALL STATUS PANELS & PROVIDE A DIFF. IN LIGHT INTENSITY OF AT LEAST 10% BET. BRIGHT & DIM.
6.5.017	**********	4	ACTIVE	DETERMINE IF THE RECORDER OR PAPER SCALES ARE CORRECT & MODIFY INCORRECT SCALES FOR 42523, 42508, 42564.
6.5.018	**********	**	CLOSED	NO NEED IDENTIFIED.
6.5.019	**********	4	ACTIVE	USE COLOR CODING TO CORRELATE PEN COLOR WITH PARAMETER TREND.
6.5.020	6.5.020	3C	ACTIVE	PROVIDE A DATA DISPLAY WHICH ALLOWS CHANNEL DISCRIMINATION FOR INSTRUMENTS NUMBERED 81034 THROUGH 81039.
6.5.021	**********	4	CLOSED	NO NEED IDENTIFIED.
6.5.022	**********	4	ACTIVE	ADD COMMAS AT APPROPRIATE POSITIONS ON ALL NUMERICAL COUNTERS.
6.5.023	**********	**	CLOSED	NO NEED IDENTIFIED.
6.5.024	**********	**	CLOSED	NO NEED IDENTIFIED.
6.5.025	**********	**	CLOSED	NO NEED IDENTIFIED.
6.5.026	6.3.024.21	**	ACTIVE	NEED PREVIOUSLY IDENTIFIED BY HEO 6.3.024.
6.5.027	6.5.027	1B	ACTIVE	MODIFY ALL STATUS PANELS TO: PROVIDE DISPLAY BY TRAIN, VERIFY STATUS LIGHT OPERATION BY SURVEILLANCE PROCEDURES.
6.5.028	**********	4	ACTIVE	MODIFY LINEAR SCALE GRADUATIONS TO BE CONSISTENT THROUGHOUT THE FULL RANGE ON METERS 42577, 42578, 42579 AND 42580.

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HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
6.5.029	6.5.029	2C	ACTIVE	MODIFY SI HEADER FLOW INDICATION SO AS TO NOT IMPLY PUMP FLOW.
6.5.030	6.5.030	2C	CLOSED	REVISE PROCEDURE E-0, STEP 9, TO MEET THE INTENT OF THE PROCEDURE.
6.5.031	**********	4	CLOSED	NO NEED IDENTIFIED.
6.5.032	6.5.032	3C	ACTIVE	REMOVE UNUSED STATUS LIGHTS FROM MSIV'S.
6.5.033	**********	4	CLOSED	PROVIDE LOW SI FLOW INDICATION IN THE PRIMARY OPERATING AREA OF THE CONTROL ROOM.
6.5.034	6.5.034	3C	CLOSED	PROVIDE THE DEFINITION OF ADVERSE CONTAINMENT IN THE IPEOP-QUICK REFERENCE FOLDOUT FOR E-0.
6.5.035	**********	4	CLOSED	NO NEED IDENTIFIED.
6.5.036	**********	4	CLOSED	GROUP STEAM LINE ISOLATION STATUS LIGHTS.
6.5.037	6.5.037	3C	CLOSED	REQUEST THE WOG MODIFY EOP LOGIC TO MAKE IMPLEMENTATION EASIER FOR HUMANS.
6.5.038	6.5.038	3C	CLOSED	PROVIDE R-15 & R-19 DATA LOG HOURLY FOR 24 HOURS PRIOR TO A TRIP.
6.5.039	**********	4	CLOSED	POST R-13, R-14, R-22 ALARM SETPOINTS NEXT TO METERS.
6.5.040	**********	4	CLOSED	MODIFY E-1, STEP 16 TO REQUEST SAMPLES BE TAKEN IN HI RAD AREAS AS INDICATED BY MONITORS.
6.5.041	**********	4	CLOSED	ADD DEVICE NUMBER TO PROCEDURE ES 1.3, STEP 5B.
6.5.042	**********	4	CLOSED	MODIFY IPEOP, E-1, STEP 8 TO CHECK ANNUNCIATOR 47024-14.
6.5.043	**********	**	CLOSED	NO NEED IDENTIFIED.
6.5.044	**********	4	CLOSED	REQUEST TRAINING. EMPHASIZE RUPTURED, FAULTED AND INTACT S/G DEFINITIONS.
6.5.045	6.5.045	3C	CLOSED	ADD WORDS FROM PROCEDURE E-0-01, STEP 4.3.1 TO E-3, STEP 1.1.C.2.
6.5.046	**********	**	CLOSED	NO NEED IDENTIFIED.

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HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
6.5.047	6.5.047	3C	CLOSED	CLARIFY TABLE ON PAGE 17 OF PROCEDURE E-3.
6.5.048	6.5.048	3C	CLOSED	CORRECT PROCEDURE E-3, STEP 29B, C-701 SHOULD BE C-401.
6.5.049	6.5.049	3C	CLOSED	REPOSITION STEP 29D OF E-3 TO PRECLUDE THE ABSENCE OF THE AUX OPERATOR DURING THE FOLLOWING STEP.
6.5.050	6.5.050	2D	CLOSED	PROVIDE ADDITIONAL DETAIL IN PROCEDURE E-3, STEP 31.
6.5.051	6.5.051	3D	CLOSED	MODIFY PROCEDURE E-3, STEPS 32A AND B, SINCE CCW TEMP. IS NOT AVAILABLE TO THE OPERATOR.
6.5.052	6.5.052	3D	CLOSED	PROVIDE THE OPERATOR WITH THE KNOWLEDGE OR PROCEDURAL STEPS REQUIRED TO INITIATE LETDOWN IN ES-1.1, STEP 8.
6.5.053	6.5.053	3C	CLOSED	CLARIFY ATTACHMENT B TO IPEOP ES-1.1.
6.5.054	**********	4	CLOSED	MODIFY IPEOP-ES-1.3 TO TELL THE OPERATOR TO ADJUST THE AUTO MAKE-UP CONTROLLER TO THE CSD BORON CONCENTRATION.
6.5.055	6.5.055	3D	CLOSED	CLARIFY IPEOP-E-3, STEP 32.
6.5.056	6.5.056	3C	REEVAL	MODIFY RCS PRESSURE INDICATION SO THAT THE OPERATOR DOESN'T HAVE TO KNOW THE POSITION OF A REMOTE SWITCH.
6.5.057	6.5.057	3C	REEVAL	PROVIDE VALVE POSITION INDICATION FOR PS-1A AND PS-1B.
6.6.001	6.6.019.01	**	ACTIVE	PROVIDE CLARIFICATION TO OPERATOR FOR ROD CONTROL IN MANUAL. DEVELOP & IMPLEMENT A HIERARCHICAL LABELING SCHEME
6.6.002	6.6.019.02	**	ACTIVE	NEED IDENTIFIED BY 6.6.001.
6.6.003	6.6.019.03	**	ACTIVE	PLACE ALL LABELS ABOVE THE PANEL ELEMENTS THEY DESCRIBE.
6.6.004	6.6.019.04	**	ACTIVE	REORIENT METER LABELS TO PERMIT READING HORIZONTALLY LEFT TO RIGHT.
6.6.005	6.6.019.05	**	ACTIVE	NEED IDENTIFIED BY HEO 6.6.003.
6.6.006	**********	4	ACTIVE	PROVIDE A MEANS OF KEEPING THE CONTROL BOARD LABELS CLEAN.

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HEO NUMBER	HFD NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
6.6.007	**********	4	CLOSED	NEED IDENTIFIED BY HEO 6.5.007 OR 6.4.005. SEE DCR 1883.
6.6.008	**********	4	ACTIVE	NEED IDENTIFIED BY HEO 6.5.007.
6.6.009	6.6.009	1A	ACTIVE	MODIFY LABELS ON SI 300A/B AND RHR 300A/B TO PRECLUDE ACCIDENTAL ACTIVATION OF THE WRONG CONTROLS.
6.6.010	6.6.019.06	**	ACTIVE	NEED IDENTIFIED BY HEO 6.6.001.
6.6.011	6.6.019.07	**	ACTIVE	INCREASE CHARACTER HEIGHT OF FOXBORO CONTROLLER LABELS TO BE CONSISTENT WITH OTHER CONTROL LABELS.
6.6.012	6.6.019.08	**	ACTIVE	PROVIDE FOR AND INITIATE PERIODIC CLEANING OF CONTROL ROOM LABELS (WHITE ON BLACK).
6.6.013	**********	**	CLOSED	NO NEED IDENTIFIED.
6.6.014	6.6.019.09	**	ACTIVE	DEVELOP AND IMPLEMENT A DEMARCATION SCHEME.
6.6.015	6.6.019.10	**	ACTIVE	DEVELOP AND IMPLEMENT A MIMIC SCHEME FOR THE CONTROL PANELS.
6.6.016	6.6.019.11	**	ACTIVE	COMPARE PROCEDURE NOMENCLATURE TO CONTROL BOARD LABELS TO ENSURE CONSISTENCY.
6.6.017	6.6.019.12	**	ACTIVE	REPLACE EASILY REMOVED LABELS WITH A MORE PERMANENT TYPE OF LABEL.
6.6.018	**********	**	CLOSED	NO NEED IDENTIFIED.
6.6.019	6.6.019	1C	ACTIVE	DEVELOP AND IMPLEMENT A LABELING SCHEME FOR THE CONTROL ROOM.
6.6.020	6.6.019.15	**	ACTIVE	NEED IDENTIFIED BY HEO 6.6.016.
6.6.021	6.6.019.16	**	ACTIVE	NEED IDENTIFIED BY HEO 6.5.019.
6.7.001	**********	4	ACTIVE	IMPLEMENT STANDARD ABBREVIATIONS, WHERE POSSIBLE, ON THE PROCESS COMPUTER SYSTEM.
6.7.002	**********	4	ACTIVE	MAKE KEYBOARDS IN THE CR & SS OFFICE THE SAME.

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HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
6.7.003	**********	4	ACTIVE	MAKE TERMS USED ON FUNCTION KEYS AND DISPLAY OUTPUT CONSISTENT.
6.7.004	**********	4	ACTIVE	NEED IDENTIFIED BY HEO 6.7.002.
6.7.005	**********	4	REEVAL	EVALUATE CRT DISPLAYS AND ELIMINATE ANY FLICKER THAT MAY BE PRESENT.
6.7.006	**********	4	ACTIVE	MODIFY ENG. UNITS TO BE CONSISTENT WITH NUREG-0700, 6.7.2.4C (1) WITHIN THE CONSTRAINTS OF THE EXISTING HONEYWELL SYSTEM.
6.7.007	**********	4	ACTIVE	ALIGN DECIMAL POINTS ON TABULAR DATA WITHIN THE CONSTRAINTS OF THE COMPUTER SYSTEM.
6.7.008	**********	4	CLOSED	NO NEED IDENTIFIED.
6.7.009	**********	4	CLOSED	NO NEED IDENTIFIED.
6.7.010	**********	**	CLOSED	NO NEED IDENTIFIED.
6.7.011	**********	4	ACTIVE	PROVIDE ALARM MESSAGE TERMINOLOGY THAT IS CONSISTENT BETWEEN THE ANNUNCIATOR & PROCESS COMPUTER SYSTEMS.
6.7.012	**********	4	ACTIVE	PROVIDE INSTRUCTIONS FOR RELOADING PAPER, INK OR PENS IN RECORDERS AND PRINTERS.
6.8.001	**********	4	ACTIVE	REGROUP SAMPLE VALVES ON VERTICAL PANEL A TC PROVIDE A MORE LOGICAL LAYOUT.
6.8.002	6.8.002	3D	ACTIVE	NEED IDENTIFIED BY HEO 6.4.002 AND 6.4.003.
6.8.003	6.6.019.14	**	ACTIVE	NEED IDENTIFIED BY HEO 6.6.014.
6.8.004	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.005	6.8.005	1A	ACTIVE	MODIFY MECHANICAL CONSOLE "A" TO PROVIDE A MORE LOGICAL ARRANGEMENT OF THE FEEDWATER SYSTEM.
6.8.006	**********	4	ACTIVE	RELOCATE RECORDER 45717 AND 42588 SO THAT THEY ARE NEAR THEIR ASSOCIATED CONTROLS AND DISPLAYS.
6.8.007	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.008	6.8.008	3D	ACTIVE	RELOCATE 46412, 46415, 46413 AND 46414 TO CONFORM WITH A

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HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
				LEFT TO RIGHT OPERATING SEQUENCE.
6.8.009	**********	4	ACTIVE	INTERCHANGE METERS #41330 AND 41333.
6.8.010	**********	**	CLOSED	NO NEED IDENTIFIED.
6.8.011	6.8.011	3C	ACTIVE	REARRANGE THE POLLOWING TO PROVIDE A MORE LOGICAL OPERATING SEQUENCE SI202A, SI208, SI202B, ICS201 & 202, SI209.
6.8.012	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.013	6.8.013	2C	ACTIVE	INCLUDE ALL STATUS LIGHTS ON THE CONTAINMENT ISOLATION STATUS PANEL.
6.8.014	**********	4	ACTIVE	INTERCHANGE T-AVE METERS.
6.8.015	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.016	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.017	**********	**	CLOSED	NO NEED IDENTIFIED.
6.8.018	**********	**	CLOSED	NO NEED IDENTIFIED.
6.8.019	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.020	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.021	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.022	6.8.046.01	**	REEVAL	EVALUATE THE FEASIBILITY AND COST OF REGROUPING CONTROLS AND DISPLAYS FOR NRHR-34, TASK 46 - REACTOR TRIP EVENT.
6.8.023	6.3.024.22	**	ACTIVE	REGROUP PROTECTION BISTABLES BY SYSTEM AND THEN FUNCTION.
6.8.024	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.025	**********	4	CLOSED	NO NEED IDENTIFIED.

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HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
6.8.026	6.8.026	2C	REEVAL	PROVIDE THE FOLLOWING INFO. IN THE PRIMARY OPERATING AREA OF THE CONTROL ROOM: RXCP SEAL LEAK-OFF FLOW.
6.8.027	**********	4	CLOSED	PERMIT BOP OPERATORS TO ASSIST RO.
6.8.028	**********	**	CLOSED	NO NEED IDENTIFIED.
6.8.029	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.030	**********	**	CLOSED	NO NEED IDENTIFIED.
6.8.031	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.032	6.8.046.02	**	REEVAL	NEED IDENTIFIED BY HEC 6.8.046.
6.8.033	6.8.033	3C	REEVAL	NEED IDENTIFIED BY HEO 6.8.026.
6.8.034	**********	**	CLOSED	NO NEED IDENTIFIED.
6.8.035	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.036	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.037	**********	4	CLOSED	NO NEED IDENTIFIED.
6.8.038	6.8.046.03	**	REEVAL	NEED IDENTIFIED BY 6.8.046.
6.8.039	6.3.024.23	**	ACTIVE	NEED IDENTIFIED BY HEO 6.3.008.
6.8.040	**********	4	ACTIVE	REFER INCONSISTENCY OF RHR LAYOUT W/THE REMAINDER OF CONTROL RM TO TRAINING. INCLUDE DISCUSSION IN SYSTEMS & SIM TRAINING
6.8.041	**********	4	ACTIVE	NEED IDENTIFIED BY HEC 6.6.014.
6.8.042	**********	4	ACTIVE	NEED IDENTIFIED BY HEO 6.8.013.

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HEO NUMBER	HED NUMBER	CATEGORY	STATUS	IDENTIFIED NEEDS
6.8.043	6.8.043	3C	ACTIVE	RELOCATE THE CONTROL SWITCHES FOR THE STEAM SUPPLY TO THE T/D AFW NEARER ASSOCIATED EQUIPMENT.
6.8.044	6.6.019.23	**	ACTIVE	NEED IDENTIFIED BY HEO 6.6.014.
6.8.045	**********	4	REEVAL	DETERMINE FEASIBILITY AND COST OF REARRANGING IN A MORE LOGICAL MANNER THE EQUIPMENT IDENTIFIED BY HEO 6.8.045.
6.8.046	6.8.046	2C	REEVAL	DETERMINE FEASIBILITY AND COST OF RELOCATING LP10 & CC302 CONTROLLERS TO THE EXISTING LOCATION OF THE LD10 MIMIC.
6.9.001	**********	**	CLOSED	NO NEED IDENTIFIED.
6.9.002	**********	4	CLOSED	NO NEED IDENTIFIED.
6.9.003	**********	4	CLOSED	NO NEED IDENTIFIED.
6.9.004	**********	4	CLOSED	NO NEED IDENTIFIED.
6.9.005	**********	4	CLOSED	NO NEED IDENTIFIED.
6.9.006	**********	**	CLOSED	NO NEED IDENTIFIED.
6.9.007	**********	4	CLOSED	NO NEED IDENTIFIED.
6.9.008	**********	4	CLOSED	NO NEED IDENTIFIED.
6.9.009	**********	4	CLOSED	NO NEED IDENTIFIED.
6.9.010	**********	4	REEVAL	SEE HEO 6.8.046 FOR IDENTIFIED NEED.
6.9.011	**********	4	ACTIVE	INSTALL AN ADDITIONAL SI PERMISSIVE LIGHT CLOSER TO SI RESET SWITCHES.