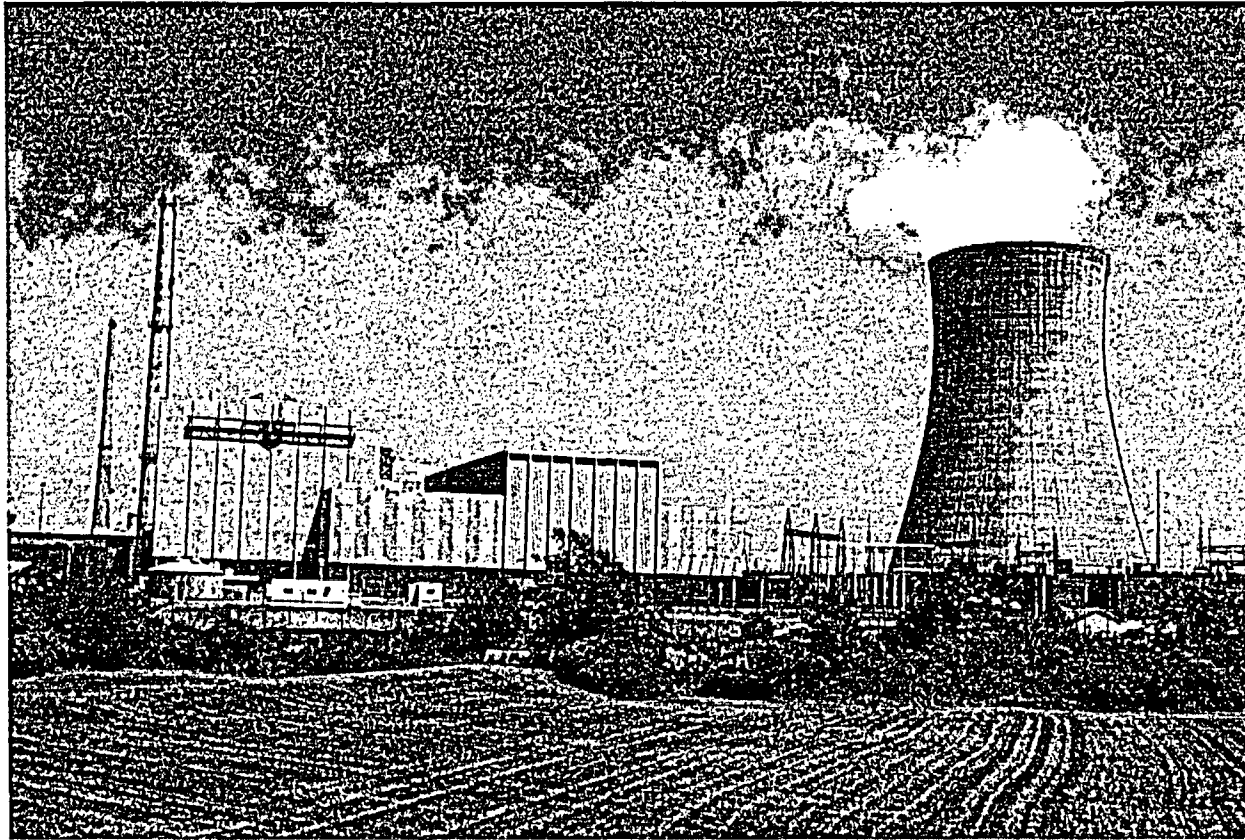


Nine Mile Point Units 1 and 2 License Renewal Application



6/16/2004

Constellation Attendees

<u>NAME</u>	<u>TITLE</u>
David Dellario	LR Project Manager
Michael Fallin	SAMA Coordinator
Tony Grenci	Director License Renewal
Carla Logan	Environmental Review Lead
Pete Mazzaferro	Site LR Project Manager
Ernie Taormina	IPA Lead
Dennis Vandeputte	Site Licensing Engineer
Russ Wells	Lead Licensing Engineer

Agenda

- | | |
|--|---------------|
| ■ Opening Remarks/Agenda | T. Grenci |
| ■ Description and Background of NMP 1 & 2 | P. Mazzaferro |
| ■ Upcoming Plant Activities | D. Vandeputte |
| ■ Application Overview | R. Wells |
| ■ LRA Table of Contents | R. Wells |
| ■ LRA Section 1 Contents | R. Wells |
| ■ LRA Section 2 Contents | R. Wells |
| ■ Scoping and Screening Methodology
Section | D. Dellario |
| ■ Plant Level Scoping Results Section | D. Dellario |
| ■ Database Contents | E. Taormina |

Agenda (cont'd)

- | | |
|--------------------------------|---------------|
| ■ GALL Consistency Methodology | E. Taormina |
| ■ LRA Section 3 Contents | R. Wells |
| ■ LRA Section 4 Contents | P. Mazzaferro |
| ■ Appendix A Contents | P. Mazzaferro |
| ■ Appendix B Contents | P. Mazzaferro |
| ■ Appendix D Contents | D. Vandeputte |
| ■ Appendix E Contents | C. Logan |
| ■ Questions and Answers | |

Description and Background of NMP 1 & 2

- NMP1 OL expires August 22, 2009.
- NMP2 OL expires October 31, 2026.
- NMP2 received an exemption from 10 CFR 54.17(c) in order to submit prior to 20 years of operating experience.

Description and Background of NMP 1 & 2 (cont'd)

- NMP1 is a BWR/2 design (1850 MWt).
- NMP2 is a BWR/5 design (3467 MWt).
- The NMPNS LRA is the first license renewal application for either a BWR/2 or BWR/5.

Description and Background of NMP 1 & 2 (cont'd)

Category	NMP1	NMP2
Plant design	BWR/2	BWR/5
Containment Design	Mark I (Torus)	Mark II (Suppression Pool)
Reactor Recirculation	■ 5 loops ■ 5 external pumps	■ 2 loops ■ 20 internal jet pumps

Description and Background of NMP 1 & 2 (cont'd)

Category	NMP1	NMP2
Core and/or Containment Heat Removal Systems	<ul style="list-style-type: none">■ Automatic Depressurization System■ Emergency Condensers■ Core Spray■ Containment Spray■ Feedwater/High Pressure Coolant Injection■ Shutdown Cooling	<ul style="list-style-type: none">■ Automatic Depressurization System■ Low Pressure Core Spray■ High Pressure Core Spray■ Reactor Core Isolation Cooling■ Residual Heat Removal

Description and Background of NMP 1 & 2 (cont'd)

NMP1 Milestones	
Date	Event
March, 1982 – June, 1983	Reactor recirculation system piping replacement
March-April, 1995	Core shroud repairs (tie-rod assemblies, core plate wedges)
April-June, 1999	Core shroud repairs (vertical weld repair clamps)
1999	Spent Fuel Pool re-rack (north half of pool)

Description and Background of NMP 1 & 2 (cont'd)

NMP1 Milestones	
Date	Event
November 2001	Ownership transferred to NMPNS, LLC (a subsidiary of Constellation Energy)
2004 (planned)	Spent Fuel Pool re-rack (south half of pool)

Description and Background of NMP 1 & 2 (cont'd)

NMP2 Milestones	
Date	Event
April 1995	License amendment issued, to operate at uprated power level of 3467 MWt (4.33% increase)
February 2000	License Amendment issued for conversion to Improved Technical Specifications (implemented in December 2000)
November 2001	Ownership transferred to NMPNS, LLC (a subsidiary of Constellation Energy)

Upcoming Plant Activities

Date	Activity
Aug. 16 to Sept. 3, 2004	NRC Safety System Design Inspection
Sept. 20 to Oct. 1, 2004	INPO Simulator Evaluation
Oct. 4 to Oct. 8, 2004	INPO Training Accreditation Visit
Oct. 18 to Oct. 29, 2004	INPO Plant Evaluation
March/April, 2005	NMP1 Refueling Outage
March/April, 2006	NMP2 Refueling Outage

Application Overview

- Application conforms to the Standard LRA (SLRA) format and content in NEI 95-10, Rev. 4.
 - NMP1 systems and structures are designated by the letter "A"
 - NMP2 systems and structures are designated by the letter "B"
 - Commodities that apply to both NMP1 and NMP2 are designated by the letter "C"
- Cross referencing in electronic form.
- LRA Section 2.1.6 addresses treatment of the NRC Interim Staff Guidance (ISG) documents.

LRA TABLE OF CONTENTS

Section #	Title	Common	Unit Specific
1	Administrative Information	X	
2.1	Scoping and Screening Methodology	X	
2.2	Plant Level Scoping Results		X
2.3	Scoping and Screening Results: Mechanical Systems		X
2.4	Scoping and Screening Results: Structures		X
2.5	Scoping and Screening Results: Electrical and Instrumentation and Controls		X

LRA TABLE OF CONTENTS (cont'd)

Section #	Title	Common	Unit Specific
3.0	Aging Management Review Results	X	
3.1	Aging Management of Reactor Coolant Systems		X
3.2	Aging Management of Engineered Safety Features Systems		X
3.3	Aging Management of Auxiliary Systems		X
3.4	Aging Management of Steam and Power Conversion Systems		X
3.5	Aging Management of Structures		X

LRA TABLE OF CONTENTS (cont'd)

Section #	Title	Common	Unit Specific
3.6	Aging Management of Electrical and Instrumentation and Controls	X	
4	Time-Limited Aging Analyses	X ¹	
Appendix A	Safety Analysis Report Supplements		X
Appendix B	Aging Management Programs	X ¹	
Appendix C	Commodity Groups (Optional, not used)	N/A	N/A
Appendix D	Technical Specifications		X
Appendix E	Environmental Report	X	

1. Unit differences are clearly identified

R. Wells

LRA Section 1 Contents

- Administrative information such as
 - Name and address of NMPNS, LLC
 - Expiration dates of OLs
 - Description of CEG and NMPNS, LLC
 - Organization and Management of NMPNS, LLC
 - Application Structure
 - Description of NMP1 and NMP2

- Acronym List

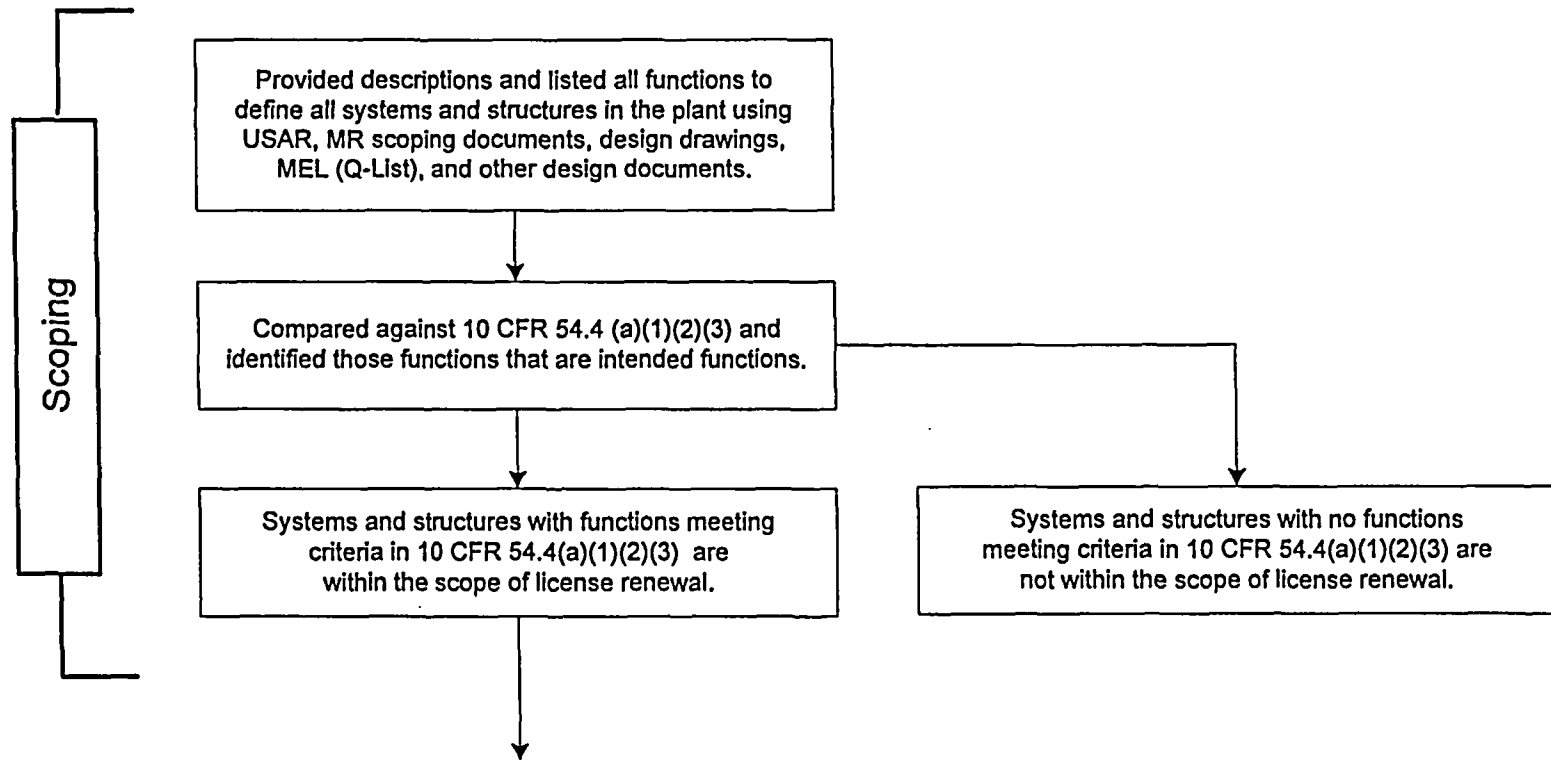
LRA Section 2 Contents

- Scoping and Screening Methodology
- Plant Level Scoping Results
- System Descriptions
- Aging Management Review (AMR) Boundary Descriptions
- Links to Updated Safety Analysis Report (USAR) (NRC Reviewer CDs)
- Links to Drawings (NRC Reviewer CDs)
- Lists of Component Types and Intended Functions

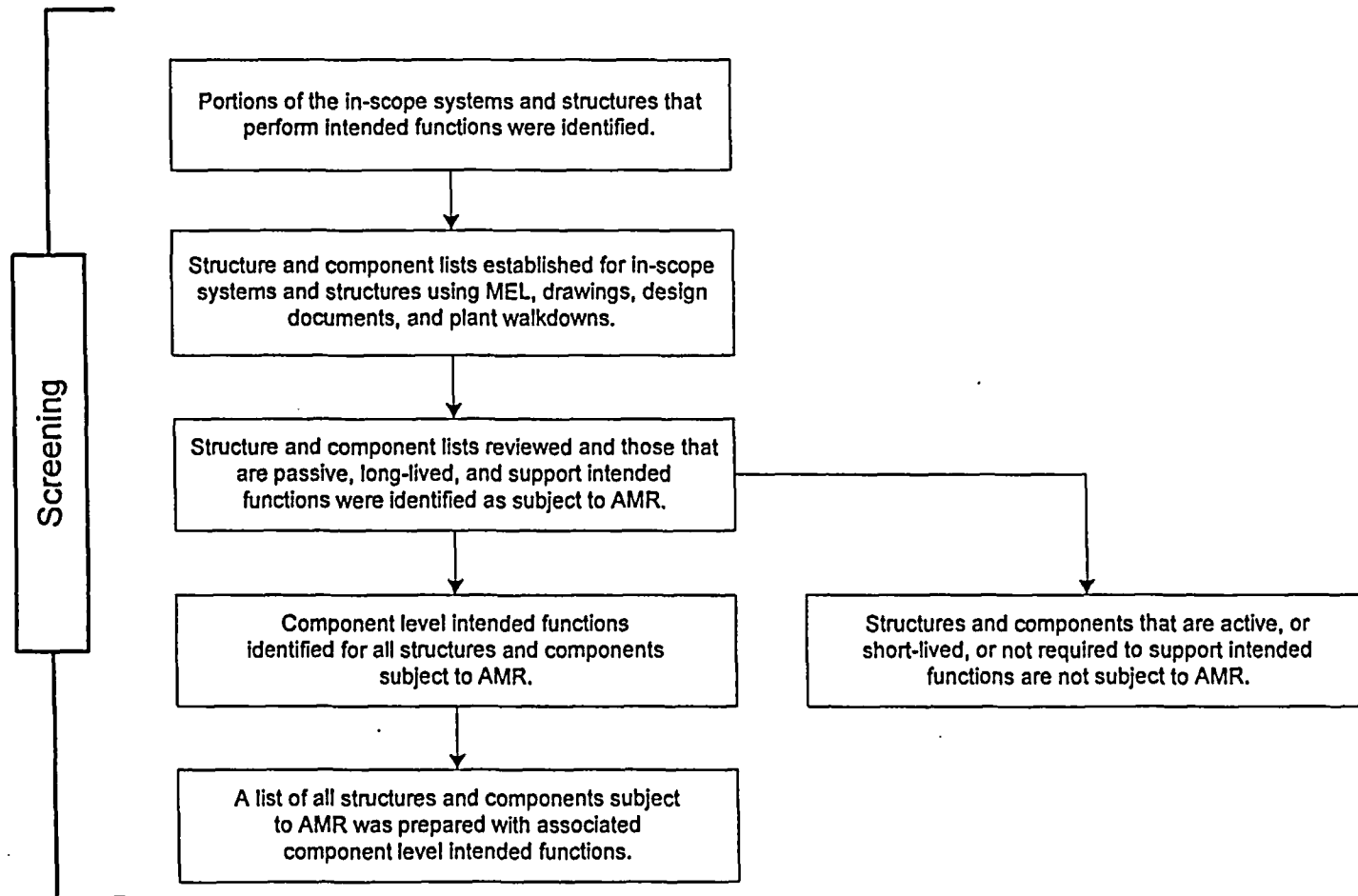
Scoping and Screening Methodology Section

- Provides an overview of plant information sources that were used [USAR, Maintenance Rule scoping documents, docketed correspondence, Design Basis Documents (DBDs), controlled drawings, and the Master Equipment List (MEL), which serves as the component level Q-list at NMPNS].
- Details how each scoping criteria was implemented.

Scoping and Screening Methodology Section (cont'd)



Scoping and Screening Methodology Section (cont'd)



Scoping and Screening Methodology Section (cont'd)

- In cases where systems or structures perform similar functions, it was more feasible or efficient to combine a smaller system or structure as part of a larger system or structure.
- The Plant Level Scoping Results (Section 2.2) indicate when smaller systems or structures are addressed as part of larger systems or structures (see following slide for examples).

Scoping and Screening Methodology Section (cont'd)

System	Subsystems
NMP1 Compressed Air System	<ul style="list-style-type: none">• Breathing Air System• House Service Air System• Instrument Air System
NMP2 Condensate System	<ul style="list-style-type: none">• Auxiliary Condensate System• Condensate Booster Pump Lube Oil System• Condensate Demineralizer System• Condensate Demineralizer System – Mixed Bed• Condensate Makeup and Drawoff System

Scoping and Screening Methodology Section (cont'd)

- In other cases, it was more feasible or efficient to address some components of a system or structure with a different system or structure.
- LRA scoping and screening results for each system or structure indicate when components were transferred to another system or structure. Examples:
 - The components requiring an AMR for the NMP1 Administration Building HVAC System are shared with the Control Room HVAC System and are evaluated in that system.
 - The component types subject to an AMR for the Automatic Depressurization System are part of, and evaluated in, the Main Steam System.

Scoping and Screening Methodology Section (cont'd)

- Many plant components WSLR lend themselves to being evaluated as commodities.
- The Structural commodity evaluation groups are:
 - Component Supports (Section 2.4.C.1)
 - Fire Stops and Seals (Section 2.4.C.2)
- The Electrical and I&C component commodity groups are:
 - Cables and Connectors (including splices, connectors, terminal blocks, and fuse holders) (Section 2.5.C.1)
 - Non-Segregated/Switchyard Bus (Section 2.5.C.2)
 - Containment Electrical Penetrations (Section 2.5.C.3)
 - Switchyard Components (Section 2.5.C.4)

Scoping and Screening Methodology Section (cont'd)

- Non-Safety Related Criteria Pursuant to 10 CFR 54.4(a)(2) (Criterion 2)
 - The process used to review SSCs for 10 CFR 54.4(a)(2) applicability ensured that the USAR, Maintenance Rule scoping documents, design documents, design drawings and MEL (Q-List) were reviewed as applicable to ensure all non-safety SSC functional interactions were identified where a non-safety SSC could fail and prevent the satisfactory accomplishment of an SR intended function.

Scoping and Screening Methodology Section (cont'd)

- Supports for NSR Equipment
 - Component supports required for NSR SSCs to prevent physical interactions with SR SSCs are WSLR.

- SR/NSR Piping Interface
 - The scoping and screening process for mechanical systems utilized plant drawings to graphically represent components requiring AMR.
 - When the plant drawings show component classification boundaries at valves, actual classification boundaries extend to the first seismic anchor beyond the depicted class change. At a minimum, the piping between the depicted classification boundary and the first seismic anchor is considered to be WSLR.

Scoping and Screening Methodology Section (cont'd)

- NSR Piping in Proximity to SR Equipment
 - NRC Interim Staff Guidance (ISG)–09 states that applicants are to consider age-related failures of nonsafety related SSCs based on industry operating experience.
 - NMPNS considers all non-safety related piping, fittings, and equipment containing water or steam to be WSLR if located in the vicinity of safety related equipment. Non-safety related piping, fittings, and equipment are considered to be in the vicinity of safety-related equipment if located in the same building, corridor, and floor as safety-related equipment.

Scoping and Screening Methodology Section (cont'd)

- Portions of systems subject to AMR are highlighted in red with boundaries indicated by blue flags.
- The active portion of in-scope mechanical components such as valve operators and ventilation damper internals, and active electrical, instrumentation, and control components within the boundaries are shown in black because they are not subject to AMR, however all components within the indicated boundaries may also be considered in scope.

Scoping and Screening Methodology Section (cont'd)

- NSR portions of SR systems containing water or steam shown in black outside the blue boundary flags are subject to AMR to a point no longer in the vicinity of safety related equipment or until the first seismic anchor is reached, whichever is furthest.
- NSR portions of SR systems containing air, gas, or oil shown in black outside the blue boundary flags are subject to AMR from the boundary to the first seismic anchor.

Plant Level Scoping Results Section

NMP1		
Discipline	Total # of Systems, Structures, and Commodities	# WSLR
Mechanical	49	41
Electrical	26	16
Structural	17	15
Total	92	72

Plant Level Scoping Results Section (cont'd)

NMP2		
Discipline	Total # of Systems, Structures, and Commodities	# WSLR
Mechanical	93	60
Electrical	65	47
Structural	20	16
Total	178	123

Database Contents

- Scoping and Screening and AMR results are reflected in the Constellation Renewal Application Database (ConRAD).
- Database also reflects the Aging Management Programs used to manage the Aging Effects Requiring Management.

Constellation Energy - System List - MicroStation - Constellation Energy - CONRAD

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Constellation Nuclear Services

Constellation Renewal Application Database (CONRAD)

Nine Mile Point Unit 1

Scoping & Scheduling Aging Management LRA Input Resources Administration

The following is a systems list overview. This list includes the system name, label, work status, and whether or not it is in license renewal scope. To view detailed information for each system, click on the arrow to the left. To jump ahead to other systems, use the alphabetical search tool at the top of the list.

Select a System

[A][B][C][D][E][F][G][H][I][J][K][L][M][N][O][P][Q][R][S][T][U][V][W][X][Y][Z] Search Searched Value: all

New System

System	Label	Status	In LR Scope
▶ RPS	REACTOR PROTECTION SYSTEM	NAMR	✓
▼ RR	REACTOR RECIRCULATION	AMRC	✓

Edit System

Components

System Functions

System References

System Status History

System Status: Program association and OALL comparison review complete; AMR complete

Type: Plant System

Description: The Reactor Recirculation system provides a variable reactor coolant flow in order to control reactor power levels. In addition, forced convection cooling removes the heat generated by the nuclear fuel at a higher rate than natural circulation. The Reactor Recirculation system consists of five recirculation loops. Each loop contains a high capacity motor-driven

Constellation Energy - System References - REACTOR RECIRCULATION

New Reference | Close

Doc Number	Rev	Sheet Title
▶ 90-234	1	Appendix B Safety Class Determination
▶ A-69020-C	0 1	Reactor Recirc. Loop #11 Recirc. Flow, Instrument Room R.B. El. 237'-0", Instrument Diagram
▶ A-69020-C	0 2	Reactor Recirc. Loop #12 Recirc. Flow, Instrument Room R.B. El. 237'-0", Instrument Diagram
▶ A-69020-C	0 3	Reactor Recirc. Loop #13 Recirc. Flow, Instrument Room R.B. El. 237'-0", Instrument Diagram
▶ A-69020-C	0 4	Reactor Recirc. Loop #14 Recirc. Flow, Instrument Room R.B. El. 237'-0", Instrument Diagram
▶ A-69020-C	0 5	Reactor Recirc. Loop #15 Recirc. Flow, Instrument Room R.B. El. 237'-0", Instrument Diagram
▶ A-69020-C	0 6	Reactor Recirc. Pump #11 Seal Press, Lower Inst. Room R.B. El. 237', Instrument Diagram

motor- and P-er annulus recirculating ble pumps parallel at the facilitate Drywell stion pump e sh suction hangers a single Each pump tor. Each The main g, and a generator. Pump speed is controlled by changing the output of the

Internet 8:32 AM

Constellation Energy - System Functions - REACTOR RECIRCULATION - MICROPRINTING - SCRAM PROVIDED BY EXCESS FLOW CHECK VALVE

File Edit View Favorites Tools Help

Constellation Nuclear Services

Constellation Renewal Application Database (CONRAD)

Scoping & Screening Aging Management LRA Input Resources Administration

Nine Mile Point Unit 1

The following is a list of system functions that belong to the REACTOR RECIRCULATION system. This list includes the function number, description, as well as an indicator to determine whether the function is an intended function or not.

System Functions - REACTOR RECIRCULATION

New Function

Func No	Desc	IF	Comments
RR-01	Provide individual loop and total core flow indication, and provide the flow input to the automatic power range monitor scram and Rod Block flow biased circuitry.	✓	MR Function RR-F03
RR-02	Provide inputs to PPC and 3D Monitors for thermal limit calculations.		MR Function RR-F04
RR-03	Provide reactor coolant system and primary containment isolation via excess flow check valve actuation in the event of an instrument line rupture.	✓	MR Function RR-F05

Edit Function

Function References

Updated By: spetras

Updated On: 3/5/2004 8:04:28 AM

Comment: MR Function RR-F05

Criterion 1

☒ Safety-Related(SR)

Criterion 2

☐ NON-SR - AFFECTS SR

Criterion 3

☐ FP ☐ EQ ☐ PT ☐ AT ☐ SB

IF

☒

Constellation Energy - System Function Reference

New Reference | Close

Doc Number	Rev.	Sheet	Title
N1-MRM-REL-0104	18		NMP1 Maintenance Rule Scope
UFSAR VID.1	17		Updated Final Safety Analysis Report

RR-04 Provide the driving force to circulate coolant through the reactor core; provides a means for core

RR-05 Reactor recirculation lines makeup a portion of the reactor coolant pressure boundary - maintain primary containment.

RR-06 License renewal Criterion 3 - Contains SSC's relied upon in safety analyses or plant evaluations; commission's regulations for anticipated transient without scram (10CFR50.62).

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Done

Start Sent It... Micros... conve... 2 Mic... 2.Int... Internet

8:23 AM

Constellation Energy - System Component - REACTOR RECIRCULATION - Micros... - Solar... - Provided by... - Unit...

File Edit View Favorites Tools Help

Constellation Nuclear Services

Constellation Renewal Application Database (CONRAD)

Nine Mile Point Unit 1

Scoping & Screening Aging Management LRA Input Resources Administration

The following is a list of components that belong to the REACTOR RECIRCULATION system. This list includes the component code, type, category, description, as well as other attributes that determine whether this component is subject to aging management review or not. To view detailed information for each component, click on the arrow to the left. To jump ahead to other components, use the alphabetical search tool at the top of the list.

System Components - REACTOR RECIRCULATION

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z Search Filters Searched Value: #

New Component Bulk Update

Code	Type	Category	Description	IS	P	LL	SA	SC
PI-32-85A	I	INDREC	PRESSURE INDICATOR			LL		SC
PI-32-85B	I	INDREC	PRESSURE INDICATOR ** RRP 12 LP SEAL PRESSURE			LL		SC
PI-32-91A	I	INDREC	PRESSURE INDICATOR			LL		SC
PI-32-91B	I	INDREC	PRESSURE INDICATOR ** RRP 13 HP SEAL PRESSURE			LL		SC
PI-32-97A	I	INDREC	PRESSURE INDICATOR			LL		SC
PI-32-97B	I	INDREC	PRESSURE INDICATOR ** RRP 13 LP SEAL PRESSURE			LL		SC
PMP-32-187	PMP	PUMP	11 REACTOR RECIRCULATION PUMP NG01A	IS	P	LL	SA	SC

Edit Component
 Move Component
 Intended Functions
 Component References

Updated By: spetras
 Updated On: 4/19/2002 2:10:25 PM
 Original System: RR
 Comment: This includes the casing and cover.

Create Subcomponent
 Component Details
 Purchasing Information
 More Information

☒ In Scope
☒ Passive
☒ Long Lived
☒ Subject to AMR
☒ Screening Complete

PMP-32-188 PMP PUMP 12 REACTOR RECIRCULATION PUMP NG01B IS P LL SA SC
 PMP-32-189 PMP PUMP 13 REACTOR RECIRCULATION PUMP NG01C IS P LL SA SC
 PMP-32-190 PMP PUMP REACTOR RECIRCULATION PUMP 14 - NG01D IS P LL SA SC

Constellation Energy - Component References

New Reference Close

Doc Number Rev Sheet Title

C-18020-C 30 Reactor Recirculation Loops, (Typical of 5)

Start Sent It... Micros... conve... 2 Mic... 2-Int... Internet 8:45 AM

Constellation Energy -- Design Investigation Microsoft Internet Explorer Provided by Constellation Energy

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Constellation Renewal Application Database (CONRAD)

Nine Mile Point Unit 1

Shipping & Cleaning Aging Management LRA Input Resources Administration

Design Investigation

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z | Search | Filters Searched Value: #

Applied Filters:
System: RR

Bulk Update

Code	System	Type	Category	Material	Mat. Cat.	Environment	Call #
▶ CX-32-513	RR	X	PIPE	SA-182, Type 316	WASS	TWH	IV.C1.1.5
▶ FE-32-122	RR	E	DMTR	SA-240 Type 316L	WASS	TWH	IV.C1.1.5
▶ FE-32-135	RR	E	DMTR	SA-240 Type 316L	WASS	TWH	IV.C1.1.5
▶ FE-32-148	RR	E	DMTR	SA-240 Type 316L	WASS	TWH	IV.C1.1.5
▶ FE-32-161	RR	E	DMTR	SA-240 Type 316L	WASS	TWH	IV.C1.1.5
▶ FE-32-174	RR	E	DMTR	SA-240 Type 316L	WASS	TWH	IV.C1.1.5
▶ PMP-32-187	RR	PMP	PUMP	A-351, Grade CF8M	CASS	TWH	IV.C1.2.1

Material References Description: 11 REACTOR RECIRCULATION PUMP, NG01A

Environment References Comments: This includes the casing and cover.

Material Spec: A-351, Grade CF8M

Material Category: Cast Austenitic Stainless Steel

Environment Title: Treated Water or Steam, Temperature Greater Than Or Equal To 482 deg F (TWH)

Updated On: 4/19/2002 2:19:25 PM

Updated By: spetras

Create Subcomponent

Component Details

Purchasing Information

More Information

▶ PMP-32-188	RR	PMP	PUMP
▶ PMP-32-189	RR	PMP	PUMP
▶ PMP-32-190	RR	PMP	PUMP
▶ PMP-32-191	RR	PMP	PUMP
▶ PMP-Seal Flan	RR	PMP	PUMP
▶ RR-BOLT-CS	RR	BOLT	BOLT

Constellation Energy - Material References - PMP-32-187 - Microsoft Internet Explorer

New Reference | Close

Doc Number	Rev	Sheet	Title
▶ C7294-233	00		ASSEMBLY DETAIL FOR CONVEX CONCAVE SEAL LAPPING
▶ N1B58000PUMP001	0		Byron Jackson Pump Installation and Operation Instruction
▶ LFSAR Table V-1	17		Reactor Coolant System Data

Done

Start Sent It... Micros... conve... 2 Mic... 2 Int... 8:49 AM

E. Taormina

Constellation Energy - Aging Effects Requiring Management - PMP-32-187

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<input type="checkbox"/> FE-32-161	CRK SCC	✓	RR	E	DMITR	WASS	TWH
<input type="checkbox"/> FE-32-174	CRK FAT	✓	RR	E	DMITR	WASS	TWH
<input type="checkbox"/> FE-32-174	CRK SCC	✓	RR	E	DMITR	WASS	TWH
<input type="checkbox"/> PMP-32-187	CRK FAT	✓	RR	PMP	PUMP	CASS	TWH
<input type="checkbox"/> PMP-32-187	CRK SCC	✓	RR	PMP	PUMP	CASS	TWH
<input type="checkbox"/> PMP-32-187	LOFT TE	✓	RR	PMP	PUMP	CASS	TWH
<input type="checkbox"/> PMP-32-188	CRK FAT	✓	RR	PMP	PUMP	CASS	TWH
<input type="checkbox"/> PMP-32-188	CRK SCC	✓	RR	PMP	PUMP	CASS	TWH
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<input type="checkbox"/> PMP-32-191							
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<input type="checkbox"/> PMP-Seal Flan							
<input type="checkbox"/> PMP-Seal Flan							
<input type="checkbox"/> RR-BOLT-CS							
<input type="checkbox"/> RR-BOLT-CS							
<input type="checkbox"/> RR-PIPE01-SS							
<input type="checkbox"/> RR-PIPE01-SS							
<input type="checkbox"/> RR-PIPE02-SS							
<input type="checkbox"/> RR-PIPE02-SS							
<input type="checkbox"/> RR-PMP-Bolt							
<input type="checkbox"/> RR-PMP-Bolt							

Constellation Energy - Aging Effects Requiring Management - PMP-32-187

CONRAD Aging Effects Requiring Management - PMP-32-187

Close

AERM	Mechanism	Program	Activity #	ARC	Justification
CRK	FAT	XM1	N-FMP-01	✓	This activity manages the effects of fat
CRK	SCC	XM2	N1-CSP-D100		This procedure mitigates SCC per EPRI TR
CRK	SCC	XM7	NMP1-ISI-003		This activity provides ISI inspections t

Justification: This activity provides ISI inspections that manage the AERM.

Description: This document details the basis and plans for the third ten-year ISI inspection interval for components, welds, supports, bolting, pump casings, valve bodies, and reactor pressure vessel internals for NMP1. The document describes the basis for each of the inspections that are performed in the ISI program, including the basis for any exemptions that have been granted. Section 2 of the document describes the basis for Class 1 SCs. Similarly, Sections 3 and 4 cover Class 2 and 3 SCs. Augmented inspections that are performed under the auspices of the ISI program are described in Section 6 of this document. Each of the Sections of this document provides an examination-by-examination description of the scope of the examination and any exemptions that have been granted or relief requests that may be pending.

ARC: ☐

Updated On: 4/8/2003 2:40:05 PM

Updated By: spetras

AERM	Mechanism	Program	Activity #	ARC	Justification
LOFT	TE	XM1	NMP1-ISI-003		This activity directs ISI inspections th

Internet

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9:22 AM



Constellation Renewal Application Database (CONRAD)

Nine Mile Point Unit 1

Shopping & Scheduling Aging Management LRA Input Resources Administration

Components for Gall Row # IV.C1.2 b

Search | Return to Gall Report Comparison

SC: Recirculation pump
 Material: Cast austenitic stainless steel
 Environment: 288°C (550°F) reactor coolant water
 AEMech: Crack Initiation and growth / Stress corrosion cracking, intergranular stress corrosion cracking
 AMP: Chapter XI.M7, "BWR Stress Corrosion Cracking" and Chapter XI.M2, "Water Chemistry," for BWR water in BWRVP-29 (EPRI TR-103515)
 GCA: A
 GCA Comments: Programs take exceptions.
 Edit GCA

Asset	Category	Type	Mat.	Env.	AERM	GALL Item	LRAN
PMP-32-187	PUMP	PMP	CASS	TWH	CRKISCC	IV.C1.2.1	B
Edit Component		Description:	11 REACTOR RECIRCULATION PUMP, N001A		AERM:	Crack Initiation and Growth	
AERM		Comment:	This includes the casing and cover.		Mechanism:	Stress Corrosion Cracking (SCC)	
		System:	RR		AMPs:	XI.M2 Water Chemistry Program	
		Material Spec:	A-351, Grade CF8M			XI.M7 BWR Stress Corrosion Cracking	
		Material Category:	Cast Austenitic Stainless Steel				
		Environment Title:	Treated Water or Steam, Temperature Greater Than Or Equal To 482 deg F (TWH)				
PMP-32-188	PUMP	PMP	CASS	TWH	CRKISCC	IV.C1.2.1	B
PMP-32-189	PUMP	PMP	CASS	TWH	CRKISCC	IV.C1.2.1	B
PMP-32-190	PUMP	PMP	CASS	TWH	CRKISCC	IV.C1.2.1	B
PMP-32-191	PUMP	PMP	CASS	TWH	CRKISCC	IV.C1.2.1	B


Page 1 of 1

1

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 Constellation Nuclear Services

Constellation Renewal Application Database (CONRAD)

Nine Mile Point Unit 1

Scoping Screening Aging Management LRA Input Resources Administration

Component Information for LRA Table Index 1.29

[Filter](#) | [Search](#) | [Return to LRA Table Roll-Up](#)

Applied Filters:

Component: Nozzle safe ends, recirculation pump casing, connected systems piping and fittings, body and bonnet of valves

AERM/Mechanism: Crack Initiation and growth due to SCC and/or IGSCC

AMPs: BWR stress corrosion cracking; water chemistry

Further Eval?: No

Discussion: Consistent with NUREG-1801 with exceptions (see Appendix B2.1.6 and B2.1.2). Additionally, the following components are consistent with, but not addressed in, NUREG 1801: Emergency Condenser, Steam nozzle safe ends, Flow elements, Instrumentation penetrations. NMP1 credits the One-Time Inspection Program (Appendix B2.1.23) in lieu of the BWR SCC program for valves in the NMP1 Control Rod Drive System and Main Steam System (see Table 3.4.2.A.4). Additionally, NMP1 credits the ISI Program (Appendix B2.1.1) in lieu of the BWR Stress Corrosion Cracking (SCC) Program for: Piping in the NMP1 Emergency Cooling System (see Table 3.2.2.A.3), Valves in the Reactor Recirculation System, Reactor Water Cleanup System (see Table 3.2.2.A.17), and the Shutdown Cooling System (see Table 3.2.2.A.20). These components are currently part of the ISI program. As noted in Appendix B2.1.6, the BWR SCC program credits activities performed under the direction of the ISI Program. Thus, the ISI program is adequate for managing the aging effects for these components.

[Edit Discussion](#)

Asset	Category	Type	Mat	Env	AERM	QALL Row	LRAN
PMP-32-187	PUMP	PMP	CASS	TWH	CRK/SCC	IV.C1.2-b	B
Edit Item	Description:	11 REACTOR RECIRCULATION PUMP, N001A			AERM:	Crack Initiation and Growth	
	Comment:	This includes the casing and cover.			Mechanism:	Stress Corrosion Cracking (SCC)	
	System:	RR			AMPs:	XLM2 Water Chemistry Program	
	Material Spec:	A-351, Grade CF8M				XLM7 BWR Stress Corrosion Cracking	
	Material Category:	Cast Austenitic Stainless Steel					
	Environment Title:	Treated Water or Steam, Temperature Greater Than Or Equal To 482 deg F (TWH)					
PMP-32-188	PUMP	PMP	CASS	TWH	CRK/SCC	IV.C1.2-b	B
PMP-32-189	PUMP	PMP	CASS	TWH	CRK/SCC	IV.C1.2-b	B

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E. Taormina

GALL Consistency Methodology

- After an AMR was completed for a system it was compared with the tables in Volume 2 of NUREG-1801, GALL Report, for input to the LRA.
- This comparison is documented by entries in the "NUREG-1801 Volume 2 Item" and "Notes" columns of the Table 2s of Section 3 of the LRA.
- The LRA Note Matrix (see following slide) was used to conduct the comparison with GALL

GALL Consistency Methodology (cont'd)

	Assign GALL Row					Do Not Assign GALL Row									
▼Criteria LRAN►	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
Structure/Component			X	X					X					X	X
Material						X			X **	X		X	X		
Environment							X			X	X		X		
AERM								X	†		X	X	X	X	
Program(s)		*		*	X	Program Information Irrelevant									

X Indicates non-matching criteria in GALL.

* Program(s) takes some exceptions to GALL.

** The Material/Environment combination is not addressed in GALL.

† AERM information is irrelevant.

GALL Consistency Methodology (cont'd)

LRA Note Meaning

- A. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- B. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- C. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- D. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- E. Consistent with NUREG-1801 for material, environment, and aging effect, but a different aging management program is credited.
- F. Material not in NUREG-1801 for this component.

GALL Consistency Methodology (cont'd)

- G. Environment not in NUREG-1801 for this component and material.
- H. Aging effect not in NUREG-1801 for this component, material, and environment combination.
- I. Aging effect in NUREG-1801 for this component, material and environment combination is not applicable.
- J. Neither the component nor the material and environment combination is evaluated in NUREG-1801.
- K. Material and environment not in NUREG-1801 for this component and aging effect.
- L. Aging effect and environment not in NUREG-1801 for this component and material.
- M. Aging effect and material not in NUREG-1801 for this component and environment.

GALL Consistency Methodology (cont'd)

- N. Aging effect, material, and environment not in NUREG-1801 for this component.
- P. Component and aging effect not in NUREG-1801 for this material and environment.
- Q. Component not in NUREG-1801 for this material, environment, and aging effect.

(Note "O" was not used to avoid confusion with the number zero)

GALL Consistency Methodology (cont'd)

- If a matching GALL Row was found for specific component results, then a GALL Row entry was made in the "NUREG-1801 Volume 2 Item" column, and an entry of A through E as appropriate was made in the "Notes" column.
- If no matching GALL Row was found for specific component results, then no entry was made in the "NUREG-1801 Volume 2 Item" column, and an entry of F through Q as appropriate was made in the "Notes" column.
- GALL consistency results are reflected in the ConRAD database

Constellation Energy - Assign GALL Row Number - Microsoft Internet Explorer provided by Constellation Energy Group

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Nine Mile Point Unit 1

Assign GALL Row Number

Filters

Applied Filters:
Gall Item #: IV.C1.2.1
System: RR

☒ Gall Row: IV.C1.2-b View all Gall Rows

☒ LRA Note: B

SC: Recirculation pump
Material: Cast austenitic stainless steel
Environment: 288°C (550°F) reactor coolant water
AEMech: Crack initiation and growth / Stress corrosion cracking, intergranular stress corrosion cracking
AMP: Chapter XI.M7, "BWR Stress Corrosion Cracking" and Chapter XI.M2, "Water Chemistry," for BWR water in BWRVP-29 (EPRI TR-103515)

Update

<input checked="" type="checkbox"/> Component	AERM	GALL Row#	LRAN	Category	Type	Material	Environment
<input checked="" type="checkbox"/> PMP-32-187	CRK SCC	IV.C1.2-b	B	PUMP	PMP	CASS	TWH
<input checked="" type="checkbox"/> PMP-32-188	CRK SCC	IV.C1.2-b	B	PUMP	PMP	CASS	TWH
<input checked="" type="checkbox"/> PMP-32-189	CRK SCC	IV.C1.2-b	B	PUMP	PMP	CASS	TWH
<input checked="" type="checkbox"/> PMP-32-190	CRK						
<input checked="" type="checkbox"/> PMP-32-191	CRK						

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Constellation Energy - Microsoft Internet Explorer provided by Constellation Energy Group

Description: 11 REACTOR RECIRCULATION PUMP NG01A
Comment: This includes the casing and cover.
System: RR
Material Spec: A-351, Grade CF8M
Material Category: Cast Austenitic Stainless Steel
Environment Title: Treated Water or Steam, Temperature Greater Than Or Equal To 482 deg F (TWH)

AERM: Crack Initiation and Growth
Mechanism: Stress Corrosion Cracking (SCC)
AMPs: XI.M2 Water Chemistry Program
XI.M7 BWR Stress Corrosion Cracking

http://conrad.nuclearservicesinc.com/conrad_nmp/asp/assign_gall_row_frame.asp?Viewall=1

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Nine Mile Point Unit 1 - Microsoft Internet Explorer provided by Constellation Energy Group

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Component Results

AMR Results for Systems RR, REACTOR RECIRCULATION, Plant System

CompID	Category	Intended Functions	Mat.	Env.	AERM	Mech.	CALL Row #	Index #	AMP#	LRAN
CX-32-513	PIPE	Pressure Boundary	WASS	TWH	CRK	SCC	IV.C1.1-f	31.1-29	X1M2	B
RR-PIPE01-55	PIPE	Pressure Boundary	WASS	TWH	CRK	SCC	IV.C1.1-f	31.1-29	X1M2	B
RR-PIPE02-55	PIPE	Pressure Boundary	WASS	TWH	CRK	SCC	IV.C1.1-i	31.1-07	X1M2	B
RR-PIPE02-55	PIPE	Pressure Boundary	WASS	TWH	CRK	SCC	IV.C1.1-i	31.1-07	X1M32	B
CX-32-513	PIPE	Pressure Boundary	WASS	TWH	CRK	SCC	IV.C1.1-f	31.1-29	X1M7	B
RR-PIPE01-55	PIPE	Pressure Boundary	WASS	TWH	CRK	SCC	IV.C1.1-f	31.1-29	X1M7	B
PMP-32-187	PUMP	Pressure Boundary	CASS	TWH	CRK	FAT	IV.C1.2-a	31.1-01	X.M1	A
PMP-32-188	PUMP	Pressure Boundary	CASS	TWH	CRK	FAT	IV.C1.2-a	31.1-01	X.M1	A
PMP-32-189	PUMP	Pressure Boundary	CASS	TWH	CRK	FAT	IV.C1.2-a	31.1-01	X.M1	A
PMP-32-190	PUMP	Pressure Boundary	CASS	TWH	CRK	FAT	IV.C1.2-a	31.1-01	X.M1	A
PMP-32-191	PUMP	Pressure Boundary	CASS	TWH	CRK	FAT	IV.C1.2-a	31.1-01	X.M1	A
PMP-32-187	PUMP	Pressure Boundary	CASS	TWH	CRK	SCC	IV.C1.2-b	31.1-29	X1M2	B
PMP-32-188	PUMP	Pressure Boundary	CASS	TWH	CRK	SCC	IV.C1.2-b	31.1-29	X1M2	B
PMP-32-189	PUMP	Pressure Boundary	CASS	TWH	CRK	SCC	IV.C1.2-b	31.1-29	X1M2	B
PMP-32-190	PUMP	Pressure Boundary	CASS	TWH	CRK	SCC	IV.C1.2-b	31.1-29	X1M2	B
PMP-32-191	PUMP	Pressure Boundary	CASS	TWH	CRK	SCC	IV.C1.2-b	31.1-29	X1M2	B
PMP-32-187	PUMP	Pressure Boundary	CASS	TWH	CRK	SCC	IV.C1.2-b	31.1-29	X1M7	B
PMP-32-188	PUMP	Pressure Boundary	CASS	TWH	CRK	SCC	IV.C1.2-b	31.1-29	X1M7	B
PMP-32-189	PUMP	Pressure Boundary	CASS	TWH	CRK	SCC	IV.C1.2-b	31.1-29	X1M7	B
PMP-32-190	PUMP	Pressure Boundary	CASS	TWH	CRK	SCC	IV.C1.2-b	31.1-29	X1M7	B
PMP-32-191	PUMP	Pressure Boundary	CASS	TWH	CRK	SCC	IV.C1.2-b	31.1-29	X1M7	B
PMP-32-187	PUMP	Pressure Boundary	CASS	TWH	LOFT	TE	IV.C1.2-c	31.1-23	X1M1	B
PMP-32-188	PUMP	Pressure Boundary	CASS	TWH	LOFT	TE	IV.C1.2-c	31.1-23	X1M1	B

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LRA Section 3 Contents

- Descriptions of the internal and external service environments are included in Table 3.0-1.
- Descriptions of the Aging Effects Requiring Management are included in Table 3.0-2.
- Separate "Table 1s" for NMP1 and NMP2 (e.g., Table 3.1.1.A for NMP1 Reactor Coolant Systems and Table 3.1.1.B for NMP2 Reactor Coolant Systems).
- Each system subject to an AMR has its own "Table 2" which is the SLRA nine-column format.

LRA Section 3 Contents (cont'd)

- GALL "Further Evaluation Recommended" is evaluated in the "Discussion" column of the Table 1s.
- Notes with letters "A" through "J" are standard industry notes. Notes with the letters "K" through "Q" provide further information for comparison with NUREG-1801, Volume 2 for situations not specifically addressed by the standard industry notes. Numerical notes contain NMPNS specific information.
- These notes and their definitions are provided at the end of the Table 2's.

LRA Section 4 Contents

- Section 4.1, Identification of Time Limited Aging Analyses
- Section 4.2, Reactor Vessel Neutron Embrittlement
- Section 4.3, Metal Fatigue Analysis
- Section 4.4, Environmental Qualification (EQ) of Electrical Equipment
- Section 4.5, Loss of Prestress in Concrete Containment Tendons - N/A
- Section 4.6, Containment Liner Plate, Metal Containment and Penetrations Fatigue Analysis
- Section 4.7, Other Plant Specific TLAAAs

LRA Section 4 Contents (cont'd)

- Section 4.2, Reactor Vessel Neutron Embrittlement
 - Upper Shelf Energy
 - Pressure-Temperature (P-T) Limits
 - Elimination of Circumferential Weld Inspection (NMP1 only)
 - Reactor Vessel Axial Weld Failure Probability

LRA Section 4 Contents (cont'd)

- Section 4.3, Metal Fatigue Analysis
 - Reactor Vessel Fatigue Analysis
 - ASME Section III Class 1 Piping and Components Fatigue Analysis (NMP2 only)
 - Feedwater (FWS) Nozzle and Control Rod Drive Return Line (CRDRL) Nozzle Fatigue and Cracking Analyses
 - Non-ASME Section III Class 1 Piping and Components
 - Reactor Vessel Internals Fatigue Analysis
 - Environmentally Assisted Fatigue
 - Fatigue of the Emergency Condenser (NMP1 only)

LRA Section 4 Contents (cont'd)

- Section 4.4, Environmental Qualification (EQ) of Electrical Equipment
 - Electrical Equipment EQ Analysis
 - Mechanical Environmental Equipment Qualification (NMP2 only)

LRA Section 4 Contents (cont'd)

- Section 4.6, Containment Liner Plate, Metal Containment and Penetrations Fatigue Analysis
 - NMP1 Torus Shell and Vent System Fatigue
 - NMP1 Torus Attached Piping Analysis
 - NMP1 Torus Thickness
 - NMP2 Containment Liner Analysis
- Section 4.7, Other Plant Specific TLAAs
 - NMP2 RPV Biological Shield Wall
 - NMP2 Main Steam Isolation Valve Corrosion Allowance
 - NMP2 Stress Relaxation of Core Plate Hold Down Bolts
 - NMP1 Reactor Vessel and Reactor Vessel Closure Head Weld Flaw Evaluations

LRA Section 4 Contents (cont'd)

- TLAA commitments
 - Elimination of Circumferential Weld Inspection (U1 only)
 - Reapply for relief from regulatory inspection requirement
 - Reactor Vessel Axial Weld Failure Probability
 - Formalize analyses to confirm failure probabilities remain bounded
 - Metal Fatigue Analysis
 - Implement FatiguePro software to monitor/evaluate fatigue
 - Reactor Vessel Fatigue Analysis
 - Develop baseline CUFs for critical RPV locations

LRA Section 4 Contents (cont'd)

- TLAA commitments (cont'd)
 - Class 1 Piping and Component Fatigue Analysis (U2 only)
 - Develop baseline CUFs for bounding locations
 - Non-Class 1 Piping and Components Fatigue Analysis (U1 only)
 - Develop baseline CUFs for specified portion of four systems
 - Reactor Vessel Internals Fatigue Analysis
 - Formalize analyses for CUFs to encompass period of extended operation
 - Fatigue of Emergency Condenser (U1 only)
 - Develop baseline CUFs for specified locations

LRA Section 4 Contents (cont'd)

- TLAA commitments (cont'd)
 - Containment Liner Analysis (U2 only)
 - Formalize CUF analyses to include subcomponent and period of extended operation
 - Stress Relaxation of Core Plate Hold Down Bolts (U2 only)
 - Install wedges or revise analysis for core plate hold down bolts
 - Reactor Vessel and Closure Head Weld Flaw Evaluations
 - Formalize analyses to include period of extended operation

Appendix A Contents

- Appendix A1, NMP1 Updated Final Safety Analysis Report (UFSAR) Supplement
- Appendix A2, NMP2 Updated Safety Analysis Report (USAR) Supplement
- Both Appendices contain:
 - A summarized description of the programs and activities for managing the effects of aging
 - A summary of the TLAAs

Appendix B Contents

- Provides a list of AMPs alphabetically identifying whether the program is a new or existing program.
- Includes a table comparing the NMP AMPs to the corresponding GALL program.
- The information in this appendix applies to both NMP1 and NMP2, unless otherwise specified.
- Consistent with the SLRA format, 10 attribute discussion is only provided for plant specific programs.

Appendix B Contents (cont'd)

- Total of 38 programs
 - 31 existing
 - 3 plant specific programs
 - 7 new
 - 2 plant specific programs

Appendix B Contents (cont'd)

- 10 CFR 50 Appendix J Program (Existing)
- ASME Section XI Inservice Inspection (Subsection IWE) Program (Existing)
- ASME Section XI Inservice Inspection (Subsection IWF) Program (Existing)
- ASME Section XI Inservice Inspection (Subsection IWL) Program (NMP2 only) (Existing)
- ASME Section XI Inservice Inspection (Subsections IWB, IWC, IWD) Program (Existing)
- Boraflex Monitoring Program (Existing)
- Buried Piping and Tanks Inspection Program (New)
- BWR Feedwater Nozzle Program (Existing)
- BWR Penetrations Program (Existing)

Appendix B Contents (cont'd)

- BWR Reactor Water Cleanup System Program (Existing)
- BWR Stress Corrosion Cracking Program (Existing)
- BWR Vessel ID Attachment Welds Program (Existing)
- BWR Vessel Internals Program (Existing)
- Closed Cycle Cooling Water System Program (Existing)
- Compressed Air Monitoring Program (Existing)
- Environmental Qualification Program (Existing)
- Fatigue Monitoring Program (Existing)
- Fire Protection Program (Existing)
- Fire Water System Program (Existing)
- Flow Accelerated Corrosion Program (Existing)
- Fuel Oil Chemistry Program (Existing)

Appendix B Contents (cont'd)

- Fuse Holder Inspection Program (New, plant specific)
- Inspection of Overhead Heavy Load and Light Load Handling Systems Program (Existing)
- Masonry Wall Program (Existing)
- Non-EQ Electrical Cables and Connections Program (New)
- Non-EQ Electrical Cables Used in Instrumentation Circuits Program (Existing)
- Non-EQ Inaccessible Medium Voltage Cables Program (New)
- Non-Segregated Bus Inspection Program (New, plant specific)
- One-Time Inspection Program (New)
- Open-Cycle Cooling Water System Program (Existing)
- Preventive Maintenance Program (Existing, plant specific)

Appendix B Contents (cont'd)

- Reactor Head Closure Studs Program (Existing)
- Reactor Vessel Surveillance Program (Existing)
- Selective Leaching of Materials Program (New)
- Structures Monitoring Program (Existing)
- Systems Walkdown Program (Existing, plant specific)
- Torus Corrosion Monitoring Program (NMP1 only) (Existing, plant specific)
- Water Chemistry Control Program (Existing)

Appendix B Contents (cont'd)

Programs not consistent with the GALL	
Program	Inconsistency
ASME Section XI IWB/IWC/IWD	1989 Edition vs. 1995 Edition
Water Chemistry	EPRI Doc. Rev 1 & 2 vs. Rev 0
Rx Head Closure Studs	1989 Edition vs. 1995 Edition
BWR Feedwater Nozzle	1989 Edition vs. 1995 Edition
BWR Stress Corrosion Cracking	1989 Edition vs. 1995 Edition
Closed Cycle Cooling Water System	No corrosion inhibitor used in CLC

Appendix B Contents (cont'd)

Programs not consistent with the GALL	
Program	Inconsistency
Boraflex Monitoring	Testing of SFP racks not performed
BWR Reactor Water Cleanup System	1989 Edition vs. 1995 Edition
Reactor Vessel Surveillance	BWRVIP LR report doesn't store test specimens
ASME Section XI IWE	1989 Edition vs. 1992 & 1995 Editions
ASME Section XI IWL	1989 Edition vs. 1992 & 1995 Editions
ASME Section XI IWF	1989 Edition vs. 1989 with addenda & 1995 Editions

Appendix B Contents (cont'd)

Programs not consistent with the GALL	
Program	Inconsistency
Non-Segregated Bus Inspection (SRP)	Analytical trending is not included
Fuse Holder Inspection (SRP)	Analytical trending is not included

Appendix B Contents (cont'd)

Enhancements are being committed to the following programs to ensure the applicable aging effects are managed:

- Closed Cycle Cooling Water System (CCCWS) Program
- Inspection of Overhead Heavy Load and Light Load Handling Systems Program
- Compressed Air Monitoring Program
- Fire Water System Program
- Fuel Oil Chemistry Program
- Reactor Vessel Surveillance Program
- Structures Monitoring Program

Appendix B Contents (cont'd)

Enhancements (cont'd)

- Non EQ Electrical Cables Used in Instrumentation Circuits Program
- Preventive Maintenance Program
- Systems Walkdown Program
- Fatigue Monitoring Program

Appendix D Contents

- No new Technical Specifications (Tech. Specs.) are required.
- Tech. Spec. changes will be needed for the Pressure-Temperature (P-T) curves and NMP1 Tech. Spec. 5.3, Reactor Vessel (design lifetime of 40 years).
- These changes to the Tech. Specs. will be submitted under the normal license amendment process.

Appendix E Contents

- NRC Generic Environmental Impact Statement addresses 92 environmental issues.
- 69 Category 1 issues addressed generically (56 applicable to NMPNS).
- 21 Category 2 issues plant specific (16 applicable to NMPNS).
- 2 issues categorized NA [chronic effects from electromagnetic fields and environmental justice (EJ)].
- EJ information to facilitate NRC's analysis provided.
- No new and significant information identified.
- No major refurbishment identified.
- 16 Category 2 issues (4 related to refurbishment) – small impact.

Appendix E Contents (cont'd)

- Outside agency contacts have been initiated.
- 223 candidate Severe Accident Management Alternatives (SAMA) were considered for each unit.
- 13 plant-specific SAMAs evaluated for Unit 1
- 20 plant-specific SAMAs evaluated for Unit 2
- No cost-beneficial SAMAs related to aging identified
- For NMP1, the following SAMAs are potentially cost beneficial, and NMPNS will continue to evaluate as voluntary enhancements:
 - SAMA 209 – Improve Procedure SOP-14 and Provide Training
 - SAMA 210 – Protect Critical Fire Targets
 - SAMA 215 – Add a Portable Battery Charger

Appendix E Contents (cont'd)

- For NMP2, the following SAMAs are potentially cost beneficial, and NMPNS will continue to evaluate as voluntary enhancements :
 - SAMA 23a – Provide Redundant Ventilation for Residual Heat Removal
 - SAMA 23b – Provide Redundant Ventilation for HPCS Pump Room
 - SAMA 23c – Provide Redundant Ventilation for RCIC Pump Room
 - SAMA 213 – Enhance Loss of Service Water procedure
 - SAMA 214 – Enhance Station Blackout procedures
 - SAMA 215 – Use of a Portable Battery Charger

Appendix E Contents (cont'd)

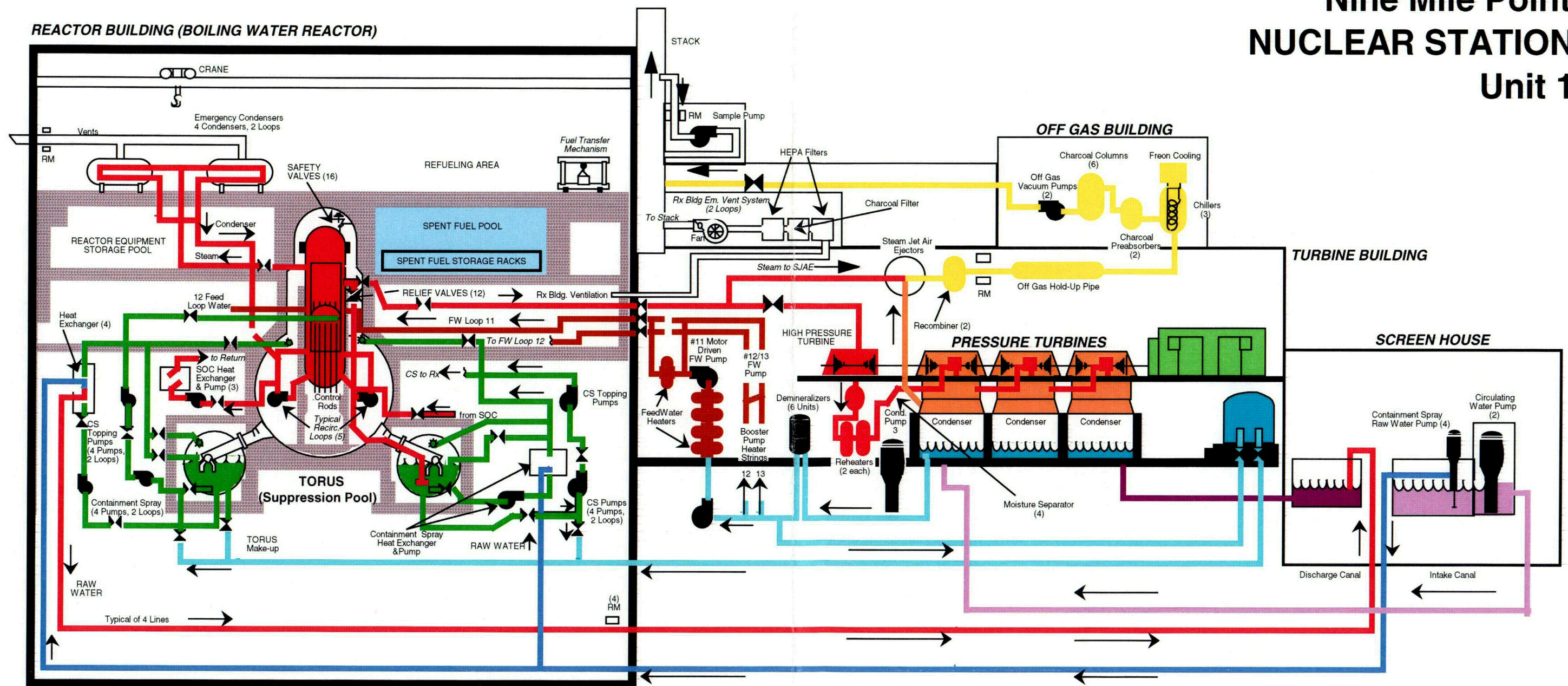
■ NMP2 SAMAs (cont'd) :

- SAMA 216 – Hard Pipe Diesel Fire Pump to the Reactor Pressure Vessel
- SAMA 221a – Reduce Unit Cooler Contribution to Emergency Diesel Generator (EDG) Unavailability – increase testing frequency
- SAMA 221b – Reduce Unit Cooler Contribution to EDG Unavailability – provide redundant means of cooling
- SAMA 222 – Improve Procedure for Loss of Instrument Air



Questions and Answers

Nine Mile Point NUCLEAR STATION Unit 1



Nine Mile Point Nuclear Station UNIT 2

