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Kewaunee / Point Beach Nuclear
Operated by Nuclear Management Company, LLC

NRC-02-047

May 16, 2002

10 CFR 50, App. E

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Ladies/Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Radiological Emergency Response Plan Implementing Procedures

Pursuant to 10 CFR 50 Appendix E, attached is the latest revisions to the Kewaunee Nuclear Power Plant Radiological Emergency Response Plan Implementing Procedures (EPIPs). These revised procedures supersede the previously submitted procedures.

Pursuant to 10 CFR 50.4, two additional copies of this letter and attachment are hereby submitted to the Regional Administrator, U. S. Nuclear Regulatory Commission, Region III, Lisle, Illinois. As required, one copy of this letter and attachment is also submitted to the Kewaunee Nuclear Power Plant NRC Senior Resident Inspector.

Sincerely,

Thomas J. Webb
Regulatory Affairs Manager

SLC

Attachment

cc - US NRC Senior Resident Inspector, w/attach.
US NRC, Region III (2 copies), w/attach.
Electric Division, PSCW, w/o attach.
QA Vault, wo/attach.

A045

DOCUMENT TRANSMITTAL

KEWAUNEE NUCLEAR POWER PLANT

FROM: DIANE FENCL - KNPP

TRANSMITTAL DATE 05-16-2002

EMERGENCY PLAN IMPLEMENTING PROCEDURES TRANSMITTAL FORM

OUTSIDE AGENCY COPIES (1-20)

T. Webb - NRC Document Control Desk (1)* Krista Kappelman - PBNP - EP (10)*
T. Webb - NRC Region III (2, 3)* Craig Weiss - Alliant Energy (11)*
T. Webb - NRC Resident Inspector (4) (receives Appx. A phone numbers)*
T. Webb - State of Wisconsin (5)* Jim Holthaus - Nuclear Management Company (12)*
T. Webb - KNPP QA Vault (NRC Letter & Memo Only) (15)*

PERSONAL COPIES (21-40) These copies are for the personal use of the listed individuals for reference or emergency response.

J. Bennett (33) D. Seebart (24) J. Ferris (13) T. Coutu (28)

REFERENCE COPIES - CUSTODIAN (41-100) These copies are for general reference by anyone. They are distributed throughout the plant and corporate offices. The named individual is the responsible custodian for the procedures and shall insure they are properly maintained.

NO Library - KNPP (59) Resource Center - Training (82)
C. Sternitzky - ATF-2 (44) D. Krall - CR/SS Office (51, 56)
M. Daron - Security Building (46) M. Lambert - TSC (50)
M. Lambert - EOF (81) W. Galarneau - RAF (53)
M. Lambert - OSF (52) W. Galarneau - SBF/EMT (54)
LOREB - STF (62, 66, 67, 68, 70, 72, 73, 74) W. Galarneau - RPO (55)
STF Library (43) STF (86, 87, 88)

WORKING COPIES (101-199) These copies of procedures are kept in the areas designated for use in response to an emergency.

W. Galarneau - RAF/RPO (106, 107) M. Kuether - SBF/SEC (114)
W. Galarneau - SBF/ENV (108, 109) D. Krall - CR/Communicator (116)(Partial Distribution)
W. Galarneau - SBF/EM Team (110, 111, 111A) Simulator/Communicator (117)
W. Galarneau - Aurora Medical Center (118, 119) M. Fencl - Security (121)
W. Flint - Cold Chem/HR Sample Room (113) M. Kuether - Security Building (120)
J. Stoeger (126)

Originals to KNPP QA Vault

Please follow the directions when updating your EPIP Manual. WATCH FOR DELETIONS!!! These are controlled procedures and random checks may be made to ensure the manuals are kept up-to-date.

***THIS IS NOT A CONTROLLED COPY. IT IS A COPY FOR INFORMATION ONLY.**

**KEWAUNEE NUCLEAR POWER PLANT
 REVISION OF EMERGENCY PLAN IMPLEMENTING PROCEDURES
 May 16, 2002**

Please follow the directions listed below. If you have any questions regarding changes made to the EIPs, please contact Dave Seebart at ext. 8719.

EPIP Index, dated 05-16-2002.

REMOVE		INSERT	
PROCEDURE	REV.	PROCEDURE	REV.
EPIP-TSC-9A	I	EPIP-TSC-09A	J
EPIP-TSC-09B	J	DELETED	---
EPIP FORM TSC 9A.1	C	Form EPIPF-TSC-09A-01	D
EPIP FORM TSC 9A.2	C	Form EPIPF-TSC-09A-02	D
EPIP FORM TSC 9A.3	D	Form EPIPF-TSC-09A-03	E
EPIP FORM TSC 9A.4	C	DELETED	---
EPIP FORM TSC 9A.5	D	Form EPIPF-TSC-09A-05	E
EPIP FORM TSC 9A.6	C	DELETED	---

Return a signed and dated copy of this transmittal letter, within 10 days of transmittal date, to the sender. If you have any questions or comments, please contact Dave Seebart at ext. 8719.

I CERTIFY Copy No. _____ (WPSC No.) of the Kewaunee Nuclear Power Plant's EIPs has been updated.

SIGNATURE DATE

Please return this sheet to *DIANE FENCL*.

Diane Fencl
Enclosure

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EP-AD			
EPIP-AD-01	Personnel Response to the Plant Emergency Siren	J	01-08-2002
EPIP-AD-02	Emergency Class Determination	AC	11-15-2001
EPIP-AD-03	KNPP Response to an Unusual Event	AE	02-06-2002
EPIP-AD-04	KNPP Response to Alert or Higher	AH	02-27-2002
EP-AD-5	Site Emergency	Deleted	04-27-87
EPIP-AD-05	Emergency Response Organization Shift Relief Guideline	D	05-09-2002
EP-AD-6	General Emergency	Deleted	04-24-87
EPIP-AD-07	Initial Emergency Notifications	AP	02-27-2002
EP-AD-8	Notification of Alert or Higher	Deleted	02-26-96
EP-AD-9	Notification of Site Emergency	Deleted	04-27-87
EP-AD-10	Notification of General Emergency	Deleted	04-27-87
EPIP-AD-11	Emergency Radiation Controls	R	04-11-2002
EP-AD-12	Personnel Assembly and Accountability	Deleted	03-26-94
EP-AD-13	Personnel Evacuation	Deleted	04-25-94
EP-AD-13A	Limited Area Evacuation	Deleted	03-01-83
EP-AD-13B	Emergency Assembly/Evacuation	Deleted	03-01-83
EP-AD-13C	Site Evacuation	Deleted	03-01-83
EP-AD-14	Search and Rescue	Deleted	05-25-94
EPIP-AD-15	Recovery Planning and Termination	O	10-30-2001
EP-AD-16	Occupational Injuries or Vehicle Accidents During Emergencies	Deleted	03-14-97
EP-AD-17	Communications	Deleted	03-05-84
EPIP-AD-18	Potassium Iodide Distribution	P	02-27-2002
EPIP-AD-19	Protective Action Guidelines	Q	11-27-2001

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EPIP-AD-20	KNPP Response to a Security Threat	B	02-06-2002
EP-ENV			
EPIP-ENV-01	Environmental Monitoring Group Organization and Responsibilities	V	10-02-2001
EPIP-ENV-02	Environmental Monitoring Team Activation	X	10-02-2001
EP-ENV-3A	Environmental Protection Director Actions and Directives	Deleted	09-26-84
EP-ENV-3B	EM Team Actions	Deleted	09-26-84
EPIP-ENV-03C	Dose Projection Using RASCAL Version 2.2 Software	V	10-09-2001
EP-ENV-3D	Revision and Control of ISODOSE II	Deleted	02-14-95
EP-ENV-3E	Manual Determination of X/Q	Deleted	04-24-87
EP-ENV-3F	Manual Determination of X/Q (Green Bay Meteorological Data)	Deleted	05-30-86
EP-ENV-3G	Manual Dose Projection Calculation	Deleted	06-02-89
EP-ENV-3H	Protective Action Recommendations	Deleted	04-13-90
EPIP-ENV-04A	Portable Survey Instrument Use	S	06-15-2000
EPIP-ENV-04B	Air Sampling and Analysis	W	10-09-2001
EP-ENV-4C	Environmental Monitoring Teams	Deleted	04-13-90
EPIP-ENV-04C	Ground Deposition Sampling and Analysis	W	10-09-2001
EPIP-ENV-04D	Plume Tracking for Environmental Monitoring Teams	N	10-02-2001
EP-ENV-5A	LCS-1 Operation	Deleted	04-14-86
EP-ENV-5B	MS-3 Operation	Deleted	04-14-86
EP-ENV-5C	SAM II Operation	Deleted	04-14-86
EP-ENV-5D	PAC-4G (Alpha Counter) Operation	Deleted	04-14-86
EP-ENV-5E	Reuter-Stokes Operation	Deleted	08-27-85

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EP-ENV-6	Data Analysis, Dose Projections and Protective Action Recommendations	Deleted	12-21-81
EP-ENV-6	Alternate Sample Analysis and Relocation of EM Team	Deleted	04-14-86
EP-ENV-6A	Relocation of Site Access Facility (Habitability)	Deleted	03-23-84
EP-ENV-6B	SAF Environmental Sample Analysis Relocation	Deleted	03-23-84
EP-ENV-7	Site Access Facility Communications	Deleted	09-26-84
EP-ENV-8	Total Population Dose Estimate Calculations	Deleted	04-14-86
EP-EOF			
EP-EOF-1	Corporate Emergency Response Organization	Deleted	03-11-94
EPIP-EOF-02	Emergency Operations Facility (EOF) Activation	Z	11-29-2001
EPIP-EOF-03	EOF Staff Action for Unusual Event	AC	02-06-2002
EPIP-EOF-04	EOF Staff Action for Alert or Higher	AI	02-06-2002
EP-EOF-5	Corporate Staff Action for Site Emergency	Deleted	04-24-87
EP-EOF-6	Corporate Staff Action for General Emergency	Deleted	04-24-87
EP-EOF-7	Notification of Unusual Event	Deleted	04-06-94
EP-EOF-8	Relocation of EOF	Deleted	03-01-83
EPIP-EOF-08	Continuing Emergency Notifications	V	02-27-2002
EP-EOF-9	Interface with Support Organizations	Deleted	03-05-84
EP-EOF-9	Notification of Site Emergency	Deleted	04-24-87
EP-EOF-10	Notification of General Emergency	Deleted	04-24-87
EPIP-EOF-11	Internal Communication and Documentation Flow	U	11-15-2001
EPIP-EOF-12	Media Center/Emergency Operation Facility/Joint Public Information Center Security	P	07-19-2001

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EP-OP			
EP-OP-1	Control Room Emergency Organization	Deleted	04-24-87
EP-OP-2	Emergency Control Room Activation for Emergency Response	Deleted	04-24-87
EP-OP-3	Control Room Communications	Deleted	04-24-87
EP-OSF			
EP-OSF-1	Operation Support Facility Emergency Organization	Deleted	04-24-87
EPIP-OSF-02	Operational Support Facility Operations	U	02-06-2002
EPIP-OSF-03	Work Orders During an Emergency	P	05-09-2002
EP-OSF-4	Operational Support Facility Communications	Deleted	04-24-87
EPIP-OSF-04	Search and Rescue	D	09-12-2000
EP-RET			
EP-RET-1	Radiation Emergency Team Organization	Deleted	04-16-96
EPIP-RET-02	In-Plant Radiation Emergency Team	U	11-27-2001
EPIP-RET-02A	Radiation Protection Office/Radiological Analysis Facility (RPO/RAF) Activation	T	11-29-2001
EPIP-RET-02B	Gaseous Effluent Sample and Analysis	R	04-11-2002
EP-RET-2C	Containment Air Sampling and Analysis	Deleted	03-01-83
EPIP-RET-02D	Emergency Radiation Entry Controls and Implementation	M	06-12-2001
EP-RET-2E	Handling of Injured Personnel	Deleted	04-16-96
EP-RET-2F	Personnel Decontamination	Deleted	04-13-90
EPIP-RET-03	Chemistry Emergency Team	O	02-01-2000
EPIP-RET-03A	Liquid Effluent Release Paths	L	11-29-2001
EP-RET-3B	Post-Accident Reactor Coolant Alternate Sampling Procedure	Deleted	01-25-88

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EPIP-RET-03C	Post Accident Operation of the High Radiation Sample Room	P	01-15-2002
EPIP-RET-03D	Containment Air Sampling Analysis Using CASP	N	01-15-2002
EP-RET-3E	Post Accident Operation of High Rad Sample Room Inline Multiported Count Cave	Deleted	08-27-85
EPIP-RET-04	SBF Activation	R	10-02-2001
EP-RET-4A	EOF Radiological Monitoring	Deleted	03-10-83
EPIP-RET-04A	SBF Operation/Relocation	Deleted	10-02-2001
EP-RET-4B	Radiological Controls at Site Access Facility	Deleted	07-12-94
EP-RET-4C	Site Radiological Monitoring	Deleted	07-12-94
EP-RET-4D	SAM-II Operation	Deleted	07-12-94
EP-RET-5	Plume Projection	Deleted	09-26-84
EPIP-RET-05	Site Boundary Dose Rates During Controlled Plant Cooldown	H	10-09-2001
EP-RET-5A	Plume Projection	Deleted	04-27-87
EP-RET-6	Dose Projection	Deleted	04-24-87
EP-RET-7	Radiological Analysis Facility/Radiation Protection Office Communications	Deleted	04-24-87
EPIP-RET-08	Contamination Control of the Aurora Medical Center	P	10-30-2001
EPIP-RET-09	Post-Accident Population Dose	L	04-16-2002
EP-SEC			
EP-SEC-1	Security Organization	Deleted	04-24-87
EPIP-SEC-02	Security Force Response to Emergencies	X	02-06-2002
EP-SEC-2A	Manual Activation of Emergency Sirens	Deleted	04-16-82
EPIP-SEC-03	Personnel Assembly and Accountability	AD	04-25-2002
EPIP-SEC-04	Security Force Actions for Dosimetry Issue	P	10-02-2001

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EP-SEC-5	Security Force Response to the EOF	Deleted	07-28-88
EPIP-SEC-05	Personnel Evacuation	F	07-05-2001
EP-TSC			
EPIP-TSC-01	Technical Support Center Organization and Responsibilities	Q	02-06-2002
EPIP-TSC-02	Technical Support Center Activation	T	02-06-2002
EPIP-TSC-03	Plant Status Procedure	V	10-09-2001
EPIP-TSC-04	Emergency Physical Changes, Major Equipment Repair	N	05-09-2002
EP-TSC-5	Technical Support Center Communications Equipment	Deleted	04-24-87
EP-TSC-6	Assessment of Reactor Core Damage	Deleted	09-30-86
EPIP-TSC-07	RV Head Venting Time Calculation	I	10-19-2001
EPIP-TSC-08A	Calculations for Steam Release from Steam Generators	N	12-14-2001
EPIP-TSC-08B*	STMRLS Computer Program	F	10-02-2001
EP-TSC-8C*	See EP-TSC-8B	Deleted	04-16-92
* EP-TSC-8B was totally deleted; therefore, EP-TSC-8C was changed to EP-TSC-8B			
EP-TSC-9	Core Damage Assessment Using Released Radionuclides	Deleted	09-30-86
EPIP-TSC-09A*	Core Damage Assessment	J	05-16-2002
EPIP-TSC-09B*	CORE Computer Program	Deleted	05-16-2002
EP-TSC-9C*	See EP-TSC-9B	Deleted	04-16-92
* EP-TSC-9A, Rev. D was totally deleted; therefore, EP-TSC-9B became EP-TSC-9A. EP-TSC-9B was previously EP-TSC-9C.			
EPIP-TSC-10	Technical Support for IPEOPs	K	05-09-2002

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EPIP-APPX-A-06	EP-FIG-005	APPX-A-06-02	Site Boundary Facility - KNP Floor Plan	A	10-31-2000
EPIP-APPX-A-06	EP-FIG-008	APPX-A-06-01	Radiological Analysis Facility - KNP Floor Plan	A	10-31-2000
EPIP-EOF-12 Form EPIPF-EOF-02-01	EP-FIG-009	EOF-12-01	Division Office Building (2nd Floor) Floor Plan	B	10-24-2000
EPIP-APPX-A-06	EP-FIG-012	APPX-A-06-08	State/County Work Area - WPSC D2-1 Floor Plan	C	10-31-2000
EPIP-APPX-A-06	EP-FIG-013	APPX-A-06-09	NRC Work Area - WPSC D2-4 Floor Plan	A	10-31-2000
EPIP-AD-19	EP-FIG-014	AD-19-01	Population Distribution by Geographical Sub-Areas (with sectors)	A	10-31-2000
EPIP-APPX-A-06	EP-FIG-022	APPX-A-06-04	EOF - WPSC D2-3 Floor Plan	C	10-30-2001
EPIP-EOF-12	EP-FIG-024	EOF-12-02	Map - Location of JPIC, MBC, GOB, DOB, etc.	B	09-27-2001
EP-SEC-5	EP-FIG-026	SEC-05-01	Site Map	B	09-27-2001
APPX-A-6	EP-FIG-034	---	Floor Plan - Media Briefing Center	Deleted	08-04-98
EPIP-EOF-12 EPIP-APPX-A-06	EP-FIG-035	APPX-A-06-06	General Office Building - WPSC (1st Floor) Floor Plan	C	10-24-2000
APPX-A-6	EP-FIG-037	---	Floor Plan - Corporate Response Center	Deleted	08-04-98
APPX-A-6	EP-FIG-038	---	Floor Plan - JPIC	Deleted	08-04-98
EPIP-OSF-02	EP-FIG-039	OSF-02-01	High Priority Work	A	10-02-2001
EPIP-OSF-02	EP-FIG-039A	OSF-02-02	Lower Priority Work	A	10-02-2001
EPIP-APPX-A-06	EP-FIG-043	APPX-A-06-10	JPIC - Federal Work Area - WPSC D2-9	B	12-21-2001
EPIP-APPX-A-06	EP-FIG-044	APPX-A-06-07	JPIC - State and County Work Area - WPSC D2-8	C	12-21-2001
EPIP-APPX-A-06	EP-FIG-045	APPX-A-06-05	JPIC - Utility Work Area - WPSC D2-7	C	12-21-2001
RET-08	EP-FIG-046	RET-08-01	Aurora Medical Center Location	A	06-15-2000
EPIP-APPX-A-02	---	APPX-A-02-01	ERO Call Tree	Deleted	12-04-2001

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	APPENDIX A		
APPX-A-1	Communication System Description	AF	08-04-98
EPIP-APPX-A-02	Response Personnel Call List	Deleted	02-06-2002
EPIP-APPX-A-03	Off-Site Telephone Numbers	Deleted	02-06-2002
EPIP-APPX-A-06	KNPP Emergency Response Facility Telephone Numbers	AA	12-21-2001

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EP-AD			
AD-07-01	Event Notice (Wisconsin Nuclear Accident Reporting Form)	R	12-14-2001
AD-07-02	State Call-Back - Question Guideline	C	11-15-2001
AD-11-01	Emergency Radiation Work Permit	G	04-11-2002
AD-18-01	Airborne Radioiodine Dose Accountability and Potassium Iodide Distribution	A	02-27-2002
AD-18-02	Record of Known Allergy To or Voluntary Refusal to Take Potassium Iodide	A	02-27-2002
EP-ENV			
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ENV-01-03	Meteorological and Plant Status Data	C	12-14-2001
ENV-01-04	EMT Orders/Field Data	B	10-31-2000
ENV-02-01	EMT Activation Checklist	M	06-15-2000
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EOF-02-02	EOF Deactivation Checklist	L	10-30-2001
EOF-04-01	SRCL Initial Action Checklist	C	12-14-2001
EOF-04-02	Telephone Communications Log Sheet	A	12-14-2001
EOF-08-03	Fax for Emergency Declaration or Status Updates	G	11-27-2001
EOF-08-05	Plant Emergency Status Report	A	11-27-2001
EOF-08-06	Radiological Status Report	D	11-27-2001
EOF-11-02	Operating Status	F	11-15-2001
EOF-11-03	Environmental Status Board	F	11-15-2001
EOF-12-01	I.D. Badge Registration Form	G	10-24-2000

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OSF-03-01	Operational Support Facility Team Briefing	C	12-04-2001
EP-RET			
RET-02A-02	Emergency Sample Worksheet	E	06-05-2001
RET 2B.1	Containment Stack Release (Grab Sample)	C	04-16-96
RET 2B.2	Auxiliary Building Stack (Grab Sample)	C	04-16-96
RET 2B.3	Auxiliary Building Stack (Sping Reading)	C	04-16-96
RET 2B.4	Containment Stack (Sping Reading)	B	04-16-96
RET 2B.5	Steam Release	C	04-16-96
RET 2B.6	Field Reading (Grab Sample)	A	04-16-96
RET-04-01	SAM-2 Counting Equipment Worksheet	E	06-12-2001
RET 8.3	Hospital Survey 1	Deleted	06-05-2001
RET 8.4	Hospital Survey 2	Deleted	07-25-97
RET 8.5	Hospital Survey 3	Deleted	07-25-97
RET-08-06	Hospital Survey 4	F	06-15-2000
RET-09-01	Post-Accident TLD Record Sheet	D	04-16-2002
EP-SEC			
SEC-03.01	Emergency Accountability Log	A	03-28-2000
SEC 4.1	Emergency Dosimeter Log	F	02-16-2000
EP-TSC			
TSC-01.01	Plant Status Summary for SAM Implementation	B	02-06-2002
TSC-01.02	Severe Accident Management Summary and Strategy Recommendation	B	02-06-2002
TSC-01.03	Severe Accident Management – Status	B	02-06-2002
TSC-02-01	TSC and OSF Activation Checklist	O	09-27-2001

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TSC-02-03	Emergency Response Data System (ERDS) Link Initiation Checklist	G	05-04-2001
TSC-02-04	TSC Chart Recorder Operation Checklist	D	01-30-2001
TSC-02-05	TSC and OSF De-activation Checklist	A	10-09-2001
TSC-03-01	Plant System Status	L	06-12-2001
TSC-03-02	Plant Equipment Status	L	06-12-2001
TSC-03-03	Environmental Status Board	J	06-12-2001
TSC-03-04	Radiation Monitors	I	01-08-2002
TSC-04-01	Emergency Physical Change Request	G	05-09-2002
TSC-04-02	Emergency Physical Change Safety Review	Deleted	05-09-2002
TSC-04-03	Emergency Physical Change Index	F	08-29-2000
TSC-07-01	Head Venting Calculation	F	10-31-2000
TSC-08A-01	Steam Release Data Sheet (Energy Balance)	H	12-14-2001
TSC-08A-02	Steam Release Calculation Sheet (Energy Balance)	G	12-14-2001
TSC-08A-03	Steam Release Data/Calculation Sheet (Open Valve)	E	12-14-2001
TSC-08A-04	Steam Release Data/Calculation Sheet (STMRLS Program)	D	12-14-2001
TSC-09A-01	Core Exit Thermocouple Data	D	05-16-2002
TSC-09A-02	Fuel Rod Clad Damage Estimate	D	05-16-2002
TSC-09A-03	Fuel Rod Overtemperature Damage Estimate	E	05-16-2002
TSC 9A.4	Core Damage Based on Activity Ratios	Deleted	05-16-2002
TSC-09A-05	Core Damage Assessment (Monitoring Data)	E	05-16-2002
TSC 9A.6	Core Damage Summary	Deleted	05-16-2002

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant <i>Emergency Plan Implementing Procedure</i>		No. EPIP-TSC-09A	Rev. J
		Title Core Damage Assessment	
		Date MAY 16 2002	Page 1 of 11
Reviewed By William Yarosz		Approved By Tom Coutu	
Nuclear Safety Related	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PORC Review Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		SRO Approval Of Temporary Changes Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

1.0 Purpose

1.1 This procedure provides instruction for assessing the degree of core damage during an accident. In addition, the guideline provides information for the assessment of the appropriate Emergency Action Level for off-site radiological protective actions based on the degree of core damage. Specifically, the information contained in this guideline relates to:

- Determination of the degree of damage to the fuel rod cladding that results in the release of the fission product inventory in the fuel rod gap space
- Determination of the degree of core overheating that results in the release of the fission product inventory in the fuel pellets
- Determination of the appropriate Emergency Action Level for off-site radiological protective actions based on the degree of damage to the reactor core

2.0 General Notes

2.1 None

3.0 Precautions and Limitations

3.1 None

4.0 Initial Conditions

4.1 This guideline is to be used when Technical Support Center is activated and a Core Damage Assessment is requested.

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant <i>Emergency Plan Implementing Procedure</i>	No.	EPIP-TSC-09A	Rev.	J
	Title	Core Damage Assessment		
	Date	MAY 16 2002	Page 2 of 11	

5.0 Procedure

5.1 Identify Current Plant Status

- 5.1.1 Complete Form EPIPF-TSC-09A-05 except for the last column.
- 5.1.2 Using the table below, determine the possible status of the reactor core.
- 5.1.3 Record status on Form EPIPF-TSC-09A-05.
- 5.1.4 Go to the appropriate section of this guideline as indicated from the table.

High Level Core Damage Assessment	
Plant Status	Fuel Rod Fission Product Status
Core Exit Thermocouple Temperature LESS THAN 700°F, <u>AND</u> Containment Radiation LESS THAN Figure EPIPFG-TSC-09A-01 Rad/hr	No Core Damage Continue to Monitor Plant Parameters
Core Exit Thermocouple Temperature LESS THAN 1800°F, <u>AND</u> Containment Radiation LESS THAN Figure EPIPFG-TSC-09A-02 Rad/hr	Possible Fuel Rod Clad Damage Go to step 5.2
Core Exit Thermocouple Temperature GREATER THAN 1800°F, <u>OR</u> Containment Radiation GREATER THAN Figure EPIPFG-TSC-09A-02 Rad/hr	Possible Fuel Overtemperature Damage Go to step 5.3

5.2 Estimate Fuel Rod Clad Damage

- 5.2.1 Estimate fuel rod clad damage based on containment radiation levels.
 - 5.2.1.1 Complete lines 1-4 of Form EPIPF-TSC-09A-02.
- 5.2.2 Estimate fuel rod clad damage based on core exit thermocouple readings.
 - 5.2.2.1 Complete lines 5-10 of Form EPIPF-TSC-09A-02.
- 5.2.3 Verify reasonableness of clad damage estimates.
 - 5.2.3.1 Complete lines 11-17 of Form EPIPF-TSC-09A-02.

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5.2.3.2 IF expected response is not obtained, THEN determine if the deviation can be explained

from the accident progression

- injection of water to the RCS
- bleed paths from the RCS
- direct radiation to the containment radiation monitors, OR

from conservatisms in the predictive model

- fuel burnup
- fission product retention in the RCS
- fission product removal form containment

5.2.3.3 Record explanation of deviations on Form EPIPF-TSC-09A-02.

5.2.4 Report Findings.

5.2.4.1 Report clad damage estimate to Emergency Director.

5.2.5 Go to Step 5.1.

5.3 Estimate Fuel Overtemperature Damage

5.3.1 Estimate fuel overtemperature damage based on containment radiation levels.

5.3.1.1 Complete lines 1-4 of Form EPIPF-TSC-09A-03.

5.3.2 Estimate fuel overtemperature damage based on core exit thermocouple readings.

5.3.2.1 Complete lines 5-7 of Form EPIPF-TSC-09A-03.

5.3.3 Estimate fuel overtemperature damage based on hydrogen concentration.

5.3.3.1 Complete lines 8-11 of Form EPIPF-TSC-09A-03.

5.3.4 Verify reasonableness of fuel overtemperature damage estimates.

5.3.4.1 Complete lines 12-18 of Form EPIPF-TSC-09A-03.

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5.3.4.2 IF expected response is not obtained, THEN determine if the deviation can be explained

from the accident progression

- injection of water to the RCS
- bleed paths from the RCS
- direct radiation to the containment radiation monitors
- hydrogen burn in containment or operation of hydrogen igniters, OR

from conservatisms in the predictive model

- fuel burnup
- fission product retention in the RCS
- fission product removal form containment

5.3.4.3 Record explanations of deviations on Form EPIPF-TSC-09A-03.

5.3.5 Report findings.

5.3.5.1 Report fuel overtemperature estimate to Emergency Director.

5.3.6 Go to Step 5.1.

6.0 Final Conditions

6.1 None

7.0 References

- 7.1 WCAP-14696-A Revision 1, "Westinghouse Owners Group, Core Damage Assessment Guidance," November 1999
- 7.2 Letter from John G. Lamb (NRC) to Mark Reddemann (NMC) transmitting the NRC SER for Amendment 160 to the Operating License allowing removal of Post Accident Sampling System from Technical Specifications, Letter No. K-02-006, Dated January 16, 2002
- 7.3 COMTRAK's 89-026 and 89-027
- 7.4 Calculation C11403, Determination of Setpoints for EPIP-TSC-09A

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8.0 Records

8.1 The following QA records and non-QA records are identified in this directive/procedure and are listed on the KNPP Records Retention Schedule. These records shall be maintained according to the KNPP Records Management Program.

8.1.1 QA Records

- Core Exit Thermocouple Data, Form EPIPF-TSC-09A-01
- Fuel Rod Clad Damage Estimate, Form EPIPF-TSC-09A-02
- Fuel Rod Overtemperature Damage Estimate, Form EPIPF-TSC-09A-03
- Core Damage Assessment (Monitoring Data), Form EPIPF-TSC-09A-05

8.1.2 Non-QA Records

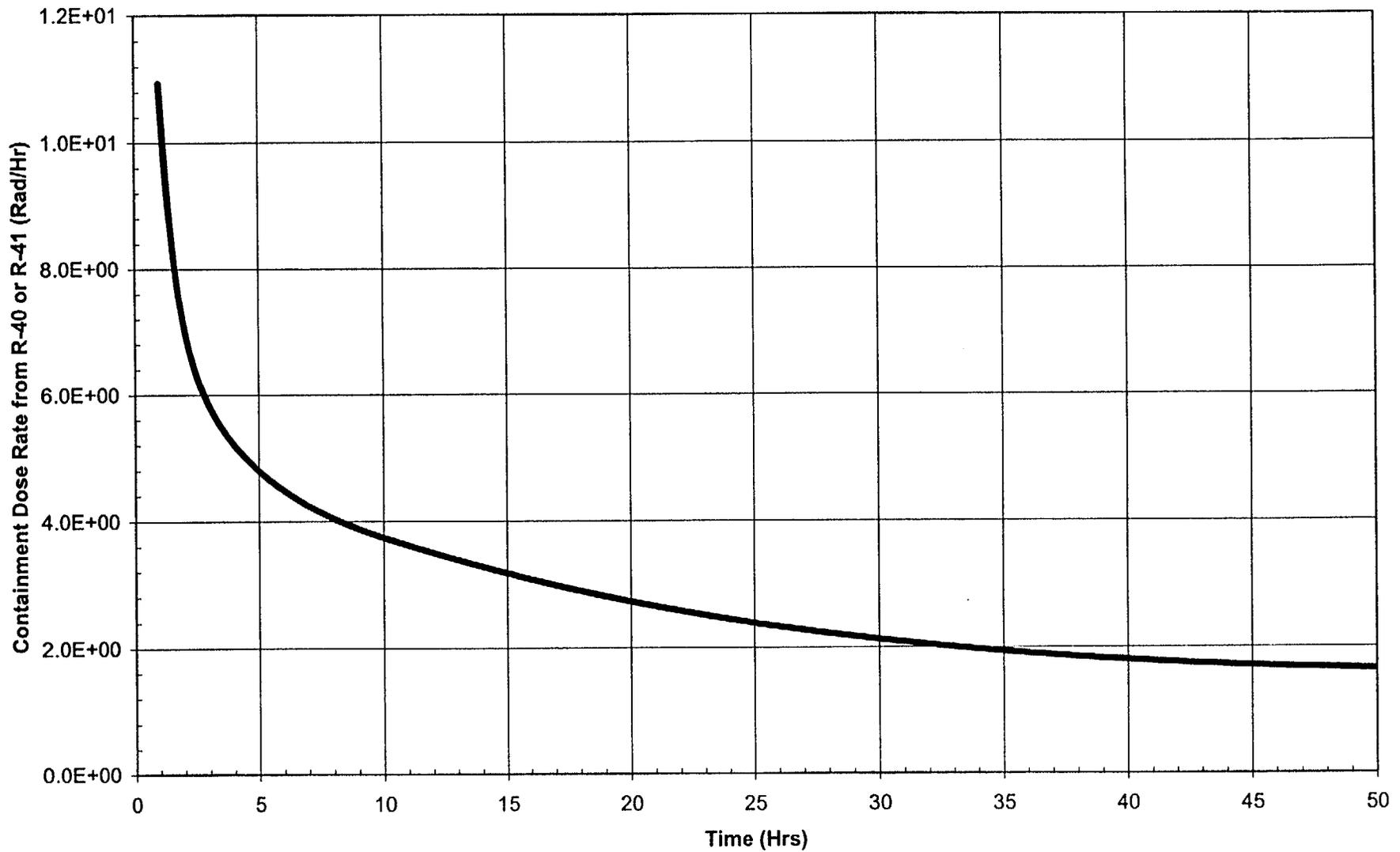
None

LIST OF ATTACHMENTS/FORMS

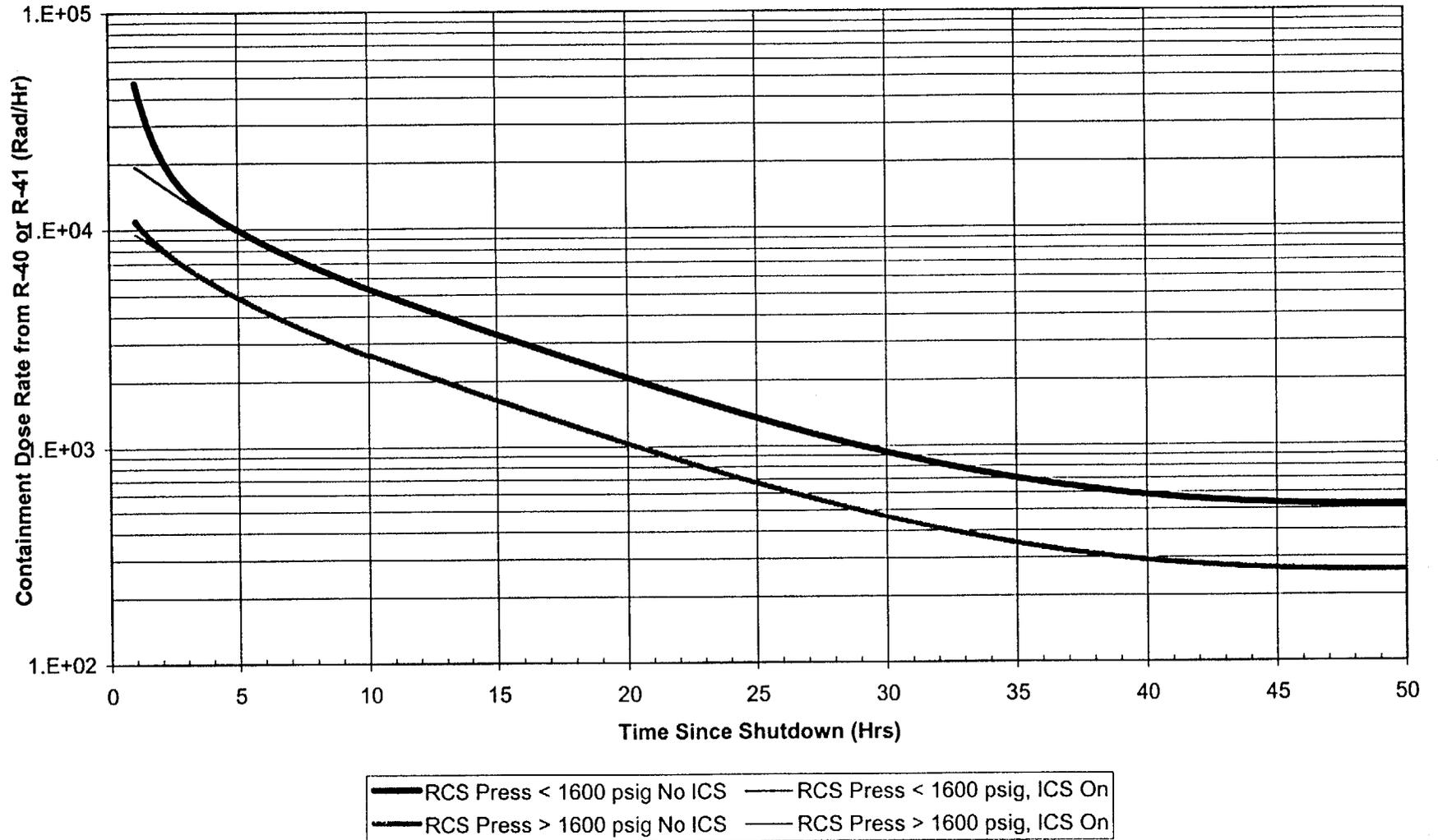
ATTACHMENT	TITLE
Attachment A	Containment Radiation Level vs. Time for RCS Release
Attachment B	Containment Radiation Level vs. Time for 1% Fuel Overtemperature Release
Attachment C	Containment Radiation Level vs. Time for 100% Clad Damage Release
Attachment D	Containment Radiation Level vs. Time for 100% Fuel Overtemperature Release
Attachment E	Hydrogen Concentration for 100% Core Overtemperature Damage

FORM	TITLE
Form EPIPF-TSC-09A-01	Core Exit Thermocouple Data
Form EPIPF-TSC-09A-02	Fuel Rod Clad Damage Estimate
Form EPIPF-TSC-09A-03	Fuel Rod Overtemperature Damage Estimate
Form EPIPF-TSC-09A-05	Core Damage Assessment (Monitoring Data)

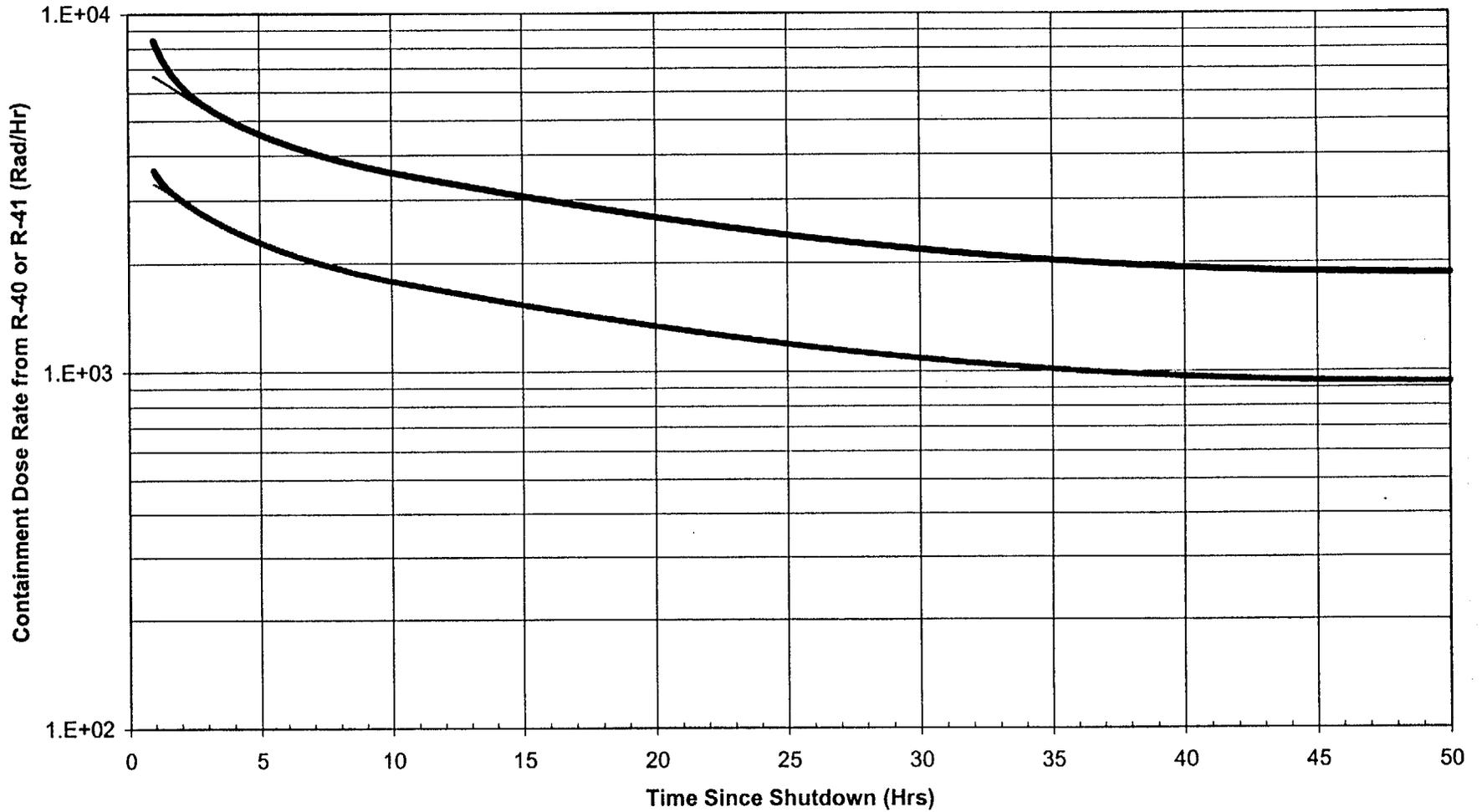
CONTAINMENT RADIATION LEVEL vs. TIME FOR RCS RELEASE



CONTAINMENT RADIATION LEVEL vs. TIME FOR 1% FUEL OVERTEMPERATURE RELEASE

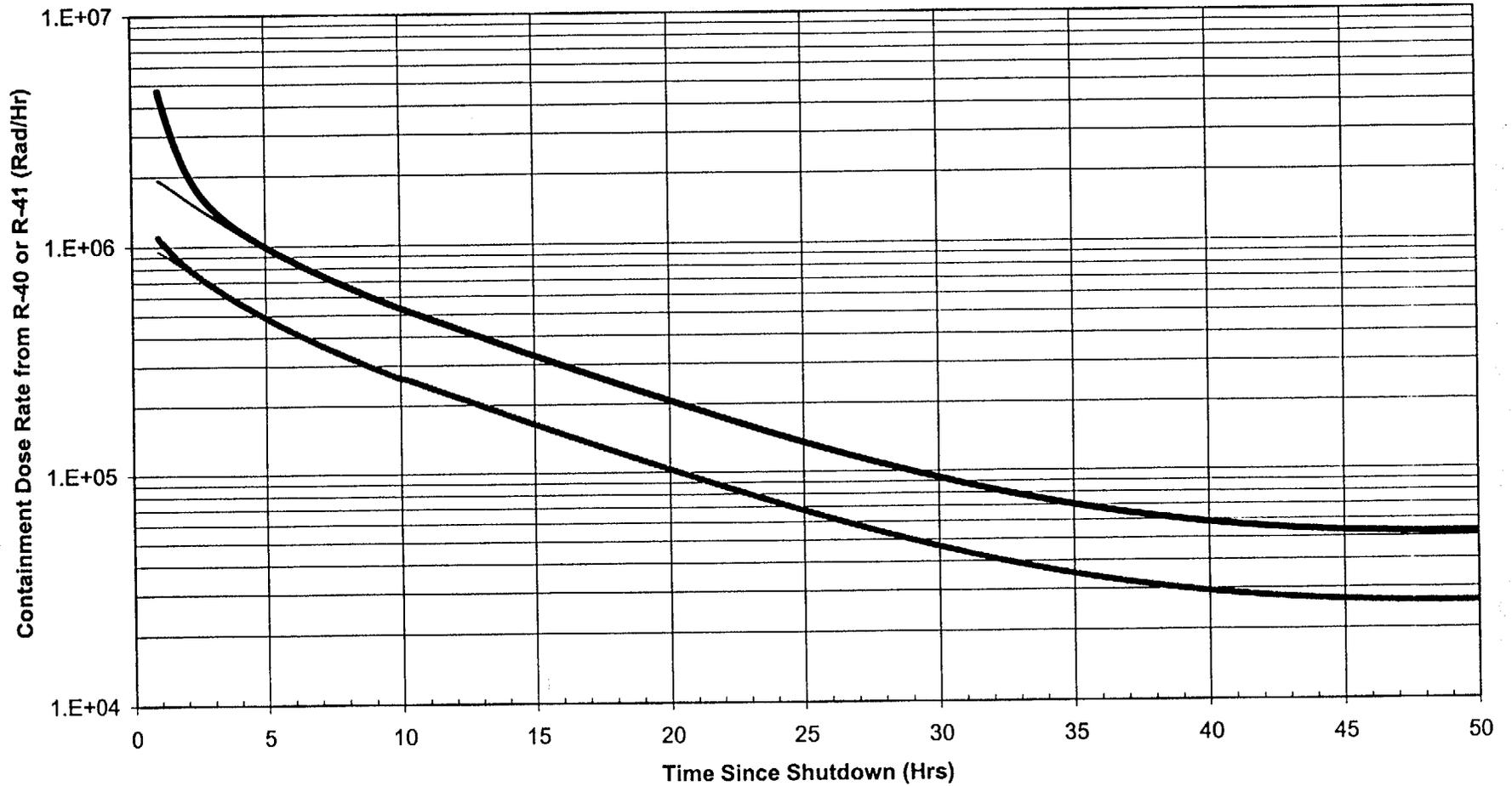


CONTAINMENT RADIATION LEVEL vs. TIME FOR 100% CLAD DAMAGE RELEASE



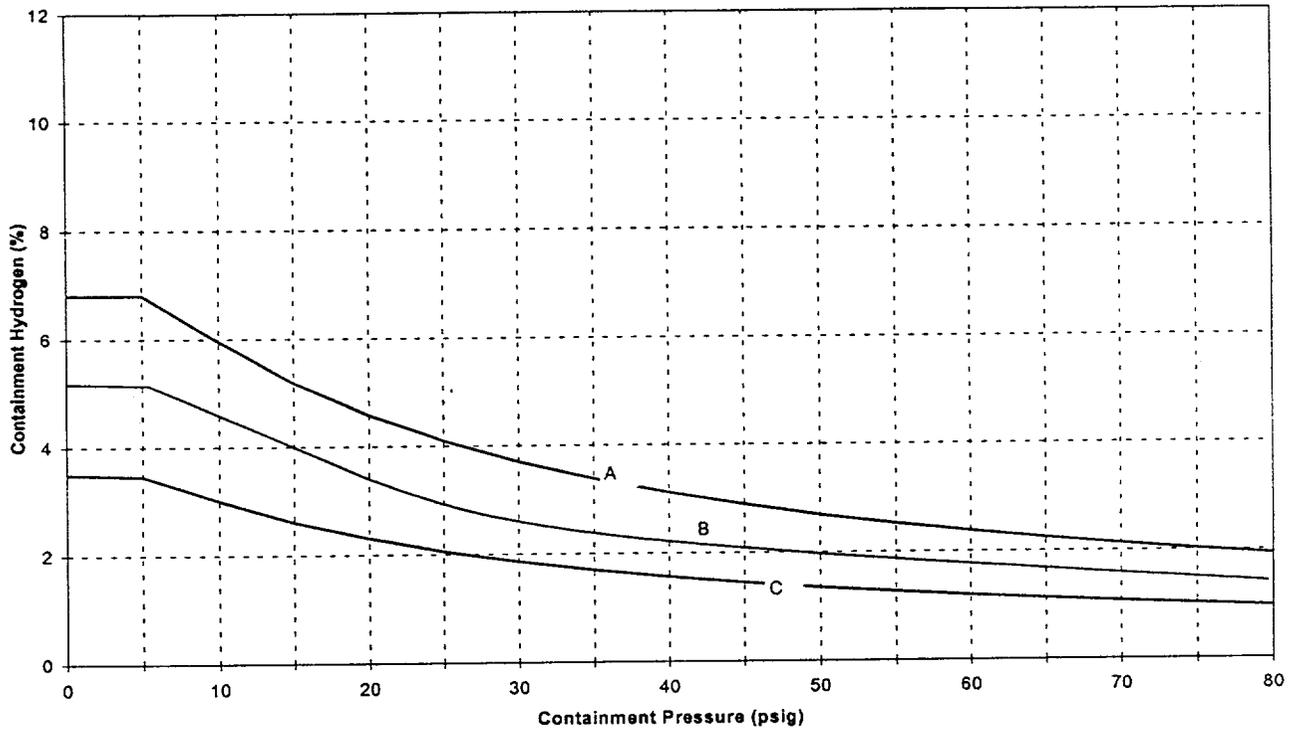
RCS Press < 1600 psig No ICS
 RCS Press < 1600 psig ICS On
 RCS Press > 1600 psig No ICS
 RCS Press > 1600 psig ICS On

CONTAINMENT RADIATION LEVEL vs. TIME FOR 100% FUEL OVERTEMPERATURE RELEASE



RCS Press < 1600 psig No ICS
 RCS Press < 1600 psig ICS On
 RCS Press > 1600 psig No ICS
 RCS Press > 1600 psig ICS On

HYDROGEN CONCENTRATION FOR 100% CORE OVERTEMPERATURE DAMAGE



- A RCS Pressure < 1050 psig, core recovered
- B RCS Pressure > 1050 psig, core recovered
- C Core not recovered

CORE EXIT THERMOCOUPLE DATA

Core Exit Thermocouple Temperatures (°F):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Number of CETs operable _____

Number of CETs readings GREATER THAN 1200°F _____

Number of CETs readings GREATER THAN 1400°F _____

Number of CETs readings GREATER THAN 1800°F _____

Core Hydraulics Engineer _____ Date _____

FUEL ROD CLAD DAMAGE ESTIMATE

1. Time since reactor shutdown (hrs.) from Form EIPPF-TSC-09A-05 _____
2. Radiation level (Rad/hr) for 100% clad damage from Figure 3 EPIP-TSC-09A _____
3. Containment high range radiation level (Rad/hr) from Form EIPPF-TSC-09A-05 _____
4. $\% \text{ Clad Damage}_{\text{CRM}} = \frac{\text{Containment High Range Radiation Level}}{\text{Containment Radiation Level for 100\% Clad Damage}} \times 100\% =$ _____
5. RCS pressure (psig) from Form EIPPF-TSC-09A-05 _____
6. Number of CETs > 1400°F from Form EIPPF-TSC-09A-02 _____
7. Number of CETs > 1200°F from Form EIPPF-TSC-09A-02 _____
8. Number of operable CETs from Form EIPPF-TSC-09A-02 _____
9. IF RCS pressure GREATER THAN 1600 psig, THEN:
 $\% \text{ Clad Damage}_{\text{CET}} = \frac{\text{Number of CETs} > 1400^\circ\text{F}}{\text{Number of Operable CETs}} \times 100\% =$ _____
10. IF RCS pressure LESS THAN 1600 psig, THEN:
 $\% \text{ Clad Damage}_{\text{CET}} = \frac{\text{Number of CETs} > 1200^\circ\text{F}}{\text{Number of Operable CETs}} \times 100\% =$ _____
11. RCS pressure (psig) from Form EIPPF-TSC-09A-05 _____
12. Saturation temperature (°F) (RCS pressure +15) from Steam Tables _____
13. Containment H₂ concentration (from Form EIPPF-TSC-09A-05) LESS THAN 0.2% YES / NO
14. RVLIS level (from Form EIPPF-TSC-09A-05) at 0%
(Circle no if one or more Reactor Coolant Pump is on) YES / NO
15. Hot leg RTD temperature GREATER THAN saturation temperature and LESS THAN 650°F YES / NO
16. Source range monitor GREATER THAN 200 COUNTS PER SECOND YES / NO
17. $\left| \frac{\% \text{ Clad Damage}_{\text{CRM}} - \% \text{ Clad Damage}_{\text{CET}}}{\% \text{ Clad Damage}_{\text{CRM}}} \right|$ LESS THAN 50% YES / NO

Explanation of Deviations:

Clad Damage Estimate: _____%

Core Hydraulics Engineer _____ Date _____

FUEL ROD OVERTEMPERATURE DAMAGE ESTIMATE

1. Time since reactor shutdown (hrs) from Form EPIPF-TSC-09A-05 _____
2. Radiation level (Rad/hr) for 100% core overtemperature damage from Figure 4 EPIP-TSC-09A _____
3. Containment high range radiation level (Rad/hr) from Form EPIPF-TSC-09A-05 _____
4.
$$\% \text{ Core Damage}_{\text{CRM}} = \frac{\text{Containment High Range Radiation Level}}{\text{Containment Radiation Level for 100\% Overtemperature Damage}} \times 100\% =$$

5. Number of CETs > 1500°F from Form EPIPF-TSC-09A-02 _____
6. Number of operable CETs from Form EPIPF-TSC-09A-02 _____
7.
$$\% \text{ Core Damage}_{\text{CET}} = \frac{\text{Number of CETs} > 1800^\circ\text{F}}{\text{Number of Operable CETs}} \times 100\% =$$

8. Hydrogen concentration in containment (%) from Form EPIPF-TSC-09A-05 _____
9. Containment pressure (psig) from Form EPIPF-TSC-09A-05 _____
10. H₂ concentration (%) at 100% overtemperature damage from Figure 5 EPIP-TSC-09A _____
11.
$$\% \text{ Core Damage}_{\text{HYD}} = \frac{\text{Hydrogen Concentration in Containment}}{\text{H}_2 \text{ Concentration at 100\% Overtemperature}} \times 100\% =$$

12. RCS pressure (psig) from Form EPIPF-TSC-09A-05 _____
13. RVLIS level (from Form EPIPF-TSC-09A-05) at 0% (Circle no if one or both Reactor Coolant Pump is on) YES / NO
14. Hot leg RTD temperature GREATER THAN 650°F YES / NO
15. Source range monitor GREATER THAN 200 COUNTS PER SECOND YES / NO
16.
$$\left| \frac{\% \text{ Core Damage}_{\text{CRM}} - \% \text{ Core Damage}_{\text{CET}}}{\% \text{ Core Damage}_{\text{CRM}}} \times 100\% \right| \text{ LESS THAN } 50\%$$
 YES / NO
17.
$$\left| \% \text{ Core Damage}_{\text{CRM}} - \% \text{ Core Damage}_{\text{HYD}} \right| \text{ LESS THAN } 25\%$$
 YES / NO
18.
$$\left| \% \text{ Core Damage}_{\text{CET}} - \% \text{ Core Damage}_{\text{HYD}} \right| \text{ LESS THAN } 25\%$$
 YES / NO

Explanation of Deviations:

Core Damage Estimate: _____%

Core Hydraulics Engineer _____ Date _____

