Duke Energy

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January 27, 2004

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

Re: McGuire Nuclear Station Units 1 & 2, Docket Nos. 50-369, 50-370
Change to Emergency Plan Implementing Procedure

Attached to this letter are a revised Emergency Plan Implementing Procedure (EPIP) Index and a copy of one (1) revised Emergency Plan Implementing Procedure. This procedure revision was evaluated pursuant to the requirements of 10 CFR 50.54 (q). The change does not constitute a reduction in the effectiveness of the emergency plan and the plan continues to meet the requirements of 10 CFR 50.47 (b) and 10 CFR 50 Appendix E. Duke implemented this change on December 3, 2003. A copy of the change is also being sent to the NRC Office of Nuclear Material Safety and Safeguards as per 10 CFR 72.44 (f). Revision bars were not used within the procedure to indicate the revision since the whole procedure was totally reformatted. The following procedure index change and procedure revision have been implemented:

EPIP Index Page 1	Dated 12/3/2003	Rev. 42
EPIP Index Page 2	Dated 12/3/2003	Rev. 42

REVISION to the following procedure:

RP/0/A/5700/026	Dated 12/3/2003	Rev. 003

This transmittal is being submitted outside the 30 day requirement and this occurrence has been entered into the Duke corrective action program.

There are no new regulatory commitments in this document. Duke is also supplying two copies of this submittal to the Regional Administrator of Region II. Questions on this document should be directed to Kevin Murray at (704) 875-4672.

Very truly yours,

Gary R. Peterson

Attachments

A045

xc: (w/attachment)
Mr. Luis Reyes,
Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
61 Forsyth St., SW, Suite 23T85
Atlanta, Georgia 30303

(w/attachment)
Mr. Martin J. Virgilio, Director
Office of Nuclear Material Safety and Safeguards
Mail Stop T-8A23
Washington, D.C. 20555-0001

(w/attachment)
MNS Master File No. 529.01

(w/o attachment)

R. E. Martin, USNRC
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

NRC Resident Inspector
McGuire Nuclear Station

M.T. Cash, Manager NRIA (EC050)

Electronic Licensing Library (EC050)

EP File 111

DUKE POWER

McGUIRE NUCLEAR SITE

EMERGENCY PLAN IMPLEMENTING PROCEDURES

APPROVED: _____
SAFETY ASSURANCE MANAGER

DATE APPROVED 1/26/04

EPIP Index Page 1	Dated 12/3/2003	Rev. 42
EPIP Index Page 2	Dated 12/3/2003	Rev. 42
RP/0/A/5700/026	Dated 12/3/2003	Rev. 003

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

PROCEDURE #	TITLE	REVISION NUMBER
RP/0/A/5700/000	Classification of Emergency	Rev. 009
RP/0/A/5700/001	Notification of Unusual Event	Rev. 018
RP/0/A/5700/002	Alert	Rev. 018
RP/0/A/5700/003	Site Area Emergency	Rev. 018
RP/0/A/5700/004	General Emergency	Rev. 018
RP/0/A/5700/006	Natural Disasters	Rev. 010
RP/0/A/5700/007	Earthquake	Rev. 007
RP/0/A/5700/008	Release of Toxic or Flammable Gases	Rev. 004
RP/0/A/5700/009	Collisions/Explosions	Rev. 002
RP/0/A/5700/010	NRC Immediate Notification Requirements	Rev. 013
RP/0/A/5700/011	Conducting a Site Assembly, Site Evacuation or Containment Evacuation	Rev. 006
RP/0/A/5700/012	Activation of the Technical Support Center (TSC)	Rev. 022B
RP/0/A/5700/018	Notifications to the State and Counties from the TSC	Rev. 012
RP/0/A/5700/019	Core Damage Assessment	Rev. 004
RP/0/A/5700/020	Activation of the Operations Support Center (OSC)	Rev. 014
RP/0/A/5700/022	Spill Response Procedure	Rev. 009
RP/0/A/5700/024	Recovery and Reentry Procedure	Rev. 002
RP/0/A/5700/026	Operations/Engineering Technical Evaluations in the Technical Support Center (TSC)	Rev. 003
RP/0/B/5700/023	Public Affairs Emergency Response Plan	Rev. 003
HP/0/B/1009/002	Alternative Method for Determining Dose Rate Within the Reactor Building	Rev. 002
HP/0/B/1009/003	Recovery Plan	Rev. 004
HP/0/B/1009/006	Procedure for Quantifying High Level Radioactivity Releases During Accident Conditions	Rev. 006
HP/0/B/1009/010	Releases of Radioactive Effluents Exceeding Selected Licensee Commitments	Rev. 006

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

PROCEDURE #	TITLE	REVISION NUMBER
HP/0/B/1009/021	Estimating Food Chain Doses Under Post-Accident Conditions	Rev. 001
HP/0/B/1009/022	Accident and Emergency Response	Rev. 003
HP/0/B/1009/023	Environmental Monitoring for Emergency Conditions	Rev. 005
HP/0/B/1009/024	Personnel Monitoring for Emergency Conditions	Rev. 002
HP/0/B/1009/029	Initial Response On-Shift Dose Assessment	Rev. 007
SH/0/B/2005/001	Emergency Response Offsite Dose Projections	Rev. 002
SH/0/B/2005/002	Protocol for the Field Monitoring Coordinator During Emergency Conditions	Rev. 002
SH/0/B/2005/003	Distribution of Potassium Iodide Tablets in the Event of a Radioiodine Release	Rev. 000
SR/0/B/2000/001	Standard Procedure for Public Affairs Response to the Emergency Operations Facility	Rev. 004
SR/0/B/2000/002	Standard Procedure for EOF Services	Rev. 003
SR/0/B/2000/003	Activation of the Emergency Operations Facility	Rev. 010
SR/0/B/2000/004	Notification to States and Counties from the Emergency Operations Facility	Rev. 006
EP Group Manual	Section 1.1 Emergency Organization	Rev. 018
PT/0/A/4600/088	Functional Check of Emergency Vehicle and Equipment	Rev. 007

(R04-01)

Duke Power Company
PROCEDURE PROCESS RECORD (1)

ID No. RP/0/A/5700/026
Revision No. 003

PREPARATION

(2) Station McGuire Nuclear Station

(3) Procedure Title Operations/Engineering Required Actions in the Technical Support Center (TSC)

(4) Prepared By Mike Weiner Date January 22, 2003

(5) Requires NSD 228 Applicability Determination? If Applicability Determination is required, attach NSD 228 documentation.
- ☒ Yes (New procedure or revision with major changes)
- ☐ No (Revision with minor changes)
- ☐ No (To incorporate previously approved changes)

(6) Reviewed By S Hankey (QR) Date 9/11/03

Cross-Disciplinary Review By _____ (QR) NA _____ Date _____

Reactivity Mgmt. Review By _____ (QR) NA JSH Date 9/11/03

Mgmt. Involvement Review By _____ (OPS Supt.) NA JSH Date 9/11/03

(7) Additional Reviews Alan L. Rower 11/10/03

Reviewed By Chris Rich (Steps 1.10 & 1.11) Date 9/11/03

Reviewed By Jon Kerr (Step 1.12) S A Norman (Step 1.21) 11/6/03 Date 10/14/03

(8) Temporary Approval (*if necessary*)

By _____ (OSM/QR) Date _____

By _____ (QR) Date _____

(9) Approved By K. L. Murray Date 12-3-03

PERFORMANCE (*Compare with Control Copy every 14 calendar days while work is being performed.*)

(10) Compared with Control Copy _____ Date _____

Compared with Control Copy _____ Date _____

Compared with Control Copy _____ Date _____

(11) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(12) Procedure Completion Verification

- ☐ Yes ☐ NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Data sheets attached, completed, dated and signed?
- ☐ Yes ☐ NA Charts, graphs, etc. attached, dated, identified, and marked?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By _____ Date _____

(13) Procedure Completion Approved _____ Date _____

(14) Remarks (*Attach additional pages, if necessary.*)

Duke Power Company McGuire Nuclear Station **Operations/Engineering Required Actions in the Technical Support Center (TSC)** **Multiple Use**	Procedure No. RP/0/A/5700/026 Revision No. 003 Electronic Reference No. MP0070NJ

NOTE: Any technical changes to this procedure will be performed by the appropriate Operations or Engineering personnel. Operations or Engineering personnel will complete the required 10CFR50.59 reviews/signatures and then submit procedure change to Emergency Planning personnel for an "Additional Review" and overall "Approval" of the Procedure Process Record. "Additional Review" by Emergency Planning will be focused on verification that any steps providing instructions to the Control Room include references to valid OPS procedures.

Revision History (significant issues, limited to one page)

Rev 003 (07/21/03)

- Added step to evaluate running ND pump at low flow.
- Converted to correct Template.
- Added Table in Step 1.1 to clarify when other steps apply.
- Made various Writer's Guide changes.
- Provide guidance to monitor VX and NS operation at low containment pressure.
- Provide information to evaluate restoring normal NCDT operation.
- Provide procedure reference to EP/1(2)/A/5000/FR-Z.2 (Response to Containment Flooding) if containment sump level is above 12.5 ft.
- Provide guidance to evaluate isolating potential VI input to containment during LOCAs. {PIP M99-5191}
- Raised setpoint for RN/KC heat exchangers D/P used to evaluate performing a heat exchanger super flush to 11.5 psid.
- Provide option to swap VC/YC trains instead of swapping RN pump suction to LLI due to high SNSWP temperature.
- Made steps monitored by Engineering and Operations the same by combining enclosures.
- Provide detail in step to align alternate power to IPB fans described in PIP M95-2052 CA12.
- Added step to ensure VC intakes are open. {PIP M03-2918 & 2930}

Operations/Engineering Required Actions in the Technical Support Center (TSC)

1. Symptoms

This procedure will normally be performed by Operations Procedure Support and System Engineering Manager positions in the Technical Support Center (TSC) to provide for technical evaluation of appropriate plant equipment and/or plant parameters. Exact plant equipment and/or plant parameters to be monitored will be determined by the Operations Procedure Support and System Engineering Manager positions based on existing and potential plant status. RP/0/A/5700/012 (Activation of the Technical Support Center (TSC)) activation checklist will direct Operations and Engineering personnel to obtain this procedure as TSC is being staffed.

2. Immediate Actions

None

3. Subsequent Actions

NOTE:	This procedure is NOT intended to be followed in a step-by-step sequence. Sections of procedure are to be implemented as the applicable action becomes necessary.

3.1 Operations and Engineering personnel will review current plant status and begin evaluation of various plant equipment/parameters as directed in Enclosure 4.1 (Operations and System Engineering Technical Evaluation Checklist).

3.2 Each group is responsible for ensuring Enclosure is completed. Both groups monitor steps to ensure they are performed as required.

4. Enclosures

4.1 Operations and System Engineering Technical Evaluation Checklist

End of Body

NOTE: IF needed during drills or real events, up-to-date VTO flow diagrams are maintained in Work Control Center (WCC). {PIP-M-99-05381}.

1. Procedure

_____ 1.1 Monitor the following conditions and evaluate performing applicable steps:

NOTE:
- Remaining steps in this enclosure only have to be read if condition listed in Table below is met.
- Some steps extend across multiple pages.

CONDITION	STEP TO EVALUATE
a. Emergency Coolant Recirc is lost following transfer to Cold Leg Recirc.	Step 1.2
b. NS actuates during the event AND any of the following: * NS pump is running with suction aligned to sump. * NS pump was stopped and remains off for over 8 hours. * NS pump is cycling around CPCS setpoints.	Step 1.3
c. Containment pressure goes above 3 psig and then goes below 1 psig.	Step 1.4
d. Faulted S/G outside containment.	Step 1.5
e. LOCA inside containment AND OAC lost.	Step 1.6
f. LOCA inside containment OR any event that may result in radioactive water leakage in Aux. Bldg.	Step 1.7
g. NCDT cooling and release isolated (LOOP, S/I, Loss of VI).	Step 1.8
h. 24 hours elapsed after LOCA occurs.	Step 1.9
i. LOCA AND transfer to Cold Leg Recirc occurs.	Step 1.10
j. 100 hours elapsed AND YC chiller is cooled by RN train aligned to SNSWP.	Step 1.11
k. LOOP occurred AND off-site power CANNOT be restored for at least 48 hours.	Step 1.12
l. Spent fuel pool cooling is NOT restored for 8 hours.	Step 1.13
m. S/G PORV isolation valve was closed to isolate a failed open S/G PORV.	Step 1.14
n. Intact S/G pressures are reduced to less than 100 PSIG during cooldown.	Step 1.15
o. EMF-51A or B reaches 10 E5 R/hr.	Step 1.16
p. Containment sump level goes above 12.5 ft.	Step 1.17
q. Transfer to Cold Leg Recirc has occurred AND NC subcooling based on core exit thermocouples remains less than 0°F.	Step 1.18
r. LOCA inside containment AND containment pressure remains above 3 psig.	Step 1.19
s. LOCA OR any other event that results in potential for continued radiological release.	Step 1.20
t. ND pump running over 2 hours with ND flow to NC loops less than 1000 gpm per running ND pump (1000 gpm with one pump on, 2000 gpm with 2 pumps on)	Step 1.21
u. NV auxiliary spray used on Unit 1.	Step 1.22
v. H2 igniters used AND it is desired to secure igniters.	Step 1.23

_____ 1.2 IF AT ANY TIME Emergency Coolant Recirc is established and subsequently lost, evaluate recommending implementation of EP/1(2)/A/5000/ECA-1.1 (Loss Of Emergency Coolant Recirc) for guidance to maintain core cooling. {DW-93-39 & DW-96-16}

_____ 1.3 IF NS actuates during this event, perform the following: {PIPs M93-807, M97-397}

1.3.1 While NS pump operates with suction on Containment Sump, perform the following:

_____ 1.3.1.1 Monitor Containment Sump level.

_____ 1.3.1.2 Check for corresponding Containment pressure decay.

_____ 1.3.1.3 Compare A and B train NS pump flow.

_____ 1.3.1.4 IF corresponding Containment pressure decay NOT observed OR Containment Sump level decreases observed, perform the following:

_____ • Evaluate potential for NS piping leakage in the annulus.

_____ • Evaluate need to secure affected train and rely on remaining NS train or ND spray capability.

_____ 1.3.2 IF NS pump is started and stopped AND continued NS capability is required, ensure NS pump is run at least once per 12 hours as follows:

_____ • Refer to OP/1(2)/A/6200/007 (Containment Spray System).
_____ • Run NS pump long enough to establish NS flow and refill NS header.
_____ • IF NS suction on FWST, minimize run time to prevent swap to Cold Leg Recirc.

1.3.3 WHEN CPCS is controlling operation of NS pumps AND both trains of NS are no longer required, secure one NS train to minimize pump cycling and potential for water hammer as follows:

_____ 1.3.3.1 Reset Containment Spray on train to be secured.

_____ 1.3.3.2 Stop one train NS Pump.

_____ 1.3.3.3 Close NS Pump discharge isolation valves on secured train.

_____ 1.3.3.4 IF NS System capability required, ensure secured train is run at least once every 12 hours per Step 1.3.2.

1.3.4 WHEN no longer running NS Pump(s) every 12 hours, perform the following within 12 hours of last NS Pump run:

_____ 1.3.4.1 Tagout NS Pumps.

_____ 1.3.4.2 Do NOT clear NS Pump tags until NS headers drained.

_____ 1.3.4.3 WHEN conditions allow, drain NS header(s) on secured NS train(s) per OP/1(2)/A/6200/007 (Containment Spray System).

_____ 1.4 IF containment pressure exceeds 3 psig AND containment pressure returns below 1 psig, perform the following:

_____ 1.4.1 Monitor VX Containment Air Return Fans (should turn off at 0.35 psig and restart at 0.8 psig).

_____ 1.4.2 IF Containment pressure less than 0 psig, perform the following:

_____ • Ensure VX Containment Air Return Fans off.
_____ • Ensure NS containment spray secured.
_____ • Ensure ND containment spray secured.
_____ • Evaluate ensuring cooling water to VL fans isolated (RV Containment Isolation Valves).

_____ 1.5 IF a faulted S/G outside Containment exists, perform the following: {DW-93-024}

_____ 1.5.1 Notify RP to monitor area of steam release to atmosphere for radiation and to report any abnormal radiation condition to the TSC.

_____ 1.5.2 IF abnormal radiation exists on faulted S/G, evaluate potential rupture on S/G using:

- NC inventory control
- Faulted S/G level
- Faulted S/G pressure

_____ 1.6 IF OAC NOT available AND event involves LOCA inside containment, monitor ND & NS Sump as follows: {PIP M-99-104}

NOTE:
- WHEN ND & NS Sump Pumps are in "auto", pumps start in the following order as sump level rises: 1A, 1B, 2A, 2B. Each pump has approximately 120 gpm capacity, but combined flow is as follows:
  1 pump - 120 gpm
  2 pumps - 126 gpm
  3 pumps - 130 gpm
  4 pumps - 132 gpm
- Annunciators for ND & NS Room Sump Hi Hi Level come in when level reaches setpoint to start 1B (1AD13-C1) and 2B (2AD13-C1) ND/NS Sump pumps.
- Control Room ND & NS sump level indicator indicates level above the top of sump.
- Selecting "REMOTE" on "A & B ND/NS Room Sump Pumps" switch gives control room indication and control. (This also removes indication and control from Radwaste Chemistry and prevents Chemistry's local pump run timers from working).
- Normal inputs to ND & NS Sump will cause one sump pump to operate approximately 10 minutes every 1 - 4 days.

1.6.1 Notify Control Room to perform the following to allow control room monitoring and control over ND & NS sump pump operation:

_____ 1.6.1.1 Select "AUTO" on ND & NS Rm Sump Pumps:

_____ • 1B
_____ • 2A
_____ • 2B

_____ 1.6.1.2 Select "REMOTE" on "A & B ND/NS Room Sump Pumps" switches on:

_____ • Unit 1
_____ • Unit 2

_____ 1.6.1.3 Select "MANUAL" and "OFF" on 1A ND & NS Sump pump. This will ensure that an annunciator alarm is received when the first ND & NS Sump pump is started (1B ND & NS Sump pump).

_____ 1.6.2 Notify control room to monitor frequency of ND & NS Sump Pump operation on both units and report the following to TSC:

- **WHEN** pumps run
- How long they run

_____ 1.6.3 Notify control room that 1A ND/NS Sump pump may be started if other sump pumps **CANNOT** maintain sump level.

_____ 1.6.4 Notify Control Room to monitor (every 30 to 60 minutes) ND & NS Sump level indication on C/R instrument 0WLP-5950.

_____ 1.7 **IF** event involves a LOCA inside containment **OR** any event that may result in radioactive water leakage in Aux Bldg, perform the following: {PIP M-99-104}

NOTE: FDT pumps may be aligned to pump through processing demineralizers to Waste Monitor Tanks (normal alignment) or aligned to Aux FDT or Aux WEFT in Interim Radwaste Facility.

_____ 1.7.1 Notify Radwaste Chemistry to determine status and alignment of FDT pumps.

_____ 1.7.2 **IF** FDT pumps aligned to Aux FDT or Aux WEFT in Interim Radwaste Facility (IRF), perform the following:

_____ • Ensure Aux FDT and Aux WEFT levels are periodically monitored by Radwaste Chemistry (716' liquid waste panel, OAC (M2A0995, M2A0989), or locally in IRF).

_____ • Evaluate potential for release of radioactive water outside Aux Bldg.

_____ 1.7.3 **IF** OAC available, periodically monitor FDT level (M2A0531).

CAUTION: Closing seal return containment isolation valves will reduce NC pump seal DP by approximately 100 psid.

NOTE:
- IF NC Pump seal return containment isolation valves closed, seal return will go to PRT.
- IF NCDT pressure approaches VCT pressure, closing seal return containment isolation valves prevents back flow through NC pump #2 and #3 seals. {PIP M95-1902}
- NCDT relief pressure is 100 psig.

_____ 1.8 IF normal NCDT cooling and release has been lost (LOOP, SI, Loss of VI), monitor NCDT temperature and pressure:

_____ 1.8.1 IF TSC desires to align NCDT to normal, evaluate performing applicable steps in EP/1(2)/A/5000/ES-1.1 (Safety Injection Termination) Enclosure 3 (Plant Realignment After S/I Termination), considering the following:

- ES-1.1, Enclosure 3 (Plant Realignment After S/I Termination) contains steps to align KC and ensure proper NCDT operation.
- These steps may only be performed after evaluating impact to KC System Operation and release of NCDT water to Aux Building tanks. (Consider dose and potential loss of Containment Sump water outside containment).
- ES-1.1, Enclosure 3 (Plant Realignment After S/I Termination) assumes KC has already been aligned to Reactor Building header. ES-1.1 Enclosure 3 (Plant Realignment After S/I Termination) will reopen KC to NCDT isolation valves.

_____ 1.8.2 IF excess letdown in service AND closing seal return containment isolation valves is desired in next step, align excess letdown to NCDT immediately before closing seal return containment isolation valves.

_____ 1.8.3 IF NCDT pressure approaching VCT pressure, evaluate performing one of the following:

_____ • Close and maintain closed seal return containment isolation valves (1(2)NV-94AC and 95B)
OR
_____ • Reduce NCDT pressure

_____ 1.8.4 IF NCDT pressure greater than or equal to VCT pressure AND NV-94AC or 95B is closed, place info tag on valves: "Contact TSC prior to opening".

_____ 1.8.5 IF NCDT pumps running without KC cooling water (SI or Loss VI) for an extended period of time AND NCDT temperature is approaching 200°F, evaluate stopping NCDT pumps prior to flashing KC water in NCDT HX, or exceeding NCDT piping design temperatures. (Ref MCFD 1(2)565-01.01 and 1(2)573-03.01).

_____ 1.9 IF all the following conditions exist 24 hours after initiation of the event, perform Steps 1.9.1 and 1.9.2: {PIP-M-99-4699}

- LOCA has occurred resulting in NS actuation
- Loss of Offsite power has occurred on either unit
- Any KF train running with heat load aligned to SNSWP (via KF to KC to RN)

_____ 1.9.1 Monitor SNSWP temperature once per 6 hours.

_____ 1.9.2 IF SNSWP temperature reaches 90°F, evaluate performing the following:

_____ 1.9.2.1 Secure any KF train with its heat load aligned to SNSWP (via KF to KC to RN).

_____ 1.9.2.2 IF available, align KF heat load to LLI (via KF to KC to RN).

_____ 1.9.2.3 IF KF cooling secured, check SFP level every 6 hours and periodically makeup to SFP as necessary to compensate for boil-off per OP/1&2/A/6200/005 (Spent Fuel Cooling System), Enclosure 4.4 (Spent Fuel Pool Level Control).

_____ 1.10 Monitor RN/KC HX DP on affected unit(s) as follows: {PIP 0-M94-1429}

_____ 1.10.1 Obtain initial RN/KC HX DP reading (M1(2)P1222 or M1(2)P1223).

_____ 1.10.2 Obtain subsequent RN/KC HX DP readings (M1(2)P1222 or M1(2)P1223) as follows:

_____ • IF DP 0 - 10 psid, monitor DP every 2 hours
_____ • IF DP 10.1 - 11.4 psid, monitor DP every 30 minutes

_____ 1.10.3 IF the five minute average corrected DP (M1(2)P1222 or M1(2)P1223) exceeds 11.5 psid on a continuous basis, evaluate scheduling KC HX super flush per OP/1(2)/A/6400/006 (RN System).

_____ 1.11 IF operating YC Chiller is cooled by RN Train aligned to SNSWP, perform the following: {PIP M-00281}

_____ 1.11.1 Monitor SNSWP temperature on the following schedule:

_____ • Initiate monitoring 100 hours from initiation of ESF actuation.
_____ • Continue monitoring every 24 hours as long as YC Chiller is supplied cooling water from SNSWP.

_____ 1.11.2 IF SNSWP temperature greater than 84°F, recommend one of the following to ensure proper operation of YC Chillers:

_____ • Align RN Train to LLI. The affect on RN suction pressure should be evaluated (based on number of operating RN and RV pumps and flowrate), prior to swapping both trains RN suction to LLI.
OR
_____ • Swap VC/YC trains to ensure operating YC Chiller is cooled by RN from LLI.

_____ 1.12 IF a LOOP has occurred during this event AND off-site power CANNOT be restored for at least 48 hours from when loss of off-site power occurred, perform the following to align power to IPB fans prior to power restoration: {PIP M95-2052, CA12}

_____ 1.12.1 Notify Control Room IPB fan cooling is required to dry out ductwork prior to power restoration to associated unit's busses.

NOTE: Time to complete these actions will depend upon availability of alternate power sources.

_____ 1.12.2 Verify retail power available at either of the following locations by measuring voltage at 600VAC:

_____ • Unit 1 Retail Power Panel (east of Warehouse #1)
_____ • Unit 2 Retail Power Panel (outside Unit 2 turbine building roll-up door, southeast)

_____ 1.12.3 IF voltage NOT present at either retail power panel, arrange to have portable (rental or other means) generator brought on site. Portable generator should be sized to be able to run a 150 HP motor rated at 575VAC, 3 phase, 60 Hz with 140 FLA and 870 LRA.

NOTE: Applicable MCCs for IPB fans are as follows:

- 1MXG for 1A IPB Fan
- 1MXH for 1B IPB Fan
- 2MXG for 2A IPB Fan
- 2MXH for 2B IPB Fan

_____ 1.12.4 From retail panel or portable power source, run 3/c 2/0 cable or larger to applicable MCC for IPB fan to be used. Do NOT connect to MCC yet. (Use site engineering criteria or NEC for alternate cable based upon availability and actual cable length).

_____ 1.12.5 Rack out and red tag the following load center breakers:

_____ • Normal supply to applicable MCC
_____ • Alternate supply to applicable MCC

_____ 1.12.6 Open and red tag all MCC breakers for the applicable MCC except for the MCC alternate incoming breaker and the IPB fan breaker.

_____ 1.12.7 Select "OFF" on affected unit's IPB Fans.

_____ 1.12.8 Remove the cables connecting to the alternate incoming breaker in applicable MCC. (The cables are 2-3/c 500 MCM cables).

_____ 1.12.9 Terminate the cable pulled in Step 1.12.4 to alternate incoming breaker in applicable MCC.

_____ 1.12.10 Close the following breakers on applicable MCC to align power to IPB Fan:

_____ • Alternate incoming breaker
_____ • IPB Fan

_____ 1.12.11 Check for correct motor rotation while starting fan in next step.

_____ 1.12.12 WHEN power aligned to IPB fan, dispatch operator to start fan per OP/1(2)/B/6300/10 (Generator Isolated Phase Bus Cooling), Enclosure 4.4 (Isolated Phase Bus Cooling system Operation in Once-Through Cooling Mode) for a minimum of 2 hours prior to re-energizing buslines to ensure moisture has been removed from IPB ductwork.

NOTE: Temporary power supply is disconnected prior to restoring normal power supplies to prevent connecting normal power to the alternate power supply.

_____ 1.12.13 WHEN IPB fan has been run for at least 2 hours AND busline is available to be energized, perform the following prior to restoring offsite power:

_____ 1.12.13.1 Stop associated IPB fan.

_____ 1.12.13.2 Disconnect temporary power supply from associated MCC.

_____ 1.12.13.3 Restore cable disconnected in Step 1.12.8 to normal.

_____ 1.12.13.4 Close all available breakers (other than spare breakers) on associated MCC.

_____ 1.12.13.5 Ensure MCC is restored to normal and available to be energized from normal power supply.

_____ 1.12.13.6 Notify control room offsite power may be restored.

_____ 1.12.13.7 WHEN unit load centers are reenergized, evaluate ensuring IPB fan is running and returning IPB fan controls to normal per OP/1(2)/B/6300/010 (Generator Isolated Phase Bus Cooling).

_____ 1.13 Within 10 hours of SI initiation AND prior to onset of SFP boiling, evaluate restoring SFP cooling per AP/1(2)/A/5500/041 (Loss of Spent Fuel Pool Cooling or Level). {PIP 0-M96-3040}

_____ 1.14 IF a S/G PORV isolation valve was closed to isolate a failed open or leaking S/G PORV, perform the following: {PIP 0-M98-1325}

NOTE: As affected S/G pressure drops, S/G PORV isolation valve may start leaking. This may be a concern if S/G is ruptured.

_____ 1.14.1 Locally monitor affected S/G PORV line for leakage while depressurizing associated S/G.

_____ 1.14.2 IF S/G PORV starts leaking again, dispatch operator to ensure PORV isolation valve closed.

_____ 1.15 WHEN S/Gs are depressurized, throttle CA control valves for idle CA pumps as required to prevent CA suction sources from overfilling S/Gs due to gravity feed.

_____ 1.16 IF AT ANY TIME containment radiation read on EMF - 51A or B reaches 10 E5 R/hr, notify control room to ensure abnormal containment condition (ACC) setpoints are used in emergency procedures. {DW-93-27} (For design basis events, using just the 3 psig containment pressure criteria is adequate for determining when ACC setpoints must be used. For some beyond basis LOCAs outside containment, high containment radiation may be reached hours into the event, without reaching 3 psig in containment. (High containment radiation will then be used to determine when ACC setpoints will be used.)

NOTE: CSF status tree will NOT show orange path for high Containment Sump level if Containment Pressure is above 3 psig.

_____ 1.17 IF AT ANY TIME Containment Sump level goes above 12.5 feet, evaluate implementing EP/1(2)/A/5000/FR-Z.2 (Response to Containment Flooding). {DW 02-01}

NOTE: EP/1(2)/A/5000/E-1 (Loss of Reactor or Secondary Coolant) addresses transferring to Hot Leg Recirc requirements during a large break LOCA. The following step evaluates Hot Leg Recirc requirements if other EPs (besides E-1) are in effect. E-1 step to energize valves required for transfer to Hot Leg Recirc AND ES-1.4 need to be performed if Hot Leg Recirc is required.

_____ 1.18 IF AT ANY TIME all of the following conditions exist, evaluate performing steps to transfer to Hot Leg Recirc: {DW-93-34}

- LOCA inside containment.
  AND
- Transfer to Cold Leg Recirc had been completed.
  AND
- EP/1/(2)A/5000/E-1 (Loss of Reactor or Secondary Coolant) NOT in effect.
  AND
- NC subcooling based on core exit thermocouples less than 0°.
  AND
- Time from reactor trip greater than or equal to time to transfer to Hot Leg Recirc given in E-1.

_____ 1.19 IF LOCA inside containment exists AND containment pressure remains above 3 psig, evaluate status of VI isolation to containment as follows: {PIP M-99-5191, DW 98-023}

1.19.1 Check VI valves closed on affected unit:

- _____ 1(2) VI-129B (A Ess Hdr Cont Outside Isol)
- _____ 1(2) VI-160B (B Ess Hdr Cont Outside Isol)
- _____ 1(2) VI-150B (Lwr Cont Non Ess Cont Outside Isol)
- _____ 1(2) VI-362A (VI to Annulus Vent Cont Isol)
- _____ 1(2) VI-148B (Upp Cont Non Ess Cont Outside Isol)

_____ 1.19.2 IF valve(s) open, evaluate closing, locally closing, or alternate means to isolate VI headers feeding containment.

_____ 1.19.3 Evaluate placing "INFO" tags next to control board switches for valves in Step 1.19.1: "Contact TSC prior to opening".

_____ 1.20 IF LOCA or any other event has occurred resulting in potential for continued radiological release, complete the following within 4 hours of event initiation to limit control room dose: {PIP M-03-2918&2930}

1.20.1 Check position of VC intakes isolation dampers:

1.20.1.1 Unit 1 intake (location A):

_____ • 1VC-1A (VC Otsd Air Intake Isol from Unit 1)
_____ • 1VC-2A (VC Otsd Air Intake Isol from Unit 1)
_____ • 1VC-3B (VC Otsd Air Intake Isol from Unit 1)
_____ • 1VC-4B (VC Otsd Air Intake Isol from Unit 1)

1.20.1.2 Unit 2 intake (location B):

_____ • 1VC-9A (VC Otsd Air Intake Isol from Unit 2)
_____ • 1VC-10A (VC Otsd Air Intake Isol from Unit 2)
_____ • 1VC-11B (VC Otsd Air Intake Isol from Unit 2)
_____ • 1VC-12B (VC Otsd Air Intake Isol from Unit 2)

NOTE: EMF reading is only valid if associated intake is open.

1.20.2 Have RP determine which unit intake has highest radiation hazard using any of the following as required:

_____ • EMF-43A (Control Rm Air Intake Loc A) (associated with Unit 1 intake)
_____ • EMF-43B (Control Rm Air Intake Loc B) (associated with Unit 2 intake)
_____ • Local monitoring of intakes (each intake can be accessed from associated unit's D/G Bldg roof. The VC intake is two candy cane shaped 18 in. pipes on Aux Bldg roof next to Reactor Bldg).

NOTE:
- **IF** dampers require local operation, Unit 1 intake dampers are located in Unit 1 MG set room and Unit 2 intake dampers are located in Unit 2 MG set room.
- At least one unit's intake must remain open.
- Control room dose calculations assume that both unit's VC intake isolation dampers are open within 4 hours of event. **IF** the radiation hazard is clearly higher on one unit's intake, it is conservative to isolate the affected intake, after ensuring the cleaner unit's intake is open.

_____ 1.20.3 **IF** one unit's intake radiation hazard is clearly higher than the other unit, perform the following:

1.20.3.1 Ensure open all intake dampers associated with cleanest unit's intake listed in Step 1.20.1.1 or 1.20.1.2.

_____ 1.20.3.2 **WHEN** intake dampers associated with cleanest unit's intake are open, close intake dampers associated with highest radiation hazard unit listed in Step 1.20.1.1 or 1.20.1.2.

_____ 1.20.4 **IF** both unit's intake radiation hazard are approximately the same, **OR** difference **CANNOT** be determined, ensure open all intake dampers listed in both Steps 1.20.1.1 and 1.20.1.2.

_____ 1.21 IF ND Pump is running 2 hours with ND flow to NC loops less than 1000 gpm per running ND Pump (1000 gpm with one pump on, 2000 gpm with 2 pumps on), perform the following: {PIP M-03-4545}

_____ 1.21.1 Determine if total flow rate of each ND Pump (including recirc flow) is less than 1000 gpm using the following as needed:

- "ND Pump mini-flow" for associated pump (OAC or Control Room Chart Recorder)
- "ND Pump and Hx mini-flow" (OAC or Control Room Chart Recorder) (requires associated recirc valve 1(2)ND-68A or 1(2)ND-67B open).
- IF both ND Pumps running AND ND train's cross-tie is open (1(2)ND-30A and 1(2)ND-15B), the stronger ND pump may be pumping through the other train's recirc valve (assuming recirc valve is open) and most of the flow to NC Cold Legs. This may limit the flow of weaker pump to just its "ND Pump mini-flow" indication.
- ND flow to A and B NC Cold Legs indication (at low flow, instrument uncertainty may be 433 gpm.)
- ND flow to C and D NC Cold Legs indication (at low flow, instrument uncertainty may be 433 gpm.)
- IF ND Aux Containment Spray aligned, the associated ND Pump flow is greater than 1000 gpm.
- IF accessible, local ND Pump flow indication in Aux Bldg, 695' may be used. This indicates total ND Pump flow for associated pump, minus the flow through the associated "ND Pump mini-flow" line that taps off upstream of associated ND Pump check valve. (The local gauges below measure pump flow downstream of associated ND discharge check valve, and are NOT on either mini-flow line).

  - 1A ND Pump: 1NDPG5040 (1A ND Pump Mini Flow)
  - 1B ND Pump: 1NDPG5050 (1B ND Pump Mini Flow)
  - 2A ND Pump: 2NDPG5040 (2A ND Pump Mini Flow)
  - 2B ND Pump: 2NDPG5050 (2B ND Pump Mini Flow)

- IF ND aligned to supply suction of NV and NI pumps in Cold Leg Recirc, consider ND flow to NV and NI pump suctions. This could be supplied by one or both ND pumps, depending on flow rates and which ND pump was stronger.

NOTE: At low flow, ND Pump internal hydraulic recirc, increased seal wear and possibly increased wear ring can occur over an extended period. Monitoring operating parameters such as bearing temperatures or stator temperature are NOT adequate to determine pump health under these conditions.

_____ 1.21.2 IF ND Pump is running with flow less than 1000 gpm, evaluate the following flow limits and actions:

_____ 1.21.2.1 Review the following operating considerations:

_____ • IF individual ND Pump flow is less than 600 gpm for over 3 hours, pump degradation may occur.

_____ • IF individual ND Pump flow is between 600 to 1000 gpm for over 12 hours, pump degradation may occur.

_____ • IF flow is at low side of range above, more attention should be given to limiting run time.

_____ 1.21.2.2 IF ND Pump is approaching a limit above, evaluate performing the following:

_____ A. Raising ND Pump flow

_____ B. Evaluate securing ND Pump, considering the following:

- Do NOT secure an ND Pump with associated ND Aux Containment Spray Valve open.
- IF ND Pump supplying NV and NI pump suctions in Cold Leg Recirc , at least one ND pump must remain on with associated supply valve to NV and NI Pumps open (1(2)ND-58A or 1(2)ND-136B), to maintain suction supply to NV and NI pumps.
- Securing one ND pump operating in Cold Leg Recirc with suction aligned to NV and NI Pumps may make plant more vulnerable to loss of emergency coolant recirc. As a failure on the remaining ND pump will cause loss of NPSH to running NV and NI pumps.
- IF one ND pump operating in Cold Leg Recirc with suction aligned to NV and NI pumps is secured, evaluate securing one of 2 trains of NV and NI also to protect them in case the remaining ND pump trips.
- Ensure core cooling will be maintained with remaining operating ECCS pumps.

_____ C. IF ND Pump is secured, AND other ND pump is left on, recheck remaining ND pump flow.

_____ 1.22 IF NV auxiliary spray used on Unit 1, evaluate number of charging nozzle thermal transients per PIP M-97-325. (The number of transients depends on charging flow and how many times check valve 1NV-20 may have cycled).

_____ 1.23 WHEN desired to turn off H2 Igniters, perform the following: {PIP M97-0222}

_____ 1.23.1 Determine if adequate core cooling has existed for this entire event.

_____ 1.23.2 IF adequate core cooling has existed for this entire event AND containment pressure is less than .25 psig, turn H2 Igniters off.

_____ 1.23.3 IF loss of adequate core cooling has occurred during this event, turn H2 Igniters off 24 hours after adequate core cooling has been established.

End of Enclosure