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JOSEPH A. WIDAY
VICE PRESIDENT & PLANT MANAGER
GINNA STATION

March 6, 2002

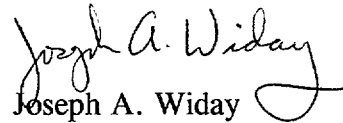
U.S. Nuclear Regulatory Commission
Document Control Desk
Attn: Robert Clark
Project Directorate I
Washington, D.C. 20555

Subject: Emergency Operating Procedures
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Clark:

As requested, enclosed are Ginna Station Emergency Operating Procedures.

Very truly yours,


Joseph A. Widay

JAW/jdw

xc: U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Ginna USNRC Senior Resident Inspector

Enclosure(s):

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ATT-2.2, Rev 8	ATT-8.4, Rev 5	Delete ATT-14.4	
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REPORT NO. 01
REPORT: NPSP0200
DOC TYPE: PRATT

GINNA NUCLEAR POWER PLANT
PROCEDURES INDEX
EOP ATTACHMENTS

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PARAMETERS: DOC TYPES - PRATT

STATUS: EF QU 5 YEARS ONLY:

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
ATT-1.0	ATTACHMENT AT POWER CCW ALIGNMENT	001	07/26/94	02/10/98	02/10/03	EF
ATT-1.1	ATTACHMENT NORMAL CCW FLOW	000	05/18/00	05/18/00	05/18/05	EF
ATT-2.1	ATTACHMENT MIN SW	005	02/01/01	02/10/98	02/10/03	EF
ATT-2.2	ATTACHMENT SW ISOLATION	008	03/06/02	08/11/98	08/11/03	EF
ATT-2.3	ATTACHMENT SW LOADS IN CNMT	004	03/06/02	12/31/99	12/31/04	EF
ATT-2.4	ATTACHMENT NO SW PUMPS	001	01/08/02	10/31/01	10/31/06	EF
ATT-3.0	ATTACHMENT CI/CVI	006	03/06/02	01/06/99	01/06/04	EF
ATT-3.1	ATTACHMENT CNMT CLOSURE	004	03/06/02	01/25/99	01/25/04	EF
ATT-4.0	ATTACHMENT CNMT RECIRC FANS	003	07/26/94	05/13/98	05/13/03	EF
ATT-5.0	ATTACHMENT COND TO S/G	005	03/06/02	12/31/99	12/31/04	EF
ATT-5.1	ATTACHMENT SAFW	007	09/20/01	12/31/99	12/31/04	EF
ATT-5.2	ATTACHMENT FIRE WATER COOLING TO TDAFW PUMP	003	01/14/99	01/14/99	01/14/04	EF
ATT-6.0	ATTACHMENT COND VACUUM	003	12/18/96	02/10/98	02/10/03	EF
ATT-7.0	ATTACHMENT CR EVAC	006	03/06/02	02/10/98	02/10/03	EF
ATT-8.0	ATTACHMENT DC LOADS	006	03/22/99	01/14/99	01/14/04	EF
ATT-8.1	ATTACHMENT D/G STOP	005	03/06/02	02/10/98	02/10/03	EF
ATT-8.2	ATTACHMENT GEN DEGAS	007	03/06/02	08/17/99	08/17/04	EF
ATT-8.3	ATTACHMENT NONVITAL	004	03/06/02	02/10/98	02/10/03	EF
ATT-8.4	ATTACHMENT SI/UV	005	03/06/02	02/10/98	02/10/03	EF
ATT-9.0	ATTACHMENT LETDOWN	008	03/06/02	01/06/99	01/06/04	EF
ATT-9.1	ATTACHMENT EXCESS L/D	005	03/06/02	10/31/01	10/31/06	EF
ATT-10.0	ATTACHMENT FAULTED S/G	006	03/06/02	05/13/98	05/13/03	EF
ATT-11.0	ATTACHMENT IA CONCERNS	002	04/07/97	08/11/98	08/11/03	EF
ATT-11.1	ATTACHMENT IA SUPPLY	003	03/06/02	08/11/98	08/11/03	EF

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REPORT NO. 01
REPORT: NPSF0200
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GINNA NUCLEAR POWER PLANT
PROCEDURES INDEX
EOP ATTACHMENTS

03/06/02 PAGE: 2

PARAMETERS: DOC TYPES - PRATT

STATUS: EF QU 5 YEARS ONLY:

PROCEDURE NUMBER	PROCEDURE TITLE	REV	EFFECT DATE	LAST REVIEW	NEXT REVIEW	ST
ATT-11.2	ATTACHMENT DIESEL AIR COMPRESSOR	002	05/11/01	04/03/98	04/03/03	EF
ATT-12.0	ATTACHMENT N2 PORVS	004	03/06/02	02/10/98	02/10/03	EF
ATT-13.0	ATTACHMENT NC	002	07/26/94	02/10/98	02/10/03	EF
ATT-14.0	ATTACHMENT NORMAL RHR COOLING	003	03/06/02	09/23/99	09/23/04	EF
ATT-14.1	ATTACHMENT RHR COOL	005	01/08/02	01/08/02	01/08/07	EF
ATT-14.2	ATTACHMENT RHR ISOL	002	03/06/02	02/10/98	02/10/03	EF
ATT-14.3	ATTACHMENT RHR NPSH	003	03/06/02	01/06/99	01/06/04	EF
ATT-14.5	ATTACHMENT RHR SYSTEM	002	07/26/94	02/10/98	02/10/03	EF
ATT-14.6	ATTACHMENT RHR PRESS REDUCTION	002	03/06/02	01/14/99	01/14/04	EF
ATT-15.0	ATTACHMENT RCP START	009	03/06/02	03/17/00	03/17/05	EF
ATT-15.1	ATTACHMENT RCP DIAGNOSTICS	003	04/24/97	02/10/98	02/10/03	EF
ATT-15.2	ATTACHMENT SEAL COOLING	005	03/06/02	02/10/98	02/10/03	EF
ATT-16.0	ATTACHMENT RUPTURED S/G	011	07/18/01	01/11/00	01/11/05	EF
ATT-16.1	ATTACHMENT SGT L	002	03/06/02	09/08/00	09/08/05	EF
ATT-16.2	ATTACHMENT RCS BORON FOR SGT L	001	10/13/00	09/08/00	09/08/05	EF
ATT-17.0	ATTACHMENT SD-1	012	03/06/02	02/29/00	02/28/05	EF
ATT-17.1	ATTACHMENT SD-2	006	03/06/02	01/30/01	01/30/06	EF
ATT-18.0	ATTACHMENT SFP - RWST	005	03/06/02	02/10/98	02/10/03	EF
ATT-20.0	ATTACHMENT VENT TIME	003	07/26/94	02/10/98	02/10/03	EF
ATT-21.0	ATTACHMENT RCS ISOLATION	002	03/06/02	02/10/98	02/10/03	EF
ATT-22.0	ATTACHMENT RESTORING FEED FLOW	002	09/20/01	01/22/02	01/22/07	EF
ATT-23.0	ATTACHMENT TRANSFER 4160V LOADS	000	02/26/99	02/26/99	02/26/04	EF
ATT-24.0	ATTACHMENT TRANSFER BATTERY TO TSC	000	09/08/00	09/08/00	09/08/05	EF
ATT-26.0	ATTACHMENT RETURN TO NORMAL OPERATIONS	000	10/31/01	10/31/01	10/31/06	EF

TOTAL FOR PRATT

48

EOP: ATT-2.2	TITLE: ATTACHMENT SW ISOLATION	REV: 8 PAGE 1 of 3
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Responsible Manager Belinda Date 3-6-2002

A) Cooling loads supplied by each pair of SW isolation valves:

NOTE: SW isolation Butterfly valves indicated by an asterisk.

TURBINE BLDG SW ISOL VLVS (MOV-4613*/MOV-4670) Loop A
non-safety related loads:

- o Instrument air compressors A and C
- o Main feed pump A
- o Exciter cooler
- o Bus duct coolers (both)
- o Seal oil unit air side and H2 side coolers
- o Turbine oil cooler B
- o All 3 condensate pumps
- o Secondary sample coolers
- o Battery room air conditioners
- o Relay room air conditioners
- o Administrative computer room HVAC

TURBINE BLDG SW ISOL VLVS (MOV-4614*/MOV-4664) Loop B
non-safety related loads:

- o Main feed pump B
- o Both heater drain pumps
- o Both EH oil coolers
- o Turbine oil cooler A
- o Instrument air compressor B
- o Vacuum priming pumps
- o Fire water booster pump

AUX BLDG SW ISOL VLVS (MOV-4616/MOV-4735*) Loop A:

- o CCW Hx A
- o SFP Hx A
- o SAFW Pump C

AUX BLDG SW ISOL VLVS (MOV-4615/MOV-4734*) Loop B:

- o CCW Hx B
- o SFP Hx B
- o SAFW Pump D

SCREENHOUSE SW ISOL VLVS (MOV-4609*/MOV-4780*) from Loop A:

- o Travelling Screens
- o CIRC Water pumps

EOP: ATT-2.2	TITLE: ATTACHMENT SW ISOLATION	REV: 8 PAGE 2 of 3
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AIR CONDITIONING SW ISOL VLVS (MOV-4663/MOV-4733*):

- o Air Conditioning Chillers

CAUTION

BEFORE ISOLATING EITHER UNDERGROUND SW HEADER, SW SYSTEM
CONFIGURATION AND COOLING REQUIREMENTS SHOULD BE EVALUATED.

B) Isolation requirements for underground SW headers from screenhouse:

- o SW header A
 - o Stop SW pumps A and B
 - o Close the following valves:
 - V-4623 SW A/B loop crosstie isol to spoolpiece (INT BLDG cleanside inside cable tunnel door)
 - V-4739 To safeguards pumps and cooling units (AUX BLDG INTER, SW HDR AREA)
 - V-4612 Screenhouse header crosstie (Screenhouse BSMT)
 - V-4665 D/G A SW supply (D/G B room)
 - MOV-4616 and MOV-4735 AUX BLDG isolation valves
- o SW header B
 - o Stop SW pumps C and D
 - o Close the following valves:
 - V-4640 SW A/B loop crosstie isol to spoolpiece (INT BLDG clean side south of MDAFW pump B)
 - V-4738 To safeguards pumps and cooling units (AUX BLDG INTER, SW HDR AREA)
 - V-4611 Screenhouse header crosstie (Screenhouse BSMT)
 - V-4668B D/G A SW supply (D/G B room)
 - MOV-4615 and MOV-4734 AUX BLDG isolation valves

C) To isolate SW to unnecessary loads, perform the following:

1. Turbine Bldg loads:
 - a. Ensure Service Air Compressor or Diesel Air compressor supplying Service/Instrument air loads. (Refer to ATT-11.2, Attachment DIESEL AIR COMPRESSOR, if necessary).

EOP:	TITLE:	REV: 8
ATT-2.2	ATTACHMENT SW ISOLATION	PAGE 3 of 3

NOTE: Service water to IAC A, B, C automatically isolates when air compressor is stopped.

- b. WHEN Service Air Compressor or Diesel Air Compressor supplying air loads, THEN secure Instrument Air Compressors A, B and C.
 - c. WHEN HDT Pump(s) is secured, THEN close SW from idle HDT Pump(s):
 - o HDT Pump A, V-4709 and V-4736A
 - o HDT Pump B, V-4710 and V-4737A
 - d. WHEN MFP(s) is secured, THEN close SW to the idle MFP oil cooler(s): (MFP room)
 - o MFP A, V-4701
 - o MFP B, V-4702
 - e. WHEN the generator is offline, THEN perform the following:
 - o Close SW from exciter cooler (chain valve next to Condensate Transfer Pump):
 - V-4679
 - V-4679B
 - o Close SW from Bus Duct Coolers:
 - V-4674
 - V-4674C
 - f. Throttle SW to the H2 side and air side generator seal oil coolers as necessary (inside seal oil enclosure NW corner):
 - o H2 side seal oil cooler, V-4677A
 - o Air side seal oil cooler, V-4676A
- 2) Isolate selected Auxiliary Bldg loads that are inoperable or not needed.

EOP: ATT-2.3	TITLE: ATTACHMENT SW LOADS IN CNMT	REV: 4 PAGE 1 of 1
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Responsible Manager Res. Williams Date 3-6-2002

The following are service water loads in CNMT and associated isolation valves:

- NOTE:
- o A locked valve key will be required to perform cooler isolation.
 - o Notify Control Room before isolating SW to any fans.
 - o Only one CNMT recirc fan cooler should be isolated at a time for SW leak identification. IF the selected cooler is determined to NOT be the source of the SW leak, THEN the cooler should be restored to service before a subsequent cooler is isolated.

Intermediate Bldg. (clean side):

- o CNMT recirc fan A cooler (SW LOOP A)
 - SW inlet V-4627
 - SW outlet V-4629
- o CNMT recirc fan B cooler (SW LOOP A)
 - SW inlet V-4628
 - SW outlet V-4630
- o CNMT recirc fan C cooler (SW LOOP B)
 - SW inlet V-4641
 - SW outlet V-4643
- o CNMT recirc fan D cooler (SW LOOP B)
 - SW inlet V-4642
 - SW outlet V-4644

Intermediate Bldg. (hot side - sample hood):

- NOTE: IF RCS temperature greater than 135°F, THEN isolate only one Rx Compartment cooler at a time. IF the selected cooler is determined to NOT be the source of the SW leak, THEN the cooler should be restored to service before a subsequent cooler is isolated.

- o Rx compartment A cooler
 - SW inlet V-4757
 - SW outlet V-4758
- o Rx compartment B cooler
 - SW inlet V-4635
 - SW outlet V-4636

EOP: ATT-3.0	TITLE: ATTACHMENT CI/CVI	REV: 6 PAGE 1 of 3
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Responsible Manager Reid

Date 3-6-2002

NOTE: Locked valve key may be required for local operations.

<u>AUTO ISOL VALVE</u>	<u>ALTERNATE ISOL</u>	<u>ALTERNATE ISOL LOCATION</u>
AOV-200A(L/D)	AOV-371/133	MCB
AOV-200B(L/D)	AOV-371/133	MCB
AOV-202(L/D)	AOV-371/133	MCB
AOV-5392(IA)	V-5397/5410	IB BASEMENT CLEAN SIDE
AOV-371(L/D)	V-204A/820	NRHX ROOM
MOV-313(RCP Seal) (1)	V-315A/315C	SWRF ROOM (reach rods)
AOV-9227(Fire Sys)	V-9225	IB BASEMENT CLEAN SIDE
AOV-508(RMW)	AOV-548/550A/550B	MCB
AOV-5738(S/G B/D)	V-5701	IB BASEMENT CLEAN SIDE
AOV-5737(S/G B/D)	V-5702	IB BASEMENT CLEAN SIDE
AOV-5735(S/G Samp)	V-5733	SAMPLE HOOD
AOV-5736(S/G Samp)	V-5734	SAMPLE HOOD
SOV-921(H2 Mon)	V-928A	INSIDE A H2 MON PNL (AFW PUMP AREA) (key 59)
SOV-922(H2 Mon)	V-928B	INSIDE A H2 MON PNL (AFW PUMP AREA) (key 59)
SOV-923(H2 Mon)	V-929A	INSIDE B H2 MON PNL (AFW PUMP AREA) (key 59)
SOV-924(H2 Mon)	V-929B	INSIDE B H2 MON PNL (AFW PUMP AREA) (key 59)
AOV-539(PRT gas)	V-546	BY SFP HX A
AOV-1789(RCDT to gas anal)	V-1655	BY SFP HX A
AOV-1786(RCDT/VH)	AOV-1787	MCB
AOV-1787(RCDT/VH)	AOV-1786	MCB

(1) does not receive Auto closure signal on CI

EOP:	TITLE:	REV: 6
ATT-3.0	ATTACHMENT CI/CVI	PAGE 2 of 3

AOV-1721(RCDT Pumps)	AOV-1003A/1003B/1722	WASTE PANEL/AB SUB-BASEMENT
AOV-1003A(RCDT Pump A)	AOV-1721	WASTE PANEL
AOV-1003B(RCDT Pump B)	AOV-1721	WASTE PANEL
AOV-1597(CNMT rad)	V-1596	IB BASEMENT CLEAN SIDE
AOV-1598(CNMT rad)	AOV-1599	MCB
AOV-1599(CNMT rad)	AOV-1598	MCB
MOV-813(CCW)	MOV-817 ⁽²⁾	MCB
MOV-814(CCW) ⁽³⁾	V-815A	AB INT LEVEL
AOV-1723(CNMT sump) ⁽³⁾	AOV-1728	WASTE PANEL
AOV-1728(CNMT sump)	AOV-1723	WASTE PANEL
AOV-951(PRZR STM samp)	AOV-966A	MCB
AOV-953(PRZR Liq samp)	AOV-966B	MCB
AOV-955(Hot Leg samp) ⁽⁴⁾	AOV-966C	MCB
AOV-959(RHR samp)	V-957	PRIMARY SAMPLE ROOM
AOV-966A(PRZR STM samp)	V-956F	SAMPLE HOOD
AOV-966B(PRZR Liq samp)	V-956E	SAMPLE HOOD
AOV-966C(Hot Leg samp)	V-956D	SAMPLE HOOD
AOV-846(Accum N2)	V-8629/944A	BY SFP HX A
AOV-8418(DI Water)	V-5021	IB BASEMENT CLEAN SIDE
AOV-7971(Mini-purge)	AOV-7970	MCB REAR
AOV-7970(Mini-purge)	AOV-7971	MCB REAR

(2) AC power normally locked off

(3) Place CNMT sump pumps in pull-stop

(4) AOV-959 fuses pulled, V-957 normally closed

EOP: ATT-3.0	TITLE: ATTACHMENT CI/CVI	REV: 6 PAGE 3 of 3
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<u>AUTO ISOL VALVE</u>	<u>ALTERNATE ISOL</u>	<u>ALTERNATE ISOL LOCATION</u>
AOV-7445 (Mini-purge)	AOV-7478	MCB REAR
AOV-7478 (Mini-purge)	AOV-7445	MCB REAR
AOV-5879 (CNMT purge)	N/A FLANGED	
AOV-5869 (CNMT purge)	N/A FLANGED	
(5) SOV-1B (10214S1) (H2 recomb)	V-1080A	SAMPLE HOOD
(5) SOV-2B (10214S) (H2 recomb)	V-1080A	SAMPLE HOOD
(5) SOV-3B (10211S1) (H2 recomb)	V-1076B	SAMPLE HOOD
(5) SOV-5B (10213S1) (H2 recomb)	V-1084B	SAMPLE HOOD
(5) SOV-1A (10215S1) (H2 recomb)	V-1080A	SAMPLE HOOD
(5) SOV-2A (10215S) (H2 recomb)	V-1080A	SAMPLE HOOD
(5) SOV-3A (10205S1) (H2 recomb)	V-1076A	IB BASEMENT CLEAN SIDE
(5) SOV-5A (10209S1) (H2 recomb)	V-1084A	IB BASEMENT CLEAN SIDE

(5) Valves normally deenergized with manual isolation valve locked closed.

EOP: ATT-3.1	TITLE: ATTACHMENT CNMT CLOSURE	REV: 4 PAGE 1 of 2
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Responsible Manager Reid Date 3-6-2002

- A) Ensure at least one door closed in EACH CNMT airlock:
 o Equipment airlock
 o Personnel airlock
- B) Verify valves in column 1 closed. IF any valve NOT closed, THEN evaluate penetration and isolate if penetration has direct access to outside atmosphere (Refer to column 2).

NOTE: Locked valve key may be required for local operation.

<u>COLUMN 1</u> <u>AUTO ISOL VALVE</u>	<u>COLUMN 2</u> <u>ALTERNATE ISOL</u>	<u>ALTERNATE ISOL LOCATION</u>
AOV-5392 (IA)	V-5397/5410	IB BSMT CLEAN SIDE
AOV-371 (L/D)	V-204A/820	NRHX ROOM
MOV-313 (RCP Seal)	V-315A/315C	SWRF ROOM (reach rods)
AOV-9227 (Fire Sys)	V-9225	IB BSMT CLEAN SIDE
AOV-508 (RMW)	AOV-548/550A/550B	MCB
AOV-5738 (S/G B/D)	V-5701	IB BSMT CLEAN SIDE
AOV-5737 (S/G B/D)	V-5702	IB BSMT CLEAN SIDE
AOV-5735 (S/G samp)	V-5733	SAMPLE HOOD
AOV-5736 (S/G samp)	V-5734	SAMPLE HOOD
AOV-539 (PRT gas)	V-546	BY SFP HX A
AOV-1789 (RCDT to gas anal)	V-1655	BY SFP HX A
AOV-1786 (RCDT/VH)	AOV-1787 (V-1716A)	BY SFP HX A
AOV-1721 (RCDT pumps)	AOV-1003A/1003B/1722	WASTE PANEL/AB SUB-BASEMENT
AOV-1597 (CNMT rad)	V-1596	IB BSMT CLEAN SIDE
AOV-1598 (CNMT rad)	AOV-1599	MCB
MOV-813 (CCW)	CCW SYSTEM INTACT	AUX BLDG INT (BY RWST)

EOP:	TITLE:	REV: 4
ATT-3.1	ATTACHMENT CNMT CLOSURE	PAGE 2 of 2

<u>COLUMN 1</u> <u>AUTO ISOL VALVE</u>	<u>COLUMN 2</u> <u>ALTERNATE ISOL</u>	<u>ALTERNATE ISOL LOCATION</u>
MOV-814 (CCW)	CCW SYSTEM INTACT	AUX BLDG INT (BY RWST)
AOV-1723 ⁽¹⁾ (CNMT sump)	AOV-1728 ⁽¹⁾	WASTE PANEL
AOV-846 (ACCUM N2)	V-8629/944A	BY SFP HX A
AOV-8418 (DI water)	V-5021	IB BSMT CLEAN SIDE
AOV-7970 (Mini purge)	AOV-7971	MCB REAR
AOV-7445 (Mini purge)	AOV-7478	MCB REAR
AOV-5879 (Purge)	Purge Exhaust Fan OFF	
AOV-5869 (Purge)	Purge Supply Fan OFF	

- C) Verify both S/Gs intact in CNMT OR steam and feed headers isolated outside CNMT (Refer to O-15.2, REQUIRED VALVE LINEUP FOR REACTOR HEAD REMOVAL, for specific guidance).
- D) Evaluate and isolate any other known openings from CNMT to the outside atmosphere. Contact Outage Scheduling or Maintenance Manager and refer to O-2.3.1A, CONTAINMENT CLOSURE CAPABILITY IN TWO HOURS DURING REDUCED RCS INVENTORY OPERATION, for additional guidance.
- E) Verify fuel transfer flange installed or gate valve, V-650J, closed.
- F) Contact Outage Scheduling to ensure that S/G maintenance penetration (Pen 2) is isolated (no openings to outside). |

(1) Place CNMT Sump Pumps in pull-stop. |

EOP: ATT-5.0	TITLE: ATTACHMENT COND TO S/G	REV: 5 PAGE 1 of 1
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Responsible Manager PS. Wilson Date 3-6-2002

FLOW THROUGH MFW PUMP B

1. Place BOTH MFW flow control valves and BOTH bypass valve controllers in MANUAL AND ensure demand at ZERO.
2. Dispatch AO to MCC B.
3. At main control board place MFW Pump B discharge valve switch to open (MOV-3976).
4. WHEN MFW pump B discharge valve indicates open, THEN direct AO to open breaker for S/G FWP DISCH VLV 1B, MCC B position 8G.
5. Ensure condensate trim valve controller demand at zero.
6. Ensure at least two condensate pumps running.

FLOW THROUGH MFW PUMP A

1. Place BOTH MFW flow control valves and BOTH bypass valve controllers in MANUAL AND ensure demand at ZERO.
2. Dispatch AO to MCC A.
3. At main control board, place MFW Pump A discharge valve switch to OPEN (MOV-3977).
4. WHEN MFW pump A discharge valve indicates open, THEN direct AO to open breaker S/G FWP DISCH VLV 1A, MCC A position 9J.
5. Ensure condensate trim valve controller demand at zero.
6. Ensure at least two condensate pumps running.

EOP: ATT-7.0	TITLE: ATTACHMENT CR EVAC	REV: 6 PAGE 1 of 2
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Responsible Manager McSweeney Date 3-6-2002

The following are duties of Personnel during a Control Room Evacuation:

NOTE: Each person shall maintain an account listing the times and significant actions taken. The HCO will transcribe these into the Official Log at a convenient time.

SHIFT SUPERVISOR (SS) -

Will direct overall plant operations and recovery actions. The Shift Supervisor should maintain communication with the various groups working to recover from the evacuation. No specific duty station is assigned.

CONTROL ROOM FOREMAN (CRF) -

Will go to the Screenhouse to ensure 1 SW Pump is running in each SW Loop. If local closure of a SW Pump Breaker is required, THEN perform the following:

- a. Remove control power fuses for the breaker to be closed.
- b. Remove cap on front of the breaker.
- c. Install the removable handle.
- d. Hold depressed AND rotate UNTIL breaker closure.
- e. Remove handle.

AFTER SW pump verification, THEN CRF will assist the HCO in transferring equipment to local control. After completion of the transfer the CRF will direct the operator actions to recover the plant.

HEAD CONTROL OPERATOR (HCO) -

Will go to AFW pump area taking the operating (O) procedures book, the variable boration/dilution tables and the curve book with him and will transfer equipment to local control.

CONTROL OPERATOR (CO) -

Will go to the local operating station in the Charging Pump Room and await direction.

PRIMARY AUX OPERATOR -

Will go to the local operating stations in the boric acid tank room.

EOP: ATT-7.0	TITLE: ATTACHMENT CR EVAC	REV: 6 PAGE 2 of 2
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SHIFT TECHNICAL ADVISOR (STA) -

Will go to D/G A room and verify emergency AC busses 14 and 18 energized and will then proceed to the AFW pump area to assist the Head Control Operator while remaining cognizant of plant conditions.

OTHER PERSONNEL -

Will assume fire fighting or other duties as directed by the Shift Supervisor or Control Room Foreman.

EOP: ATT-8.1	TITLE: ATTACHMENT D/G STOP	REV: 5 PAGE 1 of 1
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Responsible Manager *R. Delaney* Date 3-6-2002

NOTE: If both D/Gs are running, they should be secured and realigned for standby one at a time.

To stop any unloaded D/G and place in standby, perform the following:

- 1) Using emergency D/G GOVERNOR, adjust D/G speed to return frequency to 60 cycles per second.
- 2) Using AUTO VOLTAGE CONTROL RHEOSTAT set D/G voltage at approximately 480 volts.
- 3) Place emergency D/G CONTROL switch to STOP and immediately depress voltage shutdown button until voltage decays to zero.
- 4) After ~60 seconds, perform the following:
 - o Depress D/G FIELD RESET
 - o Depress D/G RESET
 - o Verify AIR START SOLENOID lights - LIT
 - o Verify START RELAY lights - LIT

EOP: ATT-8.2	TITLE: ATTACHMENT GEN DEGAS	REV: 7 PAGE 1 of 2
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Responsible Manager Reidling Date 3-6-2002

CAUTION

OBSERVE ALL NORMAL PRECAUTIONS FOR HANDLING EXPLOSIVE MIXTURES OF HYDROGEN IN AIR.

1. Close all H2 manifold bottle stops.
 - o Valve V-6994A
 - o Valve V-6994B
 - o Valve V-6995
 - o Valve V-6998
2. Close H2 regulator isolation valve, V-6995X (gas bottle house).
3. Isolate hydrogen feed by closing valve V-6994K and V-6999C (TURB BLDG below generator).
4. Connect the CO² feed to the bottom of the generator by opening valve V-6994G (TURB BLDG below generator).
5. Open vent from top of generator, valve V-6994J (TURB BLDG below generator).
6. Open vent isolation valve, V-6995P, to initiate H2 release through vent line (TURB BLDG below generator).
7. Ensure 4 CO² bottles connected to CO² manifold.
8. Fully open CO² manifold header stop valve, V-6999A (Gas Bottle House).

CAUTION

DO NOT ALLOW MACHINE PRESSURE TO EXCEED 5 PSIG ON PI-2805 DURING THE TIME CO² IS BEING ADMITTED.

9. WHEN generator pressure is less than 5 psig, as indicated on PI-2805 (TURB BLDG below generator), THEN open all CO² bottle stops fully to admit CO² to generator WHILE maintaining ≤ 5 psig generator pressure.
 - o V-6993C
 - o V-6999
 - o V-6999B
 - o V-6998A

EOP:	TITLE:	REV: 7
ATT-8.2	ATTACHMENT GEN DEGAS	PAGE 2 of 2

10. Adjust vent isolation V-6995P OR isolate CO₂ bottles as necessary to maintain 3 - 5 psig pressure as indicated on PI-2805.
11. Purge a minimum of 20 CO₂ cylinders through the generator.
12. WHEN the purge is complete, THEN close CO₂ bottle stops.
 - o V-6993C
 - o V-6999
 - o V-6999B
 - o V-6998A
13. Close CO₂ manifold header stop valve, V-6999A (Gas Bottle House).
14. Close CO₂ feed to generator, V-6994G (Turb Bldg below generator).
15. Open the breaker for the DC airside seal oil backup pump (TSC Battery Main Fuse Cabinet, position 4, TURB BLDG basement east).
16. WHEN conditions permit, THEN refer to T-31.2, REMOVING HYDROGEN WITH CO₂; REMOVING CO₂ WITH INSTRUMENT AIR, to complete purging CO₂ with air.

EOP: ATT-8.3	TITLE: ATTACHMENT NONVITAL	REV: 4 PAGE 1 of 1
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Responsible Manager *R. S. Williams* Date 3-6-2002

NOTE: The following are loads that may AUTO start upon resumption of power to the respective busses.

NOTE: This attachment may be entered with one or more buses energized. It is NOT necessary to lockout equipment powered by an energized bus.

- 1) Lockout the following equipment from the control board by placing the respective switches in PULL STOP or OFF as necessary:
 - EH pumps
 - Turning gear oil pump
 - Hi Press seal oil backup pump
 - Condensate pumps
 - RCDT pumps
 - MFP AC oil pumps
 - PRZR heaters
 - Boric acid transfer pumps
 - RMW pumps
 - AUX BLDG sump pumps
 - Air compressors
 - Containment sump pumps
- 2) Considerations should be given to locking out the following loads locally, if personnel are available, by placing switches to PULL STOP or OFF.

AUX BLDG

- Sump tank pumps
- Charging pump leak-off pumps
- AUX BLDG fans that are selected to run
- Various building sump pumps

TURB BLDG and INT BLDG (Clean side)

- Chiller compressors
- Bus duct cooling fans
- House heating boiler feed pumps

OTHER

- DI plant
- Service building air handling unit
- Transformer fans and oil pumps
- Wall and roof fans
- House heating boiler return pumps
- Travelling Screen motors

EOP: ATT-8.4	TITLE: ATTACHMENT SI/UV	REV: 5 PAGE 1 of 1
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Responsible Manager Reidling Date 3-6-2002

NOTE: This attachment is used for information only. It lists the loads lost with SI only and with SI and either loss of offsite power or associated D/G output breaker closed. SI must be reset before attempting to restore any of these loads.

NOTE: The capacity of the power source should be considered before restoring any loads.

LOADS LOST ON AN SI SIGNAL ONLY

- Charging pumps
- Standby Aux Feed Pumps
- Pressurizer heaters
- G Aux Bldg Exhaust Fan
- Motor fire pump
- Main feed water pumps
- Spent fuel pool pump B
- Bus ties 17-18, 15-16, 16-14, 13-14
- MCC-G
- Intake heaters

LOADS LOST ON AN SI SIGNAL WITH EITHER OF THE FOLLOWING:

- LOSS OF OFFSITE POWER
- OR
- ASSOCIATED D/G OUTPUT BKR CLOSED

- All of the above
- CCW pumps
- Boric acid transfer pumps
- Reactor compartment cooling fans
- Penetration cooling fans
- RCDT pumps
- Reactor makeup water pump
- Spent fuel pool pump A
- RWST purification pump
- Aux Building exhaust fan C
- MCC C Breaker 1H (spare breaker used for STBY SFP pump)

EOP: ATT-9.0	TITLE: ATTACHMENT LETDOWN	REV: 8 PAGE 1 of 1
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Responsible Manager

Redding

Date

3-6-2002

A) The following conditions must be met to place normal letdown in service:

- o IA to CNMT - ESTABLISHED
- o CCW - IN SERVICE
- o PRZR level - GREATER THAN 13%

B) Establish Normal Letdown:

1. Establish charging line flow to REGEN Hx - GREATER THAN 20 gpm.
2. Place the following switches to CLOSE:
 - Letdown orifice valves (AOV-200A, AOV-200B, and AOV-202)
 - Letdown isolation, AOV-427
3. Place letdown controllers in MANUAL at 40% open (60% open if 60 gpm orifice to be selected):
 - Temperature control valve, TCV-130
 - Pressure control valve, PCV-135
4. Ensure AOV-371, letdown isolation valve - OPEN.
5. Open letdown isolation, AOV-427.
6. Open letdown orifice valve(s) to obtain desired flow
 - 40 gpm letdown orifice valve, AOV-200A or AOV-200B
 - 60 gpm letdown orifice valve, AOV-202
7. Place TCV-130 in AUTO at 105°F.
8. Place PCV-135 in AUTO at 250 psig.
9. Adjust charging pump speed and HCV-142 to control PRZR level and RCP labyrinth seal D/P.

C) IF normal letdown can NOT be established, THEN refer to ATT-9.1, ATTACHMENT EXCESS L/D to establish excess letdown.

EOP: ATT-9.1	TITLE: ATTACHMENT EXCESS L/D	REV: 5 PAGE 1 of 1
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Responsible Manager Blalock Date 3-6-2002

A) The following conditions must be met to place excess letdown in service:

- o IA to CNMT - ESTABLISHED
- o CCW - IN SERVICE
- o PRZR level - GREATER THAN 13%

B) Establish excess letdown:

1. Ensure excess LTDN Loop A cold to Hx, AOV-310 is closed.
2. Ensure excess letdown flow control valve, HCV-123 is closed, demand at 0.
3. Ensure RCP seal return isolation valve open, MOV-313.
4. IF RCP seal return has been established, THEN place excess letdown divert valve, AOV-312, to NORMAL.
5. Ensure CCW from EX LTDN Hx, AOV-745 - OPEN.
6. Open excess LTDN Loop A cold to Hx, AOV-310.
7. Slowly open excess letdown flow control valve, HCV-123, to maintain excess letdown temperature less than 195°F and pressure less than 100 psig.
8. Adjust charging pump speed to control PRZR level and labyrinth seal D/P.

EOP: ATT-10.0	TITLE: ATTACHMENT FAULTED S/G	REV: 6 PAGE 1 of 2
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Responsible Manager R. J. [Signature] Date 3-6-2002

Dispatch AO with locked valve key to complete local isolation of faulted S/G as follows:

NOTE: Intermediate Building environment should be assessed for radiological or other personnel safety concerns.

1. Request identification of faulted S/G from Control Room.

NOTE: Steps may be done in any order.

2. Verify faulted S/G MSIV bypass valve closed (INT BLDG steam header area)

- o S/G A, V-3615

OR

- o S/G B, V-3614

3. Isolate steamlines for the faulted S/G:

- o Steam sampling system (INT BLDG steam header area)

- o S/G A, close V-3413A

OR

- o S/G B, close V-3412A

- o Support heating steam (INT BLDG steam header area)

- o S/G A, close V-3669

OR

- o S/G B, close V-3668

- o Upstream traps (TURB BLDG east of MFW regulating valves)

- o S/G A, close V-3521

OR

- o S/G B, close V-3520

EOP: ATT-10.0	TITLE: ATTACHMENT FAULTED S/G	REV: 6 PAGE 2 of 2
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CAUTION

CONTROL ROOM SHOULD BE NOTIFIED BEFORE ISOLATING TDAFW PUMP STEAM OR
FEED FLOW.

4. Locally CLOSE TDAFW pump steam root valve for faulted S/G:
(INT BLDG steam header area)

o S/G A, V-3505

OR

o S/G B, V-3504

5. Locally close TDAFW pump feed header isolation valve for
faulted S/G:

o S/G A, V-4005, (steam header west end on catwalk by CNMT wall)

OR

o S/G B, V-4006 (Main steam header east end by stairs)

6. Locally close MFW regulating valve and bypass valve outlet
isolation valves for the faulted S/G:
(TURB BLDG MFW reg valve area)

o S/G A, V-3987 and V-3991

OR

o S/G B, V-3986 and V-3990

EOP: ATT-11.1	TITLE: ATTACHMENT IA SUPPLY	REV: 3 PAGE 1 of 1
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Responsible Manager Reidling Date 3-6-2002

1. Verify running air compressor(s) operating properly:

- o IA Compressors A and B selected for CONSTANT SPEED and loading with discharge temperatures less than 450°F

OR

- o IA Compressor C running with normal discharge pressure (approximately 120 psig)

OR

- o Service air compressor running with normal discharge pressure (approximately 120 psig) AND supplying IA.

OR

- o Diesel air compressor running AND supplying IA.

IF NOT, THEN perform the following:

- a. Start available air compressor(s).
- b. Remove faulty compressor from service.
- c. Isolate faulty compressor, if necessary.

2. Check IA dryer operation (if in service):

- o Minimal air leakage observed
- o Air Dryer auto transfer occurring properly

IF NOT, THEN isolate faulty dryer train:

IA DRYER A

- a) Open dryer bypass V-5276
- b) Close dryer inlet V-5277
- c) Close dryer outlet V-5275
- d) Open circuit breaker #1 miscellaneous 120V power panel ACPDPTB07 (east of secondary sample sink)

OR

IA DRYER B

- a) Open dryer bypass V-8230
- b) Close dryer inlet V-8228
- c) Close dryer outlet V-8229
- d) Open circuit breaker #6 miscellaneous 120V power panel ACPDPTB02 (TURB BLDG basement east)

3. Verify IA dryer prefilter and after filter D/P each less than 10 psid. IF NOT, THEN remove faulty filter from service. (Refer to T-2E, ISOLATION AND RESTORATION OF INSTRUMENT AIR DRYER PREFILTERS AND AFTERFILTERS).

EOP: ATT-12.0	TITLE: ATTACHMENT N2 PORVS	REV: 4 PAGE 1 of 2
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Responsible Manager Reid Date 3-6-2002

WHEN IA to CNMT NOT available, THEN perform the following to operate one (or both) PRZR PORV(s) in accordance with guidance provided by the procedure step:

- NOTE:
- o If RCS overpressurization accumulator pressure decreases to less than 200 psig, then recharge accumulators using S-29.2, CHARGING THE REACTOR VESSEL OVERPRESSURE PROTECTION SYSTEM ACCUMULATORS WITH N2. This will require reset of CI and XY relays for the N2 supply valve to CNMT, AOV-846.
 - o For FR-H.1 Bleed and Feed the PORV block valve is not required to be operable.
- A) Select a PORV with an operable block valve, obtain a key for the RCS overpressurization system, and perform the appropriate step below:
- o PCV-431C:
 - a) Verify block valve MOV-515 - OPEN AND OPERABLE
 - b) Place ACCUM TO SURGE TK VLV SOV-8616B to OPEN
 - o PCV-430:
 - a) Verify block valve MOV-516 - OPEN AND OPERABLE
 - b) Place ACCUM TO SURGE TK VLV SOV-8616A to OPEN
- B) To depressurize the RCS in accordance with the guidance provided by the EOP step, perform the following:
- o For PCV-431C, place overpressurization system arming switch, N2 ARMING VLV SOV-8619B, to ARM
 - o For PCV-430, place overpressurization system arming switch, N2 ARMING VLV SOV-8619A, to ARM
- C) IF it is desired to maintain PORV(s) open below 410 psig, THEN place overpressure bistables to the trip position: (IF NOT, THEN go to step D)
1. In R-2 Protection Channel 1 Rack
 - o 452B
 - o 452C
 2. In W-2 Protection Channel 2 Rack
 - o 451B
 - o 451C
 3. In B-2 Protection Channel 3 Rack
 - o 450B
 - o 450C

EOP: ATT-12.0	TITLE: ATTACHMENT N2 PORVS	REV: 4 PAGE 2 of 2
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- D) WHEN depressurization complete, THEN close PORV(s) by performing the following:
- o For PCV-431C:
 - o Place N2 ARMING VLV SOV-8619B to BLOCK
 - o Place ACCUM TO SURGE TK VLV SOV-8616B to CLOSE
 - o For PCV-430:
 - o Place N2 ARMING VLV SOV-8619A to BLOCK
 - o Place ACCUM TO SURGE TK VLV SOV-8616A to CLOSE
- E) Ensure the overpressure protection bistables in the untripped position:
1. In R-2 Protection Channel 1 Rack
 - o 452B
 - o 452C
 2. In W-2 Protection Channel 2 Rack
 - o 451B
 - o 451C
 3. In B-2 Protection Channel 3 Rack
 - o 450B
 - o 450C

EOP: ATT-14.0	TITLE: ATTACHMENT NORMAL RHR COOLING	REV: 3 PAGE 1 of 1
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Responsible Manager Resubun Date 3-6-2002

Dispatch AO to verify the following local valve alignment:

- o RHR pump discharge cross-connect valves (Aux Bldg sub-basement) V-709C Open V-709D Open
- o RHR Hx bypass flow control valve isolation valves (Aux Bldg basement west) V-712A Open V-712B Open

Verify the following RHR system valve alignment from the control board:

- o RHR pump suction from RWST MOV-856 Closed
- o RHR suction from sump B outside CNMT MOV-850A Closed MOV-850B Closed
- o RHR Hx discharge to SI pump suction MOV-857A Closed MOV-857B Closed MOV-857C Closed
- o RHR pump suction valves MOV-704A Open MOV-704B Open
- o RHR pump suction from loop A hot leg MOV-700 Open MOV-701 Open
- o RHR pump discharges to loop B cold leg MOV-720 Open MOV-721 Open
- o RHR letdown to CVCS HCV-133 Open if desired

EOP: ATT-14.2	TITLE: ATTACHMENT RHR ISOL	REV: 2 PAGE 1 of 1
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Responsible Manager

Richard J. [Signature]

Date

3-6-2002

NOTE:

- o An A-52.4 should be submitted for train being isolated.
- o A locked valve key will be required for local operations.
- o Consult RP tech prior to performing any work above the 8 foot level on any AUX BLDG floor.

1) Place the selected RHR pump switch in PULL STOP.

2) Isolate the selected RHR pump as follows:

RHR pump A:

- o Close RHR pump A suction valves
 - o MOV-704A
 - o MOV-850A
- o Close RHR Hx flow control valve, HCV-625
- o Close RHR Hx bypass valve, HCV-626
- o Verify discharge to SI pump suction, MOV-857A, closed
- o Dispatch AO to locally perform the following:
 - o Close recirculation line isolation valve, V-694A (south of RWST purification pump)
 - o Ensure closed RHR pump A discharge crosstie valve, V-709C (RHR sub-basement above RHR pumps)
 - o Close RHR Hx A manual isolation valve, V-717 (by HCV-625)
 - o Close either RHR Hx bypass isolation valve, V-712A or V-712B (AUX BLDG basement outside RHR Hx room)

OR

RHR pump B:

- o Close RHR pump B suction valves
 - o MOV-704B
 - o MOV-850B
- o Close RHR Hx flow control valve, HCV-624
- o Close RHR Hx bypass valve, HCV-626
- o Verify discharge to SI pump suction, MOV-857B, closed
- o Dispatch AO to locally perform the following:
 - o Close recirculation line isolation valve, V-694B (south of RWST purification pump)
 - o Ensure closed RHR pump B discharge crosstie valve, V-709D (RHR sub-basement above RHR pumps)
 - o Close RHR Hx B manual isolation valve, V-715 (by HCV-624)
 - o Close either RHR Hx bypass isolation valve, V-712A or V-712B (AUX BLDG basement outside RHR Hx room)

EOP: ATT-14.3	TITLE: ATTACHMENT RHR NPSH	REV: 3 PAGE 1 of 1
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Responsible Manager Reid Lingen Date 3-6-2002

IF either RHR pump suction flowpath from sump B unavailable,
THEN perform the following:

1) Ensure at least one RHR pump suction flowpath from sump B is aligned.

o MOV-850A and MOV-851A - OPEN

OR

o MOV-850B and MOV-851B - OPEN

2) Ensure RHR pump suction crosstie valves open.

o MOV-704A - OPEN

o MOV-704B - OPEN

CAUTION

IF EITHER RHR PUMP SUCTION CROSSTIE IS CLOSED, THEN OPERATE ONLY
THE PUMP WITH DIRECT SUMP SUCTION PATH.

3) Start one RHR pump with suction flowpath and heat exchanger
available (Refer to ATT-14.5, Attachment RHR SYSTEM).

PCN - PROCEDURE CHANGE NOTICE

Category 1.1

Rev. 8

- ☐ NEW (IP-PRO-5)
- ☐ PERMANENT CHANGE (IP-PRO-6)
- ☐ PERIODIC REVIEW (IP-PRO-8)
- ☒ DELETION (IP-PRO-6)

PCN No: 2002-4080Procedure No. AIT-14.4 Rev. No. 1☐ Hold Effective Date for Plant Installation/ModificationInitiator: Blalain Initiation Date: 1-8-02

CHANGE:

delete the attachment

REASON: (Include any ACTION Reports, DCRs, PCR, TSRs, etc., or any procedure(s) superseded by this procedure)

CATS ID M10535 This attachment is no longer used in any procedure.

RM REVIEW - IMPACT ON USERS

☐ Yes ☒ No Training required prior to use?Responsible Manager: Blalain☐ Yes ☒ No TWR Required

TWR No. _____

☐ Yes ☒ No Notify Procedure Users

Who: _____

How: _____

ADDITIONAL REVIEWERS	SIGNATURE	DATE	COMMENTS
<u>Approved at PC MTG 02-07</u>	<u>Blalain</u>	<u>1-25-02</u>	<input checked="" type="checkbox"/> No Comments <input type="checkbox"/> Comments Resolved
			<input type="checkbox"/> No Comments <input type="checkbox"/> Comments Resolved
			<input type="checkbox"/> No Comments <input type="checkbox"/> Comments Resolved
			<input type="checkbox"/> No Comments <input type="checkbox"/> Comments Resolved

NUCLEAR SAFETY / TECHNICAL REVIEW

☒Inconsequential (Type): DPortion of Change < 11☐

Acceptable Change (Basis): _____

NST Signature/Date: [Signature]1-22-02PORC Review Required ☐

(Mtg #): _____

10 CFR 50.59 REVIEW (Check Only 1 Box)

☐

N/A - 10CFR50.59 Not Applicable (No Change) _____

☐

N/A - 10 CFR 50.59 Not Applicable (Process #): _____

☒2002-0124☐

N/A - 10CFR50.59 Not Applicable to Procedure Series

Prepared By (50.59(s)): _____

Date: _____

50.59SCRN#

RM or 50.59(s): _____

Date: _____

Reviewed By (50.59(s)): _____

Date: _____

50.59EVAL #

Comments: _____

PS Review: [Signature]Effective Date: 3-6-02

EOP: ATT-14.6	TITLE: ATTACHMENT RHR PRESS REDUCTION	REV: 2 PAGE 1 of 2
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Responsible Manager

W. Selinger

Date

3-6-2002

NOTE: Under certain configurations of check valve leakage, the associated pressure buildup in the RHR system could prohibit the opening of MOV-850A/B or MOV-857A/B/C due to high seat DP. The following steps may be used to reduce this DP.

NOTE: Perform only the portions of this attachment relating to the valves being addressed by the procedure in effect.

1. Verify the appropriate breakers are reset by directing the AO to check the breaker closed (not tripped) AND to press the reset button inside the breaker cubicle door.

- MOV-850A, MCC 1C pos 6J
- MOV-850B, MCC 1D pos 6J
- MOV-857A, MCC 1C pos 7M
- MOV-857B, MCC 1D pos 7M
- MOV-857C, MCC 1C pos 15J

2. IF letdown is in service, THEN perform the following:

- a) Close letdown isolation AOV-427.
- b) Close letdown orifice valves AOV-200A, AOV-200B and AOV-202.
- c) Place TCV-145 to the VCT position.
- d) Place PCV-135 in manual.
- e) Reduce letdown line pressure to ≤ 150 PSIG as indicated on PI-135.
- f) Open the valves being directed by the procedure in effect
 - o MOV-850A and MOV-850B

OR

- o MOV-857A, MOV-857B and MOV-857C
- g) Return letdown system to the desired configuration (refer to ATT-9.0, ATTACHMENT LETDOWN)

EOP: ATT-14.6	TITLE: ATTACHMENT RHR PRESS REDUCTION	REV: 2 PAGE 2 of 2
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3. IF letdown is NOT in service, THEN perform the following:

- a) Ensure letdown orifice valves AOV-200A, AOV-200B and AOV-202 are closed.
- b) Place TCV-145 to the VCT position
- c) Reset SI, CNMT Isolation and XY Relays if necessary, THEN open letdown isolation, AOV-371.
- d) Fully open PCV-135 in manual, THEN verify PI-135 indicates ≤ 150 PSIG
- e) Open the valves being directed by the procedure in effect
 - o MOV-850A and MOV-850B

OR

- o MOV-857A, MOV-857B and MOV-857C
- f) Close letdown isolation, AOV-371.

EOP: ATT-15.0	TITLE: ATTACHMENT RCP START	REV: 9 PAGE 1 of 3
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Responsible Manager Bel Wilson Date 3-6-2002

CAUTION

IF SEAL OUTLET TEMPERATURE IS GREATER THAN 235°F, THEN CCW THERMAL BARRIER COOLING AND SEAL INJECTION SHOULD NOT BE ESTABLISHED TO THE AFFECTED RCP(S). BOTH OF THESE METHODS OF SEAL COOLING COULD HAVE UNINTENDED CONSEQUENCES THAT RESULT IN ADDITIONAL PUMP DAMAGE OR FAILURE OF THE CCW SYSTEM. SEAL COOLING SHOULD INSTEAD BE RESTORED BY COOLING THE RCS, WHICH WILL REDUCE THE TEMPERATURE OF THE WATER FLOWING THROUGH THE PUMP SEALS.

CAUTION

IF SEAL OUTLET TEMPERATURE DECREASES TO LESS THAN 235°F AFTER HAVING EXCEEDED 235°F, THEN ENGINEERING SHOULD ASSESS WHETHER SEAL COOLING SHOULD BE RESTORED.

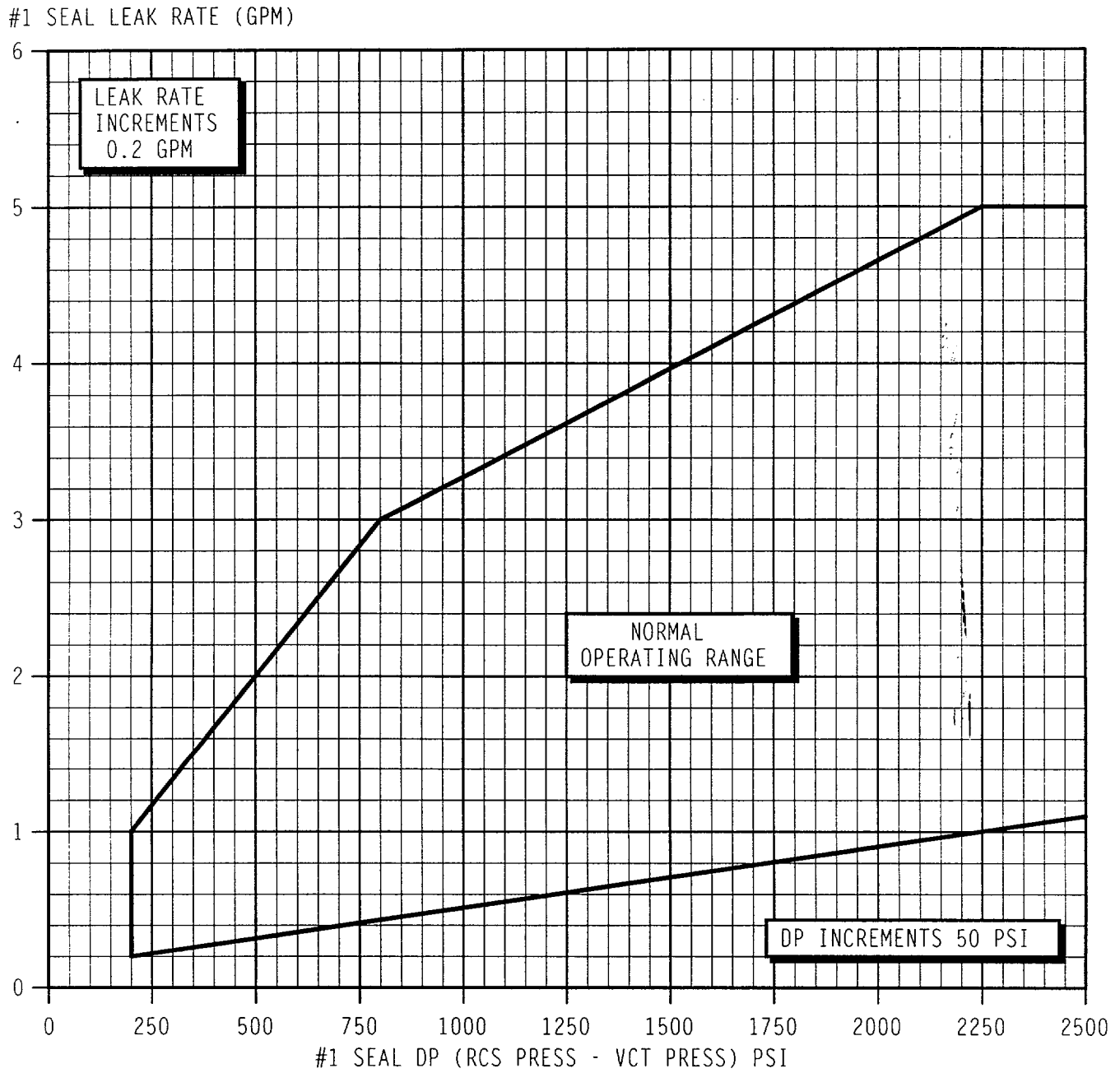
NOTE: RCP oil lift pump should be stopped after RCP is running.

- A) The following are prerequisites for starting an RCP:
 - o RCP oil lift pump running (~2 minutes) (MCC E)
 - o RCP oil lift pressure white light - LIT
- B) In addition, the following conditions should be met prior to starting an RCP:
 - o Both PRZR spray valves closed - DEMAND AT 0%
 - o CCW in service to selected RCP(s) with flow and temperature alarms (A-7, A-15) extinguished. (IF NOT, THEN refer to ATT-15.2, ATTACHMENT SEAL COOLING)
 - o Selected RCP(s) seal inlet temperature - LESS THAN 135°F
 - o Selected RCP(s) motor bearing temperatures - LESS THAN 200°F (PPCS Group Display RCPS or use recorder, if selected)
 - o Selected RCP(s) seal injection in service (IF NOT, THEN refer to ATT-15.2, ATTACHMENT SEAL COOLING)
 - o Seal injection flow - GREATER THAN 6 GPM
 - o Labyrinth seal D/P - GREATER THAN 15 INCHES OF WATER
 - o Selected RCP(s) #1 seal D/P - GREATER THAN 220 PSID
 - o Selected RCP(s) oil levels:
 - o Level alarms (A-24, A-32) - EXTINGUISHED
 - o Level indicators - ON SCALE
 - o Selected RCP(s) seal return alignment:
 - a) RCP #1 seal outlet valve(s) open:
 - o AOV-270A for RCP A
 - o AOV-270B for RCP B

EOP: ATT-15.0	TITLE: ATTACHMENT RCP START	REV: 9 PAGE 2 of 3
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- b) IF MOV-313, seal return isolation, open, THEN
verify the following:
 - o VCT pressure - GREATER THAN 15 PSIG
 - o Selected RCP(s) #1 seal leakoff flow -
WITHIN THE NORMAL OPERATING RANGE OF FIGURE RCP SEAL
LEAKOFF
 - o Selected RCP(s) standpipe low level alarm (B-11,
B-12) - EXTINGUISHED
 - c) IF MOV-313 closed, THEN verify other RCP #1 seal
parameters normal for selected RCP(s):
 - o RCP #1 seal inlet temperature - LESS THAN 135°F
 - o RCP #1 seal D/P - GREATER THAN 220 PSID
- C) IF ES-0.2, ES-0.3 or ES-1.1 is in effect, THEN requirements of
S-2.1, REACTOR COOLANT PUMP OPERATION, also apply.

FIGURE RCP SEAL LEAKOFF



EOP: ATT-15.2	TITLE: ATTACHMENT SEAL COOLING	REV: 5 PAGE 1 of 2
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Responsible Manager Blalock Date 3-6-2002

CAUTION

IF SEAL OUTLET TEMPERATURE IS GREATER THAN 235°F, THEN CCW THERMAL BARRIER COOLING AND SEAL INJECTION SHOULD NOT BE ESTABLISHED TO THE AFFECTED RCP(S). BOTH OF THESE METHODS OF SEAL COOLING COULD HAVE UNINTENDED CONSEQUENCES THAT RESULT IN ADDITIONAL PUMP DAMAGE OR FAILURE OF THE CCW SYSTEM. SEAL COOLING SHOULD INSTEAD BE RESTORED BY COOLING THE RCS, WHICH WILL REDUCE THE TEMPERATURE OF THE WATER FLOWING THROUGH THE PUMP SEALS.

CAUTION

IF SEAL OUTLET TEMPERATURE DECREASES TO LESS THAN 235°F AFTER HAVING EXCEEDED 235°F, THEN ENGINEERING SHOULD ASSESS WHETHER SEAL COOLING SHOULD BE RESTORED.

NOTE: IF all RCP seal cooling has been lost, THEN CCW cooling should be restored before establishing seal injection.

A. Perform the following to restore CCW flow to RCP's:

- 1) IF any RCP seal injection NOT in service, THEN verify RCP CCW return valve from any RCP with no seal injection is closed.
 - o MOV-759A, for RCP A
 - o MOV-759B, for RCP B
- 2) Verify adequate power available to run one CCW pump (122 kw each pump). IF power available, THEN start one CCW pump.
- 3) Ensure MOV-817, CCW to CNMT - OPEN
- 4) Open RCP CCW supply valves and thermal barrier return valves for affected RCP:
 - o MOV-749A and AOV-754A for RCP A
 - o MOV-749B and AOV-754B for RCP B
- 5) Restore CCW flow to RCP(s) as follows:
 - a) IF RCP seal injection in service, THEN ensure RCP CCW return valve(s) from each RCP with seal injection is open.
 - o MOV-759A for RCP A
 - o MOV-759B for RCP B

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- b) IF RCP seal injection NOT established, THEN perform the following:

NOTE: RCP seal cooldown rate should NOT exceed 1°F/min.

- 1) Verify RCP #1 seal outlet temperatures - LESS THAN 235°F. IF NOT, THEN consult TSC prior to restoring CCW to RCP.
- 2) Dispatch AO to locally throttle open affected RCP CCW return valve(s) as necessary to cool down RCP seals at a rate not to exceed 1°F/min.
 - o MOV-759A for RCP A
 - o MOV-759B for RCP B
- 3) WHEN affected RCP #1 seal outlet temperature is LESS THAN 200°F and has stabilized, THEN manually open affected RCP CCW return MOV from control board.

NOTE: IF seal injection already in service, THEN Part B need not be performed.

B. Perform the following to restore RCP seal injection:

- 1) Verify RCP #1 seal outlet temperatures - LESS THAN 235°F. IF NOT, THEN consult TSC prior to restoring seal injection.
- 2) Dispatch AO to perform the following:
 - a) Verify seal injection needle valves, V-300A (Pen 106) and V-300B (Pen 110), closed.
 - b) Notify control room to monitor RCP #1 seal outlet temperatures.
- 3) Ensure any charging pump running.

NOTE: RCP seal cooldown rate should NOT exceed 1°F/min.

- 4) Restore seal injection as follows:
 - a) Crack open RCP seal injection needle valves, V-300A and V-300B, until minimum flow is established.
 - b) Adjust seal injection flow as directed by control room to maintain cooldown rate not to exceed 1°F/min until normal seal injection flow is established.

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Responsible Manager Reid Date 3-6-2002

This Attachment describes the steps to be taken up to and including a normal plant shutdown in the event of a Steam Generator (S/G) tube leak.

NOTE: ITS LCO 3.4.13 limit on S/G leakage of .1 gpm is equivalent to 378 cc/min (144 GPD).

This Attachment is organized in the following subsections:

- A. Primary to secondary leakage in at least one S/G \geq 5 GPD
- B. Primary to secondary leakage in at least one S/G \geq 75 gpd

A. Primary to secondary leakage in at least one S/G \geq 5 gpd

1. Request RP perform a second sample to confirm the leak rate.
2. Notify RP to implement procedure CH-SAMP-SG-LEAKRATE.
3. Refer to ITS LCO 3.7.14 for secondary specific activity limit.
4. Check operability of the following monitors.
 - R-15
 - R-15A
 - R-19
 - R-31
 - R-32
5. IF any monitor in Step 4 is NOT operable, THEN elevate monitor repair efforts to the highest priority.
6. Dispatch an AO to perform T-35H, Nuclear House Heating Steam To Boiler Steam Supply Change Over.
7. IF the leaking S/G has NOT been identified, THEN perform the following to identify the leaking S/G. (Valves located in IB hot side, outside sample room)
 - 7.1 Direct an AO to close V-996A, inlet block valve to FI-2027 (S/G blowdown Hx A outlet flow)

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7.2 Monitor R-19 for approximately two (2) minutes.

- o IF R-19 decreases, THEN leakage is in S/G A.
- o IF R-19 increases, THEN leakage is in S/G B.
- o IF R-19 does not change, THEN request RP perform
CH-SAMP-SG-BLOWDOWN to identify leaking S/G.

7.3 Open V-996A, inlet block valve to FI-2027 (S/G blowdown
Hx A outlet flow)

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B. Primary to secondary leakage in at least one S/G \geq 75 gpd

NOTE: Refer to ITS LCO 3.4.13 for RCS leakage limits.

NOTE: Refer to ITS LCO 3.7.14 for secondary specific activity limit.

NOTE: Refer to EPIP-1.0, Ginna Station Event Evaluation and Classification.

NOTE: Refer to O-9.3, NRC IMMEDIATE NOTIFICATION.

NOTE: AFTER the Turbine is off line, IMMEDIATELY perform step B.12, THEN return to any section or steps NOT performed.

1. Place Hotwell level controller in Manual at 50% position to minimize reject.
2. Start the A and B CNMT Auxiliary Charcoal Filter Fans.
3. Consult with RP/Chemistry section. If desired, perform the following:
 - a. Bypass the AVT Condensate DIs. Refer to T-6.9C, Condensate Demineralizer Bypass Operation.
 - b. Notify RP/Chemistry that the AVT Condensate DIs are bypassed AND isolated.
4. Shift Support Heating Steam Trap Outlet Valves from the trap header to Blowdown Tank by performing the following (6 ft east of S/G B FRV, 2 ft high):
 - a. Close support orifice system isolation valve, V-3684
 - b. Open support system to S/G blowdown tank isolation valve, V-3683.
5. Request identification of leaking S/G from the Control Room.
6. Close trap drain isolation valve upstream of MSIV on the leaking S/G.
 - S/G A, V-3521 Closed (south of S/G B FRV, 8 ft high)

OR

 - S/G B, V-3520 Closed (30 feet east of S/G B FRV, 8 ft high)
7. Verify Blowdown Tank discharge valve V-5714 is closed (at S/G Blowdown Tank.

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8. Isolate Blowdown from the leaking S/G.

- S/G A, AOV-5738 OR V-5701 Closed

OR

- S/G B, AOV-5737 OR V-5702 Closed

NOTE: Annunciator H-15 will light when this step is performed.

NOTE: Refer to ITS LCO 3.7.5 for TDAFW train flowpath operability.

NOTE: Refer to TRM 3.4.3 for ATWS mitigation operability.

9. PULL STOP the TDAFW Pump Steam Admission valve from the leaking S/G.

- S/G A, MOV-3505A PULL STOP

OR

- S/G B, MOV-3504A PULL STOP

10. Notify RP to survey the following areas:

- Steam Header
- Blowdown Tank
- Turbine Bldg Wall Fan
- Turbine Plant Sample Rack

11. Notify RPs to verify that airborne contaminants that may be discharging from steam reliefs OR the Air Ejector are NOT being pulled into the supply air handling units. The most likely areas affected are:

- Auxiliary Bldg
- Intermediate Bldg
- Service Bldg

12. WHEN the Turbine is off line, THEN perform the following:

a. Place leaking S/G ARV controller to AUTO, set for 1050 psig, and verify ARV is closed.

- Leaking S/G ARV in AUTO
- Leaking S/G ARV Set for 1050 psig
- Leaking S/G ARV Closed

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b. Close the MSIV on the leaking S/G.

- o S/G A, AOV-3517 Closed
- OR
- o S/G B, AOV-3516 Closed

NOTE: **IF** O-2.1, NORMAL SHUTDOWN TO HOT SHUTDOWN, was used to perform the shutdown, **THEN** do steps 13 and 14. **IF NOT**, **THEN** do step 15.

13. WHEN O-2.1 is completed, THEN continue cooldown to MODE 5 per O-2.2.
14. When directed by O-2.1 or O-2.2, remove the RCP associated with the leaking S/G from service.
15. Review O-2.1 and O-2.2 as necessary to secure equipment and establish shutdown alignments.

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Responsible Manager PS. Sullivan Date 3-6-2002

Perform the following local actions to complete normal secondary system shutdown:

- o Close reheater 4th pass temperature control valves:
 - o V-2432 (SW corner 1A MSR)
 - o V-2433 (SW corner 1B MSR)
 - o V-2434 (SW corner 2A MSR)
 - o V-2435 (SW corner 2B MSR)
- o Close reheater steam chain valves:
 - o V-3550 (SW of 1B MSR)
 - o V-3551 (SW of 1B MSR)
 - o V-3552 (NW of 1A MSR)
 - o V-3553 (NW of 1A MSR)
- o Open Reheater steamline vents (SW corner of condenser, middle floor):
 - o V-8500
 - o V-8501
 - o V-8502
 - o V-8504
 - o V-8505
- o Open Reheater steamline vents (SW corner of condenser, above walkway):
 - o V-8506
 - o V-8507
 - o V-8508
 - o V-8509
- o Locally close flange heating isolation valves:
 - o MOV-3601A (TB Middle Lvl East of TURB Lube Oil Reservoir)
 - o MOV-3602A

NOTE: IF either S/G pressure is LESS THAN condensate header pressure, THEN manual isolation of the MFW regulating and bypass valves should be considered before aligning for cooldown recirculation.

- o Open the following valves to align for condensate feed system cooldown RECIRC:
 - o V-3982B (at #5 heater outlet header)
 - o V-3983B (at #5 heater outlet header)
 - o V-4363 (at #5 heater outlet header)
 - o V-4365 (by MFW regulating valves)
 - o V-4361 (southwest corner of condenser, middle floor)
 - o V-3976A MFP A discharge valve bypass valve
 - o V-3977A MFP B discharge valve bypass valve
- o Secure all 5 secondary chemical addition pumps on TURB BLDG middle floor by #5 heaters.

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- o Secure all 3 ammonia pumps, TURB BLDG basement by MCC A.
- o Secure the Ethanolamine (ETA) injection pump, TURB BLDG basement by turbine lube oil purifier.
- o Isolate SW from the following coolers:
 - o MFW Pump Oil Coolers (MFW pump room)
 - o V-4703
 - o V-4704
 - o Exciter Air Cooler:
 - o V-4679B (chain valve next to condensate transfer pump)
 - o Bus Duct Air Cooler (TURB BLDG basement East of bus duct cooler)
 - o V-4674
 - o V-4674C (mini bypass around V-4674)
- o Throttle SW as necessary from following coolers:
 - o Generator Seal Oil Unit Coolers (H2 side and air side):
 - o V-4676A (mini bypass disch valve inside seal oil enclosure Bldg. NW corner)
 - o V-4677A (mini bypass disch valve inside seal oil enclosure Bldg. NW corner)
 - o Main Lube Oil Coolers (SW corner of Turb Oil Reservoir)
 - o V-4691
 - o V-4692
- o WHEN the turbine shaft stops, THEN notify Control Room. Control Room personnel will determine if adequate power (36 KW) available to start turning gear.
- o Transfer house heating steam to house heating boiler if necessary (refer to T-35H, NUCLEAR HOUSE HEATING STEAM TO BOILER STEAM SUPPLY CHANGE).
- o Align S/G blowdowns as follows:
 1. Secure blowdown to the condenser per T-14G, STEAM GENERATOR BLOWDOWN HEAT RECOVERY SYSTEM SHUTDOWN.
 2. Verify S/G releases are in effect. IF NOT, THEN ensure releases are in effect before performing the next step.
 3. Align Steam Generator Blowdown Flash Tank drains to the discharge canal per T-14F.1, SG BLOWDOWN ALIGNMENT TO DISCHARGE CANAL.
- o Restore MAKEUP to CSTs as directed by Control Room.

EOP: ATT-17.1	TITLE: ATTACHMENT SD-2	REV: 6 PAGE 1 of 1
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Responsible Manager

Bladen

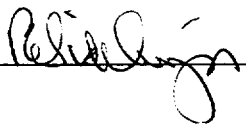
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3-6-2002

Perform the following to complete secondary system shutdown:

1. Align S/G blowdowns as follows:
 - a. Secure blowdowns to the condenser per T-14G, STEAM GENERATOR BLOWDOWN HEAT RECOVERY SYSTEM SHUTDOWN.
 - b. Verify S/G releases are in effect. IF NOT, THEN ensure releases are in effect before performing the next step.
 - c. Align Steam Generator Blowdown Flash Tank drains to the discharge canal per T-14F.1, SG BLOWDOWN ALIGNMENT TO DISCHARGE CANAL.
2. Transfer main steam header upstream traps from condenser to Blowdown Tank (TB, middle lvl, East of MFW Reg Vlvls).
 - o Open support trap outlet to blowdown tank (V-3683).
 - o Close support trap outlet to condenser (V-3684).
 - o Open A steam header trap to blowdown tank (V-3617).
 - o Close A steam header trap to condenser (V-3605).
 - o Open B steam header trap to blowdown tank (V-3604).
 - o Close B steam header trap to condenser (V-3616).
3. Close steam supply to air ejector (V-3583) (TB, middle lvl, East of AE unit).
4. Open vacuum breaker (V-3164) (TB, top floor, North of L.P. turbines, inside Turb skirting).
5. WHEN condenser vacuum at 0 inches Hg, THEN secure gland steam regulator isolation (V-3872) and stop gland steam vapor extractor (TB, middle lvl, North of main condensers).

EOP: ATT-18.0	TITLE: ATTACHMENT SFP-RWST	REV: 5 PAGE 1 of 3
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Responsible Manager  Date 3-6-2002

Perform the following to transfer SFP water to RWST:

NOTE: Locked valve key AND SFP filter key are required.

1. IF RWST purification is in progress, THEN restore normal alignemnt per S-7D, SECURING REFUELING WATER PURIFICATION PUMP FROM REFUELING WATER PURIFICATION.
2. Ensure SFP cooling system A in service using the lower suction or align per S-9A, PLACING THE SPENT FUEL PIT PURIFICATION AND/OR COOLING SYSTEM A IN SERVICE (SFP filter locked area key required).

NOTE: A transfer flow rate of approximately 400 gpm is expected if the SFP DI and filter are bypassed.

3. IF a transfer flow rate greater than 60 gpm is desired, THEN bypass the SFP DI and filter as follows:
 - a. Close SFP filter discharge to SFP V-804
 - b. Open SFP DI bypass V-789
 - c. Close SFP DI inlet V-790
 - d. Close SFP DI outlet V-796
 - e. Open SFP filter bypass V-797
 - f. Close SFP filter inlet V-798A
 - g. Close SFP filter outlet V-802

CAUTION: o IF THE SFP DI AND FILTER ARE IN SERVICE, THEN DO NOT EXCEED 60 GPM (FI-636).
 o DO NOT REDUCE SFP LEVEL BELOW THE 261 FT. ELEVATION (APPROXIMATELY 16 FEET BELOW THE NORMAL SFP LEVEL. SEE ATTACHED DRAWING)

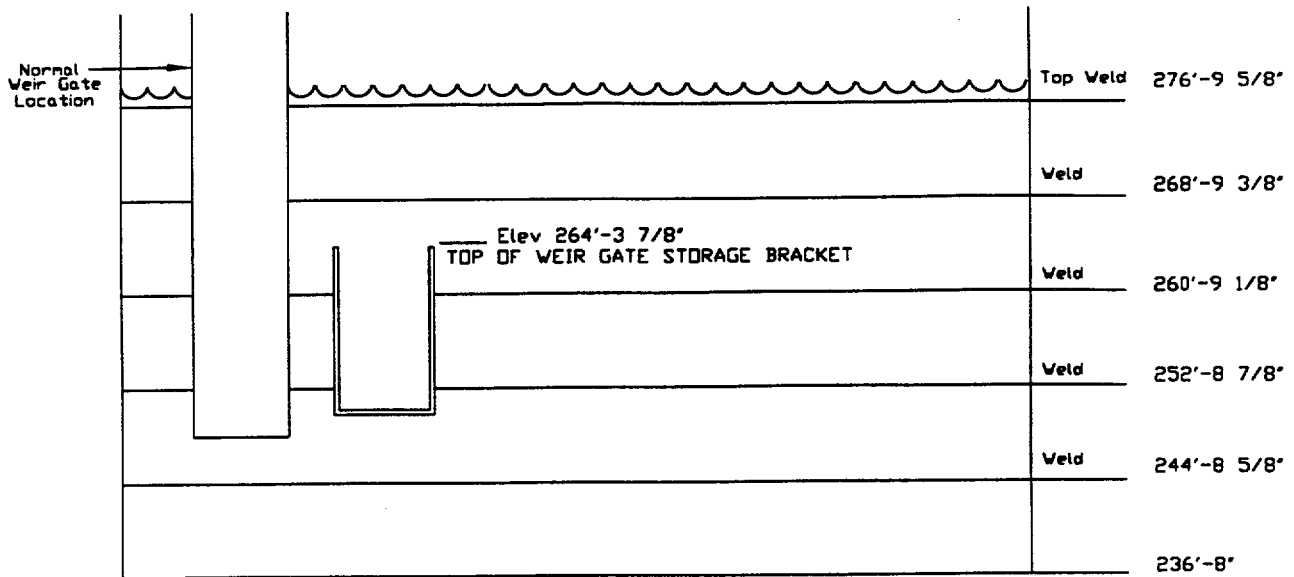
NOTE: SFP volume is approximately 6350 gals (2% RWST level) per foot.

4. Initiate transfer by slowly opening SFP filter discharge to RWST, V-803, and closing SFP filter discharge to SFP, V-804 (valves located below west stairs middle floor).
5. When transfer is complete, lock closed SFP filter discharge to RWST V-803.
6. Ensure SFP DI and filter are aligned as follows:
 - a. Open SFP filter inlet V-798A
 - b. Open SFP filter outlet V-802
 - c. Close SFP filter bypass V-797
 - d. Open SFP DI inlet V-790
 - e. Open SFP DI outlet V-796
 - f. Close SFP DI bypass V-789

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- 7 Slowly throttle open SFP filter discharge to SFP V-804 to 60 gpm (FI-636).
8. Lock SFP filter discharge to SFP V-804.

EOP: ATT-18.0	TITLE: ATTACHMENT SFP-RWST	REV: 5 PAGE 3 of 3
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EAST ELEVATION SPENT FUEL POOL

EOP: ATT-21.0	TITLE: ATTACHMENT RCS ISOLATION	REV: 2 PAGE 1 of 1
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Responsible Manager Res. [Signature] Date 3-6-2002

Perform the following to locally complete isolation of the RCS:

- o Close RCP #1 seal return isolation valve
 - o MOV-313 (Pen 108)
- o Close RCP seal injection needle valves
 - o V-300A (Pen 106)
 - o V-300B (Pen 110)
- o Close RCP CCW return valves (middle level by RWST)
 - o MOV-759A
 - o MOV-759B
- o Close CCW isolation valves for Rx support coolers
 - o MOV-813
 - o MOV-814