Facility: LaSalle Scenario No.: 1 Op-Test No.: 2006-301

Examiners: Operators:

Initial Conditions: 100% RTP; RCIC is OOS, day 3 of a scheduled 3 day outage.

Turnover: Maintain power at 100% RTP except as required ot perform TSV/EOC-RPT Functional Test. RCIC is OOS, day 3 of a scheduled 3 day outage and expected to be returned to service early next shift..

| Event No. | Malf. No. | Event Type* | Event Description |
|---|---|---|---|
| 1 | | I (TS) BOP/SRO | Perform TSV Scram and EOC-RPT Functional Test. One or more valves will fail to meet acceptance criteria requiring TS evaluation. |
| 2 | | R RO/SRO | Commence 200 Mwe Load Decrease. |
| 3 | | C $(TS)_{RO/SRO}$ | During load decrease one RR FCV controller fails such that valve continues to close until locked up by operator. Resultant flow mismatch will require TS evaluation. |
| 4 | | I/C RO/SRO | Loss of Hydrogen Seal Oil |
| 5 | | M $(TS)_{ALL}$ | Degraded off-site power supplies leading to LOOP and Main Generator trips. Bus 141Y normal feed breaker fails to open, loss of power to bus 141Y. |
| 6 | | C BOP/SRO | Degraded/Loss of cooling to Division 2 DG results in loss of bus 142Y. |
| 7 | | M ALL | Station Blackout. |
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* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Op-Test No.: 2006-301 Scenario No.: 1 Event No.: 1 Page 2 of 9

Event Description: Perform TSV Scram and EOC-RPT Functional Test. One or more valves will fail to meet acceptance criteria requiring TS evaluation.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | BOP | Performs the Turbine Stop Valve Scram and EOC-RPT Functional Test, LOS-RP-Q2.<br><br>While testing MSIV-2, determine MSIV-2 did not respond correctly. |
| | | |
| | SRO | Directs performance of LOS-RP-Q2<br>Refers to Tech Spec 3.3.1.1 and 3.3.4.1. |
| | | |
| | RO | Monitors plant, peer checks BOP. |
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Op-Test No.: 2006-301 Scenario No.: 1 Event No.: 2 Page 3 of 9

Event Description: Commence 200 Mwe Load Decrease.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | Takes actions to establish a power ramp per LGP-3-1 to decrease load:<br>REMOVE condensate polishers from service when no longer needed per LOP-CP-03.<br>MAINTAIN condensate flow through the polishers per LOP-CD-03.<br>REDUCE core flow using Attachment C unless otherwise directed by the QNE at a rate up to 300 MWe/hour |
| | | |
| | SRO | DIRECTS crew to reduce power at <300 MWe/hour to 70 Mlbm/hr<br>Notifies Electric Operations of power reduction |
| | | |
| | BOP | Monitors secondary plant, peer checks RO. |
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Op-Test No.: 2006-301 Scenario No.: 1 Event No.: 3 Page 4 of 9

Event Description: During load decrease one RR FCV controller fails such that valve continues to close until locked up by operator. Resultant flow mismatch will require TS evaluation.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | Takes actions per LOA-RR-101 for RR FCV failing CLOSED<br>CHECK FCV position is STABLE<br>PRESS HPU TRIP pushbuttons<br>CHECK core flow and loop flows LESS THAN T/S MISMATCH (w/in 5.425 Mlbm/hour if core flow is >75.95 Mlbm/hour, and w/in 10.85 Mlbm/hour if core flow is <75.95 Mlbm/hour)<br>CHECK instrumentation for indications of FUEL DAMAGE |
| | | |
| | SRO | Directs actions of LOA-RR-101 for RR FCV failing CLOSED<br>Determines core flow mismatch is >allowed<br>Starts a 2 hour time clock per Tech Spec 3.4.1 condition F<br>Contacts QNE to evaluate concerns for balancing loop flows<br>Contacts System Engineering and IMD for assistance. |
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| | BOP | Monitors secondary plant, peer checks RO, receives direction from SRO. |
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Op-Test No.: 2006-301 Scenario No.: 1 Event No.: 4 Page 5 of 9

Event Description: Loss of Hydrogen Seal Oil (Hydrogen pressure will slowly degrade, allowing the SRO time to begin a controlled plant shutdown.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | BOP | Takes action per LOR-1PM02J-B102<br>VERIFY the Hydrogen Seal Oil Pump is TRIPPED<br>VERIFY the Emergency Seal Oil Pump STARTS<br>DISPATCH an NLO to Seal Oil Skid and panel 1PL19J and Breaker (136Y-3) to investigate<br>VERIFY H2 Purity is maintained >90%<br><br>If both the MSOP and ESOP trip:<br>Verify Hydrogen Seal Oil pressure is being maintained by Turbine Bearing Oil pressure<br>If Main Generator Gas pressure drops to <30 psig then<br>TRIP the Main Generator and make PA announcement to:<br>STAND CLEAR of the Main Generator<br>DO NOT WELD or BURN in Main Generator area<br>DO NOT START or STOP electrical equipment in Main Generator area |
| | | |
| | SRO | Direct actions per LOR-1PM02J-B102<br>Direct plant shutdown. |
| | | |
| | RO | Verifies BOP information. Monitors reactor, begins preparations to shutdown the reactor plant. |
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Op-Test No.: 2006-301 Scenario No.: 1 Event No.: 5 Page 6 of 9

Event Description: Degraded off-site power supplies leading to LOOP and Main Generator trip. Bus 141Y normal feed breaker fails to open, loss of power to bus 141Y.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | BOP | Identifies voltage regulator oscillations.<br>Places voltage regulator in manual.<br>Refers to LOP-TG-02 fig. 2 for operating limits with the Main Gen. Volt. Reg. In Manual. |
| | | |
| | SRO | Directs Panel Operator to place main generator voltage regulator in Manual.<br>Notifies Shift Manager.<br>Contacts System Engineering for Technical support.<br>Contacts Electrical Maint. For support.<br>Performs crew brief or update on status of Main Generator Voltage Regulator on actions required during any transient due to Manual Voltage Regulation. |
| | | |
| | RO | Reports reactor scram<br>Takes scram actions. |
| | | |
| | BOP | Identifies off-site voltage fluctuations/degraded voltage. Reports loss of off-site power, main turbine trip.<br>Reports problems w/bus 141Y normal feeder breaker, reports failure to transfer for bus 141Y, reports de-energized bus 141Y. |
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Op-Test No.: 2006-301 Scenario No.: 1 Event No.: 6 Page 7 of 9

Event Description: Degraded/Loss of cooling to Division 2 DG results in loss of bus 142Y.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | BOP | Loss of EDG:<br>Takes actions per LOR-1PM01J-B206:<br>Dispatches NLO to 1A DG control panel to determine cause<br>Refer to appropriate LOR procedures<br>Refer to SOE typer<br><br>Takes actions to unload and shutdown 1A DG per LOP-DG-03:<br>Perfrom the following to unload the 1A DG<br>Check bus is supplied by either SAT or UAT<br>Reduce load and vars<br>When at or below 500 kW and 500 kvars then open the 1A DG output breaker<br>Dispatch NLO to place Speed Droop to 0<br>Verify speed at 900 rpm<br>Let 1A DG run unloaded for 5 to 10 minutes (Note: applicant may elect to trip DG due to no cooling water pump)<br>Verify 1A DG Engine Control Switch in AUTO<br>Place 1A DG Control Switch to STOP<br>Check DG shuts down<br>Place 1A DG Maintenance Switch to MAINT |
| | | |
| | SRO | Directs actions per LOA-RP-101<br>Directs actions per LOA-DG-101<br>Declare 1A DG and one qualified Off-Site circuit INOPERABLE per Technical Specification 3.8.1 Condition A, C and E |
| | | |
| | BOP | Loss of Bus 142Y:<br>Takes actions per the RPS Quick Swap hardcard.<br><br>Take action per LOA-AP-101 for loss of 142Y<br>CHECK 1B RPS Bus ALIVE (no)<br>CHECK 1PM01J B202 CLEAR (yes)<br>CHECK 142X DEAD (no)<br>If 142X is alive then SYNCHRONIZE and CLOSE 1425 and then RESTORE essential loads |

Event Description: Degraded/Loss of cooling to Division 2 DG results in loss of bus 142Y.

| | | |
|---|---|---|
| | | CHECK 141Y ALIVE (no)<br>CHECK 242Y ALIVE (no)<br>CHECK 142Y-242Y Unit Tie AVAILABLE (no)<br>CHECK 242Y LIVE from SAT (yes)<br>Have Unit-2 CHECK 2425 OPEN (yes)<br>Have Unit-2 SYNCHRONIZE and CLOSE ACB 2424 (can't)<br>SYNCHRONIZE and CLOSE ACB 1424<br>CHECK 142Y LIVE (no)<br>RESTORE essential loads (can't) |
| | | |
| | RO | Continues with scram actions. Maintains vessel level/pressure per SRO directives. |
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Op-Test No.: 2006-301 Scenario No.: 1 Event No.: 7 Page 9 of 9

Event Description: Station Blackout.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | Executes LOA AP-101, Attachment K, Station Blackout Contingencies |
| | | |
| | SRO | Directs entry into LOA AP-101, Attachment K, Station Blackout Contingencies<br><br>Determines available equipment, selects attachments to use to restore power.<br><br>Determines Bus 141 is available, directs BOP to restore Bus 141 using EDG. |
| | | |
| | BOP | Restores power to Bus 141. |
| | | |
| | SRO | Directs recovery activities:<br>Restores pressure/level control<br>Restarts necessary AC loads |
| | | |
| | BOP/RO | Executes directives to SRO to restore power/loads |
| | | |
| | | Upon reaching a stable configuration with one EDG/Bus 141 OPERABLE, terminate scenario. |
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Facility: LaSalle Co. Station Scenario No.: 2 Op-Test No.: 2006-301

Examiners: _____ Operators: _____

Initial Conditions: Approximate 15% RTP, both RR Pumps in slow speed with FCVs full open.

Turnover: Unit shutdown in progress (step E2.9 of LGP-2-1) to repair condenser tube leaks. Approximate 15% RTP, both RR Pumps in slow speed with FCVs full open. One TDRFP and the MDRFP are in service.

| Event No. | Malf. No. | Event Type* | Event Description |
|---|---|---|---|
| 1 | | R RO/SRO | Insert control rods until generator output is approx. 60 MWe |
| 2 | | C (TS) BOP/SRO | Spurious HPCS start. |
| 3 | | N BOP/SRO | Remove TDRFP from service and ensure transfer to single element control. |
| 4 | | I (TS) RO/SRO | Two or more IRMs remain greater than 50% scale on range 10 after IRM detectors are inserted. |
| 5 | | I/C RO/SRO | MDRFP develops oil leak requiring restart of the TDRFP. |
| 6 | | MALL | Partial ATWS (several control rods fail to insert). |
| 7 | | C BOP/SRO | Main Turbine will not trip from the MCR |
| 8 | | C RO/SRO | CRD pump trips following scram attempt and cannot be restarted until suction filter trips are bypassed or filters replaced. |
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* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Op-Test No.: 2006-301 Scenario No.: 2 Event No.: 1 Page 2 of 10

Event Description: Insert control rods until generator output is approximately 60 MWe.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | IAW LGP 2-1, Normal Unit Shutdown, begin inserting control rods to reduce reactor power (Step E.2.4) per QNE provided REMA. |
| | | |
| | SRO | Directs insertion of control rods per LGP 2-1. |
| | | |
| | BOP | Monitors secondary plant.<br>Peer check for RO. (A 4th operator will be allowed in the simulator for reactivity peer checks.) |
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Op-Test No.: 2006-301 Scenario No.: 2 Event No.: 2 Page 3 of 10

Event Description: Spurious HPCS start.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | BOP | Recognizes HPCS inadvertent initiation.<br>DISPATCHES NLO to 1B DG room.<br>SECURES 1B DG By pressing STOP pushbutton.<br>PREVENTS re-start of 1B DG by placing Maintenance Switch in MAINT.<br><br>Takes actions per LOR-1H13-P601-A205 for HPCS Initiation.<br>VERIFY automatic actions (HPCS aligns for injection).<br>CHECK initiation signal present.<br>NOTIFY Shift Manager to classify the event (make notifications too).<br>If HPCS is not required then SHUTDOWN per LOP-HP-04<br><br>Takes actions per LOP-HP-04 to shutdown HPCS<br>VERIFY HPCS injection is NOT needed by multiple indications<br>VERIFY Initiation Signals Clear<br>RESET the HPCS logic by DEPRESSING both reset pushbuttons<br>CLOSE 1E22-F004 Injection Valve<br>VERIFY 1E22-F012 Minimum Flow Valve OPENS<br>STOP HPCS pump.<br>VERIFY 1E22-F012 Minimum Flow Valve CLOSES<br>When HPCS room fan automatically stops, then SHUTDOWN the 1B DG Cooling Water Pump.<br>When plant conditions permit, PLACE HPCS in standby per LOP-HP-03 |
| | | |
| | SRO | Directs activities of LOR-1H13-P601-A205 for HPCS Initiation. |
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Op-Test No.: 2006-301 Scenario No.: 2 Event No.: 3 Page 4 of 10

Event Description: Remove TDRFP from service and ensure transfer to single element control.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | BOP | IAW LGP 2-1, Normal Unit Shutdown, Step.1.3.1.2 , shutdown one TDRFP.<br>BOP uses LOP-FW-05, Shutdown of Turbine Driven Reactor Feedwater Pump.<br><br>IAW Step E4:<br>PERFORM one of the following at 1(2)H13-P603 for manual shutdown of the TDRFP:<br>Transfer RWLC M/A Station to MANUAL.<br>Place Manual Backup Station (MBS) in MANUAL.<br>SLOWLY REDUCE A/B TDRFP flow until controller demand is at minimum and pump is not feeding the RPV.<br>If in auto, Verify 1(2)FW011A/B, A/B TDRFP Minimum Flow opens as flow decreases.<br>Depress FW TURB A/B TURNING GEAR ENGAGE RESET pushbutton.<br>When TDRFP is no longer feeding the RPV:<br>DEPRESS A/B TDRFP Turbine TRIP pushbutton on 1(2)PM03J for at least 10 seconds.<br>Check that Stop and Control Valves are closed.<br>Check A/B Feedwater Pump Turbine Trip light comes ON and A/B Feedwater Turbine RPM starts decreasing.<br>Continue with shutdown of TDRFP. |
| | | |
| | SRO | Directs shutdown of TDRFP. |
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| | RO | Monitor reactor plant, continues with reactor plant shutdown. |
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Op-Test No.: 2006-301 Scenario No.: 2 Event No.: 4 Page 5 of 10

Event Description: Two or more IRMs remain greater than 50% scale on range 10 after IRM detectors are inserted.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | In accordance with step E.2.16, performs the following for the IRM detectors:<br>Exercises each IRM range switch from range 1 to 10 four or five times.<br>Inserts IRM detectors.<br>In accordance with step E.2.17, verifies IRM and APRM channel overlap by at least 1/2 decade.<br>(Tech Spec SR 3.3.1.1.7) (Overlap is acceptable if all IRMs read less than 50 on range 10 prior to reaching APRM downscale alarms.)<br>Reports to SRO that two IRMs are reading >50%. |
| | | |
| | SRO | Observes IRM/APRM overlap, determines overlap is unsatisfactory. Refers to appropriate technical specification. Determines if reactor shutdown can continue. |
| | | |
| | BOP | Continues to monitor secondary plant, shut down of TDRFP. |
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Op-Test No.: 2006-301 Scenario No.: 2 Event No.: 5 Page 6 of 10

Event Description: MDRFP develops oil leak requiring restart of the TDRFP.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | BOP | Initiates startup of the Turbine Driven Reactor Feed Pump IAW LOP-FW-04.<br>Trips MDRFP upon completion of TDRFP startup. |
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| | SRO | Directs startup of the TDRFP, shutdown of the MDRFP. |
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Op-Test No.: 2006-301 Scenario No.: 2 Event No.: 6 Page 7 of 10

Event Description: A reactor scram signal is generated but only some control rods insert. Operators must take action to insert all control rods.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | Takes action per LGP-3-2, completes the actions of the Scram Hardcard and follows up with the procedure when multiple alarms are received;<br>ARM and DEPRESS Scram Pushbuttons<br>PLACE Reactor Mode Switch in SHUTDOWN<br>INSERT IRMs and SRMs<br>CHECK all Control Rods IN and Power Decreasing (no)<br>INFORM Unit Supervisor Of Rod Status and Reactor Power<br>Operate FW as necessary within the level band 32 to 45 inches or as specified by the Unit Supervisor<br>REPORT to the Unit Supervisor the status (and trend) of RPV Level and Pressure<br>VERIFY Main Turbine and Generator Trip (no)<br>STABILIZE Reactor Pressure <1020 psig |
| | | |
| | SRO | Directs actions per LGA-001 until entry into LGA-010.<br>Directs actions per LGA-010. |
| | | |
| | RO/BOP | Take actions per LGA-010 when directed from LGA-001:<br>Inhibit ADS.<br>Prevent injection form HPCS, LPCS and LPCI.<br>Per the POWER Leg:<br>INITIATE ARI.<br>ENTER LGA-NB-01.<br>WAIT until Cold Shutdown Boron (<3100 gal in SBLC Tank).<br>Per the Pressure Leg:<br>If SRVs are cycling then OPEN SRVs to lower pressure to 935 psig.<br>STABILIZE pressure <1059 using turbine bypass valves.<br>Okay to reduce pressure so CB pumps can be used to control RPV level before stabilizing pressure. Do NOT exceed cooldown rate of 100°F/hr.<br>Use Alternate Pressure Control Systems if needed.<br>EHC Pressure Set at 870 psig keeps SRVs closed when LLS is reset.<br>WAIT until Reactor is Shutdown or Cold Shutdown Boron is |

Op-Test No.: 2006-301 Scenario No.: 2 Event No.: 6 Page 8 of 10

Event Description: A reactor scram signal is generated but only some control rods insert. Operators must take action to insert all control rods.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | | injected (<3100 gal in SBLC Tank).<br>Per the Level Leg:<br>VERIFY Automatic actions occur (Isolations and DGs Start).<br>If Steam Lines are open then BYPASS MSIV isolations per LGA-MS-01<br>If reactor power >3% or unknown then Rapidly LOWER Level to at least –60 inches and use only preferred systems to hold level between –150 and –60 inches.<br>When all rods are in, or Cold Shutdown Boron is injected, or the reactor will stay shutdown without Boron, then EXIT LGA-010 and ENTER LGA-001. |
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Op-Test No.: 2006-301 Scenario No.: 2 Event No.: 7 Page 9 of 10

Event Description: Main Turbine will not trip from the MCR.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | Determines that the main turbine has not tripped and takes actions per LOA-TG-101 |
| | | |
| | SRO | Directs actions IAW LOA-TG-101. |
| | | |
| | BOP | Calls Auxiliary Operator and directs tripping main turbine from front standard. May shut MSIVs to control cooldown. |
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Op-Test No.: 2006-301 Scenario No.: 2 Event No.: 8 Page 10 of 10

Event Description: CRD pump trips following scram attempt and cannot be restarted until suction filter trips are bypassed or filters replaced.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | Detects trip of CRD pump. Dispatches NLO to CRD Pump area.<br><br>Directs an NLO to switch to the STBY suction filter per LOP-RD-14.<br><br>When suction pressure low alarm is received, reduces system flow by closing FCV to clear alarm and keep pump from tripping.<br><br>When CRD Pump trips, has the NLO expedite switching filters and then starts STBY pump:<br><br>If CRD pressure is > 500 psig then immediately starts pump, or<br>Starts pump per LOP-RD-03 |
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Facility: LaSalle Co. Station Scenario No.: 3 Op-Test No.: 2006-301

Examiners: _____ Operators: _____

Initial Conditions: Approximately 80% RTP;

Turnover: Approximately 80% RTP. MSIV Scram Functional Test has just been completed. RCIC has just been returned to service after a 3 day outage, but pump operability test still needs to be performed. Power will be increased to 100% following completion of RCIC surveillance.

| Event No. | Malf. No. | Event Type* | Event Description |
|---|---|---|---|
| 1 | | C (TS) BOP/SRO | RCIC fails pump surveillance. |
| 2 | | C (TS) RO/SRO | Control rod drift (control rod continues to move out after single notch withdrawal). |
| 3 | | C (TS) SRO | SRO receives report from system engineer that fuel oil analysis for the common unit diesel generator indicates that fuel oil particulate concentration is out of specification. |
| 4 | | C BOP/SRO | TDRFP high vibration leading to removal of pump from service. |
| 5 | | C RO/SRO | CRD flow control valve fails open causing degradation of RR pump seals due to thermal shock. |
| 6 | | M ALL | Both RR pumps seals sequentially fail resulting in a LOCA. One loop cannot be isolated. |
| 7 | | C BOP | When HPCS pump is started a water hammer causes a pipe break down stream of the pump (inside the HPCS pump room) that cannot be immediately isolated. |
| 8 | | M ALL | HPCS line break partially drains suppression pool to HPCS room. |

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Op-Test No.: 2006-301 Scenario No.: 3 Event No.: 1 Page 2 of 10

Event Description: RCIC fails pump surveillance.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | BOP | Start RCIC system per LOS-RI-Q3.<br>Respond to annunciators for low lube pressure and high bearing temp<br>Secures RCIC system<br>Dispatches an NLO to RCIC room determine system status |
| | | |
| | SRO | Directs operator to start RCIC IAW LOS-RI-Q3<br>Directs operator to shutdown RCIC.<br>Refers to Tech Spec 3.5.3 |
| | | |
| | SIM | This event is a Technical Specification exercise for the Unit Supervisor. The event trigger simulates an oil leak on the RCIC turbine leading to high bearing temp and low lube pressure. To simulate RCIC turbine oil leak, activate the Event Trigger number 1 (imf r0550 on, and imf r0552 on) |
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Op-Test No.: 2006-301 Scenario No.: 3 Event No.: 2 Page 3 of 10

Event Description: Control rod drift (control rod continues to move out after single notch withdrawal).

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | Enters and executes applicable steps of LOA-RD-101, Control Rod Drive Abnormal (Step B.1, Rod Drift/Scram)<br><br>Continually checks control rods status:<br>No more than 1 control rod moving at the same time.<br>No more than 3 control rods have scrammed or DRIFTED Full In.<br>Check control rods - no control rod currently moving.<br>Monitor full core display for rod drift lights.<br>Monitor RWM Screen.<br>MONITOR Four Rod Display.<br>SELECT drifting control rod.<br>VERIFY insert block light - OFF at rod select matrix.<br>If required, remove insert block:<br>Place the RWM Mode switch to BYP.<br>If ≤LPSP, refer to T.S. 3.3.2.1<br>Insert control rod to position 00.<br>If ≤ LPSP, Second verifier is required.<br>Check control rod remains at position 04 or less.<br>If control rod will NOT remain at position 04 or less, depress and hold Insert push-button. |
| | | |
| | SRO | Enters and directs activities of LOA RD-101.<br>Refers to T.S. 3.1.3 and 3.1.6, including T.S. Bases, to determine Operability of affected control rod(s) and applicable LCO Required Actions. |
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Op-Test No.: 2006-301 Scenario No.: 3 Event No.: 3 Page 4 of 10

Event Description: SRO receives report from system engineer that fuel oil analysis for the common unit diesel generator indicates that fuel oil particulate concentration is out of specification.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | SRO | SRO is notified that the Diesel Fuel Oil Monthly Analysis Verification (STORED FUEL OIL), LOS-DO-M1, indicted that the fuel oil for the common unit diesel generator has failed based on oil particulate concentration. |
| | | |
| | SRO | Enters Tech Spec 5.5.10.c. Declares 0 Diesel Generator INOPERABLE. |
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Event Description: TDRFP high vibration leading to removal of pump from service.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | Takes action per LOR-1PM02J-A403 for 1B TDRFP vibrations:<br>CHECK 1B TDRFP vibration >3 mils (yes)<br>START the MDRFP per LOP-FW-03 before 4 mils<br>SHUTDOWN 1B TDRFP per LOP-FW-05 before 5 mils<br>IF vibration exceeds 5 mils, TRIP 1B TDRFP (does not reach 5 mils)<br>Takes action to start the MDRFP per LOP-FW-03 starting at Step 2.3<br>Dispatch NLO to perform pre-start checks (okay to start) [may not do pre-start checks depending on urgency of start-up]<br>VERIFY Min Flow Valve M/A station is in AUTO (yes)<br>VERIFY 1FW005 FRV M/A station is in MANUAL and at zero (yes)<br>VERIFY 1FW146 LFCV M/A station is in MANUAL and at zero (yes)<br>VERIFY 1FW003 FRV Throttle valve is OPEN (yes)<br>VERIFY 1FW145 LFCV Upstream Isolation valve is OPEN (yes)<br>VERIFY 1PM03J-A102 NPSH alarm is CLEAR (yes)<br>VERIFY MDRFP Auxiliary Oil Pump is running (yes)<br>VERIFY RPV Level is lower than Level-8 (yes)<br>NOTIFY NLO to perform local actions<br>START MDRFP using control switch<br>VERIFY motor amps stabilize below 441 amps<br>VERIFY 1FW008 Min Flow valve indicates 60% OPEN<br>CHECK MDRFP discharge pressure >850 psig (yes)<br>SHUTDOWN MDRFP Auxiliary Oil pump<br><br>Takes actions per LOP-RL-01 to swap 1B TDRFP to MDRFP:<br>At 1DS001 SELECT transfer sequence B TDRFP to FRV and press START<br>VERIFY AUTO control of RPV level as MDRFP flow increases (yes)<br>WHEN FRV demand reaches common control output,<br>VERIFY 1B TDRFP M/A station transfers to MANUAL and FRV M/A station transfers to AUTO (yes)<br>CHECK 1B TDRFP starts to ramp off line after 3-minutes (yes)<br>VERIFY 1B TDRFP Min Flow valve starts to open at 4.9 |

Event Description: TDRFP high vibration leading to removal of pump from service.

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|---|---|---|
| | | Mlb/hr (yes)<br>TRANSFER LFFRV M/A to AUTO<br>REFER to LOP-FW-05 to shutdown the 1B TDRFP |
| | SRO | Directs activities of LOR-1PM02J-A403 for 1B TDRFP vibrations, LOP-FW-03 and LOP-FW-05. |
| | Scenario Segment Description: | This scenario starts with a high vibration alarm on the 1B TDRFP. The crew will have to reduce power and swap to the MDRFP before the vibrations are high enough to require tripping the TDRFP. The crew should take actions per the annunciator procedure which directs them to start the MDRFP per LOP-FW-03 and shutdown the 1B TDRFP per LOP-FW-05. |
| | Event Trigger 10 | Initiate this event after the crew has taken the shift and with the concurrence of the Floor Instructor by activating [ior g5d04gf6 (10) 4.4 2:00, ior g5d04gg6 (10) 4.2 2:00] which initiates ramp of high vibrations on the 1B TDRFP. |
| | Automatic Event Trigger 25 | **Simulator Operator**: This event trigger automatically actuates when vibrations on point 3 or point 4 for the 1B TDRFP are equal to or greater than 3.0 mils causing the 1PM02J-A403 RFP vibration alarm to come in. |
| | Role-Play: | As an NLO sent to investigate the 1B TDRFP wait 2 minutes and then report that you can't really tell but it sounds louder than normal. As to have the Field Supervisor meet you on the turbine deck outside the door to the 1B TDRFP room. |
| | Role Play: | As the Field Supervisor wait 2 minutes after being sent to the 1B TDRFP room, then report that you think the 1B TDRFP is making more noise than usual. Recommend shutting down the 1B TDRFP and calling MMD and System Engineering for assistance. |
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Op-Test No.: 2006-301 Scenario No.: 3 Event No.: 5 Page 7 of 10

Event Description: CRD flow control valve fails open causing degradation of RR pump seals due to thermal shock.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | Enters and executes applicable steps of LOA-RD-101, Control Rod Drive Abnormal (Step B.3, CRD Flow Control Valve Failure)<br>CHECK DRIFT lights - OFF.<br>CHECK the following CRD parameters NORMAL:<br>CRD system flow approximately 63 gpm. (maximum flow)<br>Cooling Header ΔP <30 psid.<br>Drive Water Header ΔP < 600 psid.<br><br>TRANSFER Flow Controller, 1C11-R600, to MANUAL.<br><br>ADJUST Flow Controller Output using OPEN/CLOSE pushbuttons to RESTORE parameters to NORMAL.<br><br>IF Flow Controller Output will not ADJUST, THEN locally VERIFY instrument air is lined up to and is available to CRD Manual /Auto Station.<br><br>THROTTLE Drive Water PCV 1C11-F003 as required to restore parameters to NORMAL.<br><br>Determine flow is extremely high, possible RR pump seal failure. |
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| | SRO | Directs actions of LOA-RD-101. |
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Op-Test No.: 2006-301 Scenario No.: 3 Event No.: 6 Page 8 of 10

Event Description: Both RR pumps seals sequentially fail resulting in a LOCA. One loop cannot be isolated.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | As drywell pressure rises, scram reactor.<br>Execute steps of LGP 3-2, Reactor Scram<br>Maintains vessel level with FW until transferred to RCIC/HPCS. |
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| | SRO | Enters LGA-001, directs operators to scram reactor, execute steps of LGP 3-2. |
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| | BOP | Follows steps of LGP 3-2<br>Maintains RPV pressure using bypass valves/SRVs<br>Secures HPCS when directed<br>Detects lowering Suppression Pool |
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Op-Test No.: 2006-301 Scenario No.: 3 Event No.: 7 Page 9 of 10

Event Description: When HPCS pump is started a water hammer causes a pipe break down stream of the pump (inside the HPCS pump room) that cannot be immediately isolated.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | BOP | Recognizes when pump starts, it appears to be a normal start, then amps decrease, flow increases above normal. Diagnoses discharge line break.<br><br>Reports to Unit Supervisor, requests permission to isolate HPCS. |
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| | SRO | Directs BOP to secure HPCS to preserve water inventory.<br>Directs HPCS isolation. |
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Op-Test No.: 2006-301 Scenario No.: 3 Event No.: 8 Page 10 of 10

Event Description: HPCS line break partially drains suppression pool to HPCS room.

| Time | Position | Applicant's Actions or Behavior |
|---|---|---|
| | RO | Takes action per LOR-1PM13J-B304 for RB SE-SW Equip Drn Sump Trouble:<br>DISPATCH NLO to sump to DETERMINE cause<br>VERIFY second pump started if high-high level<br>REFER to LOP-RE-01T to DETERMINE source of leakage<br>NOTIFY Unit Supervisor<br>NOTIFY Radiation Protection<br>Takes actions per LOA-FLD-001 for flooding in Reactor Building<br>CHECK for source of flooding (FP Leak)<br>CLOSE valves to limit flooding input (if directed, leak can be isolated)<br>SHUTDOWN pumps feeding flood (0A and 0B DFPs, Intermediate Jockey and Jockey Pumps)<br>ENTER LGA-002<br>CHECK Water Level stabilized or decreasing (no)<br>EVACUATE building elevations below 710 feet (2-feet in SW corner room)<br>SHUTDOWN running equipment in area (HPCS Water Leg Pump, CRD Pumps)<br>CLOSE water tight doors<br>EVALUATE extent of flooding (SW corner room only) |
| | | |
| | SRO | DETERMINE impact on technical specifications (T/S 3.5.1 for HPCS)<br>DECLARE affected safety equipment inoperable (HPCS)<br>CLASSIFY E-plan per EALs (HA5)<br><br>Takes actions per LGA-002 for flooding in SW Corner Room<br>OPERATE sump pumps to restore and hold below overflowing<br>ISOLATE all discharges into affected area (except FP/LGA required)<br>WAIT until 2 or more areas above max safe (only one area is flooding) |
| | | |