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U.S. Nuclear Regulatory Commission



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Event Notification Report for April 18, 2005

U.S. Nuclear Regulatory Commission
Operations Center

Event Reports For
04/15/2005 - 04/18/2005

** EVENT NUMBERS **

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General Information or Other	Event Number: 41591
Rep Org: MA RADIATION CONTROL PROGRAM Licensee: AEA TECHNOLOGY QSA Region: 1 City: BURLINGTON State: MA County: License #: 12-8361 Agreement: Y Docket: NRC Notified By: ROBERT GALLAGHER HQ OPS Officer: CHAUNCEY GOULD	Notification Date: 04/12/2005 Notification Time: 09:35 [ET] Event Date: 04/08/2005 Event Time: 17:30 [EST] Last Update Date: 04/12/2005
Emergency Class: NON EMERGENCY 10 CFR Section: AGREEMENT STATE	Person (Organization): JOHN WHITE (R1) MELVYN LEACH (NMSS) RICHARD BORRI (NYC) ED BAILEY/RAD CONT (CA) RUSSELL TAKATA/ RAD (HI) REBECCA NEASE (R4) UNDINE SHOOP (EDO)

Event Text

TWO AMERICIUM-241 SOURCES BEING SHIPPED TO AUSTRALIA WERE REPORTED POTENTIALLY LOST

Report # MA050006

"AEA Technology QSA Inc is reporting a potentially lost radioactive material shipment. The shipment contains two Type A packages each containing a 1 Ci AmBe source US model number AMN. PE2. The source serial numbers are 1865NN and 1858NN.

"The sources were shipped from AEA Technology on 30 Mar 05 and were designated to leave on a flight to Australia on 2 Apr 05 with arrival scheduled on 5 Apr 2005. AEA was notified on 7 Apr 05 that the shipment had not arrived. The shipment was sent to Surtech Systems Pty Ltd, in Wangara Perth, WA 6055 Australia.

"Indication from the airline (Qantas) in New York (JFK) that the packages were on the plane, however the airline in Perth cannot confirm that [they] have the packages.

F/12

"Discussions with the carrier and freight forwarders indicate that they have so far been unsuccessful in locating the packages. A conference call is currently being arranged between all parties to try and locate the packages."

The sources were finally found today (04/12/04) at a Qantas airlines facility in Melbourne, Australia.

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General Information or Other	Event Number: 41596
Rep Org: ARIZONA RADIATION REGULATORY AGENCY Licensee: JERRY HURACEK Region: 4 City: PHOENIX State: AZ County: License #: AZ 7-496 Agreement: Y Docket: NRC Notified By: AUBREY GODWIN HQ OPS Officer: JEFF ROTTON	Notification Date: 04/13/2005 Notification Time: 18:25 [ET] Event Date: 04/13/2005 Event Time: 11:00 [MST] Last Update Date: 04/13/2005
Emergency Class: NON EMERGENCY 10 CFR Section: AGREEMENT STATE	Person (Organization): REBECCA NEASE (R4) SCOTT FLANDERS (NMSS) CNSNS (FAX) AARON DANIS (TAS)

Event Text

AGREEMENT STATE - STOLEN TROXLER MOISTURE DENSITY GAUGE

The following information was provided via email from the State of Arizona (State text in quotes):

"At approximately 11:00 AM April 13, 2005, the Agency was informed that the Licensee had a pickup truck stolen with a Troxler Model 3401B gauge, SN 10444. The theft occurred between 7:00 PM, 4/12/2005 and 4:00 AM, 4/13/2005. The truck is a green 1995 Nissan. The Troxler gauge was locked in a 16 gauge steel box with a hardened and anti-theft designed lock and hasp. The steel box is bolted to the frame of the truck. The truck license number is Arizona [DELETED]. The gauge contains 8 mCi of Cesium-137 and 40 mCi Am:Be-241.

"Phoenix PD is investigating and has issued report number 2005-50689301.

"The Licensee is offering a \$500.00 reward for the recovery of the truck and sources. A press release is to be made.

"The Agency continues to look for the source.

"The states of CA, NV, CO, UT, and NM and Mexico and U.S. NRC and FBI are being notified of this event."

Arizona State Report ID: 05-03

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Power Reactor	Event Number: 41601
Facility: COOPER Region: 4 State: NE Unit: [1] [] [] RX Type: [1] GE-4 NRC Notified By: STEVEN JOBE HQ OPS Officer: PETE SNYDER	Notification Date: 04/15/2005 Notification Time: 09:26 [ET] Event Date: 04/15/2005 Event Time: 04:36 [CDT] Last Update Date: 04/15/2005
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(2)(iv)(A) - ECCS INJECTION 50.72(b)(2)(iv)(B) - RPS ACTUATION - CRITICAL 50.72(b)(3)(iv)(A) - VALID SPECIF SYS ACTUATION 50.72(b)(3)(v)(D) - ACCIDENT MITIGATION	Person (Organization): REBECCA NEASE (R4)

Unit	SCRAM Code	RX CRIT	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
1	A/R	Y	100	Power Operation	0	Hot Shutdown

Event Text

REACTOR SCRAM AND SPECIFIED SYSTEM ACTUATIONS

"This is both a four hour and eight hour report for the following event:

"4 hour Non-Emergency for ECCS Discharge to the RCS and RPS Actuation;

"8 hour Non-Emergency for Groups 2 & 6. Also, HPCI [High Pressure Coolant Injection] was placed in pull-to-lock, thereby making HPCI unavailable.

"At 0436 [hrs.] CDT 04/15/2005, Cooper Nuclear Station experienced a reactor feed water level transient followed by reactor vessel water level low level alarm and an automatic scram. HPCI and RCIC [Reactor Core Isolation Cooling] automatically initiated and injected into the reactor vessel. Groups 2, 3, and 6 actuated on low reactor water level. Both reactor recirculation pumps tripped and RWCU [Reactor Water Clean-Up system] isolated. Reactor vessel water level reached approximately [minus] 70 inches (instrument zero, approximately 90 inches of water remained above the fuel) and recovered after HPCI and RCIC had begun to inject. All post-scram automatic actions were as expected. HPCI was placed in pull-to-lock to prevent over feeding. The plant is being cooled down to establish natural circulation flow and permit recovery of recirculation pumps.

"Investigation into the cause of the reactor feed water level transient is ongoing."

All rods inserted during the scram. No safety relief valves lifted during the transient. All group isolation signals have been reset. The electrical grid is stable. Decay heat is being removed via steam dumps to the main condenser.

The licensee has notified the NRC Resident Inspector.

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Power Reactor	Event Number: 41602
Facility: WOLF CREEK Region: 4 State: KS Unit: [1] [] [] RX Type: [1] W-4-LP NRC Notified By: KEN PETERSEN HQ OPS Officer: PETE SNYDER	Notification Date: 04/15/2005 Notification Time: 10:02 [ET] Event Date: 04/15/2005 Event Time: 05:17 [CDT] Last Update Date: 04/15/2005
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(3)(ii)(A) - DEGRADED CONDITION	Person (Organization): REBECCA NEASE (R4)

Unit	SCRAM Code	RX CRIT	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
1	N	N	0	Refueling	0	Refueling

Event Text

STEAM GENERATOR BOWL DRAIN LINE WELD LEAK DISCOVERED DURING VISUAL EXAM

"During the performance of Alloy 600 bare metal visual examinations, the presence of boric acid deposits indicated a leak in a weld in the steam generator D (EBB01D) bowl drain line.

"This condition is being reported as a degraded condition on the primary coolant system under 10 CFR 50.72 (B)(3)(ii) (A).

"During investigation the defect was characterized as a 1/16" rounded Indication in the drain line to boss weld.

"This condition cannot be found acceptable under ASME Section XI, IWB-3600, 'Analytical Evaluation of Flaws' or ASME Section XI, Table IWB-3410-1, 'Acceptable Standards.'

"The [NRC] Resident Inspector has been notified."

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Power Reactor	Event Number: 41604
Facility: DUANE ARNOLD Region: 3 State: IA Unit: [1] [] [] RX Type: [1] GE-4 NRC Notified By: DAN KELLEY HQ OPS Officer: MIKE RIPLEY	Notification Date: 04/15/2005 Notification Time: 14:09 [ET] Event Date: 04/15/2005 Event Time: 08:30 [CST] Last Update Date: 04/15/2005
Emergency Class: NON EMERGENCY 10 CFR Section: 26.73 - FITNESS FOR DUTY	Person (Organization): JOHN MADERA (R3)

Unit	SCRAM Code	RX CRIT	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
1	N	N	0	Refueling	0	Refueling

Event Text

FITNESS FOR DUTY

A contract supervisor tested positive for alcohol during a for-cause fitness for duty test. The individual's access to the plant was terminated. The licensee notified the NRC Resident Inspector. Contact the Headquarters Operations Officer for additional details.

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Power Reactor	Event Number: 41605
Facility: KEWAUNEE Region: 3 State: WI Unit: [1] [] [] RX Type: [1] W-2-LP NRC Notified By: DAVID KARST HQ OPS Officer: MIKE RIPLEY	Notification Date: 04/15/2005 Notification Time: 16:32 [ET] Event Date: 04/15/2005 Event Time: 07:35 [CST] Last Update Date: 04/15/2005
Emergency Class: NON EMERGENCY 10 CFR Section: 26.73 - FITNESS FOR DUTY	Person (Organization): JOHN MADERA (R3)

Unit	SCRAM Code	RX CRIT	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
1	N	N	0	Refueling Shutdown	0	Refueling Shutdown

Event Text

FITNESS FOR DUTY

A non-licensed employee supervisor tested positive for alcohol during a for-cause fitness for duty test. The employee's access to the plant has been terminated. The licensee notified the NRC Resident Inspector. Contact the Headquarters Operations Officer for additional details.

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Power Reactor	Event Number: 41606
Facility: PRAIRIE ISLAND Region: 3 State: MN Unit: [] [2] [] RX Type: [1] W-2-LP,[2] W-2-LP NRC Notified By: JEFF HUMAN HQ OPS Officer: MIKE RIPLEY	Notification Date: 04/15/2005 Notification Time: 22:33 [ET] Event Date: 04/15/2005 Event Time: 21:30 [CDT] Last Update Date: 04/15/2005
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(2)(i) - PLANT S/D REQD BY TS	Person (Organization): JOHN MADERA (R3)

Unit	SCRAM Code	RX CRIT	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
2	N	Y	100	Power Operation	96	Power Operation

Event Text

PLANT SHUTDOWN REQUIRED BY TECHNICAL SPECIFICATIONS - INOPERABLE EMERGENCY DIESEL GENERATOR
"Unit 2 Train A emergency diesel generator D5 was removed from service at 0838 CDT on 4/11/05 for surveillance testing and Technical Specification (TS) 3.8.1, 'AC Source - Operating,' Condition B, 'One DG Inoperable,' was entered. TS Required Action 3.8.1.B.4 requires D5 be restored to operable status with a Completion Time of 7 days. At 1026 CDT, the test was halted due to high-indicated crankcase pressure on Engine 2 (D5 is a tandem engine generator). The test procedure specifies shutting down the DG if crankcase pressure exceeds 30 mm for more than a few minutes (the setpoint for the crankcase pressure trip is 52 mm).
"Investigation of the cause of the high-indicated crankcase pressure on Engine 2 (and whether Engine 1 was effected) started immediately. Unit 2 Train B emergency diesel generator was demonstrated operable by completing a surveillance test at 0423 CDT on 4/12/05. Evaluation of the scope of work to return D5 to operable status and the schedule for completing the work indicated that repairs could not be completed within the 7 days allowed outage time. Based on this assessment an orderly shutdown of Unit 2 is being performed.
"Shutdown of Unit 2 commenced at 21:30 CDT on 4/15/05. Unit 2 shutdown will continue until D5 is restored to operable status."
The licensee intends to issue a press release. The licensee notified the NRC Resident Inspector.

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Power Reactor	Event Number: 41607
Facility: MILLSTONE Region: 1 State: CT Unit: [] [] [3] RX Type: [1] GE-3,[2] CE,[3] W-4-LP NRC Notified By: MICHAEL GOBELI HQ OPS Officer: JOHN KNOKE	Notification Date: 04/17/2005 Notification Time: 09:23 [ET] Event Date: 04/17/2005 Event Time: 08:42 [EDT] Last Update Date: 04/17/2005
Emergency Class: ALERT 10 CFR Section: 50.72(a) (1) (i) - EMERGENCY DECLARED 50.72(b)(2)(iv)(A) - ECCS INJECTION 50.72(b)(2)(iv)(B) - RPS ACTUATION - CRITICAL 50.72(b)(3)(iv)(A) - VALID SPECIF SYS ACTUATION	Person (Organization): SAM COLLINS (RA) TIM MCGINTY (IRD) JIM DYER (ET) R1 BLAST DIAL () E. BRENNER (PAO) THOMAS (NRC)

Unit	SCRAM Code	RX CRIT	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
3	A/R	Y	100	Power Operation	0	Hot Standby

Event Text

ALERT DECLARED DUE TO UNIT 3 MAIN STEAM RELIEF VALVES NOT RESEATING AFTER ACTUATION

At 09:23 the licensee indicated that several Main Steam Relief Valves lifted and stayed open. A high pressure flow signal from the secondary Steam Generator caused initiation of Unit 3 Safety Injection, which in turn caused the Reactor to trip. All rods fully inserted as required. Activation of the Safety Injection subsequently caused the Pressurizer level to go solid. About 30 minutes into the event the primary Reactor Coolant and Main Steam Systems stabilized, including the Pressurizer level and pressure. During the initial briefing, about 09:35, the licensee reported that all secondary Safety Relief Valves have resealed. Decay heat is being directed to the Atmospheric Dumps due to the Main Condenser not being available. The licensee is attempting to establish ERDS.

Initial assessment of this incident is believed not to be security related, however, follow-up is being conducted to verify same. At 09:48, NRC management made a decision to enter into Monitoring Mode. At about 11:15 the licensee indicated that a valve in the Charging System indicated some leakage, therefore it was isolated. Licensee stated that no radiological releases and no S/G tube leakage was indicated.

Licensee notified State and local emergency response agencies. They will notify the NRC Resident Inspector.

Notified DHS (Doyle), FEMA (Biscue), DOE (Smith), USDA (Magners), and HHS (Hogan).

* * * UPDATE FROM D. DODSON TO W. GOTT 1328 EDT 04/17/05 * * *

"At approximately 0830 on April 17, 2005 Millstone Unit 3 experienced an automatic reactor trip from full power. The Reactor is in a stable shutdown condition and is proceeding to Mode 5 cold shutdown. No release of radioactivity other than those minor releases associated with normal plant operation has occurred. There were no personnel injuries associated with the event.

"In addition to the Reactor Trip, half-train Safety Injection (SI) and half-train Main Steam Isolation (MSI) actuations occurred. Control room personnel were successful at manually initiating full SI and MSI. SI has since been terminated and RCS pressure control has been restored. Multiple steam line safety valves (MSSV) lifted with at least one MSSV indicating a failure to reclose. As a result, an ALERT was declared at approximately 0853 due to the failure of at least one MSSV failing to reclose. All MSSVs are currently closed. Auxiliary Feedwater (AFW) actuated automatically as expected, however, the turbine driven auxiliary feedwater pump (TDAFWP) tripped on start-up and was subsequently reset locally. Both motor driven auxiliary feedwater pumps (MDAFWPs) operated as expected to maintain steam generator water levels. Due to the additional inventory injected to the Reactor Coolant System (RCS) as a result of the SI actuation, the pressurizer filled and a primary system safety valve (PSSV) actuated at a lower than expected pressure. All PSSVs are currently closed, however, there is indication of leakage past either a PSSV or Pilot Operated Relief Valve (PORV). Upon alignment of the Charging system to Refueling Water Storage Tank recirculation flow path, 2 valves had indication of packing leakage. Those packing leaks have been terminated.

"The cause of the event is under investigation."

The licensee has issued a press release. The licensee will notify the NRC Resident Inspector. Notified R1 DO (J. White) and IRD Manager (T. McGinty)

* * * UPDATE FROM D. DODSON TO W. GOTT AT 1915 ON 04/17/05 * * *

"The previously reported time of the Alert declaration should be corrected to read 08:42. Millstone Unit 3 entered Mode 4 [Hot Shutdown] at approximately 19:03 on April 17, 2005. The event at Millstone Unit 3 was terminated at 19:05. The cause of the event is under investigation. A recovery plan is being formulated."

Internal NRC notifications, DHS (Frost), NRC/EPA (Threatt), FEMA (Erwin), DOE (Morone), USDA (Smeltzer), HHS (Desi)

The licensee will notify the NRC Resident Inspector.

At 23:45 the Agency exited Monitoring Mode and entered Into Normal Mode.

5.0.3.7 Engineered Safety Features Actuation Signals

The engineered safety features of a facility will be actuated by the signals listed below. It should be noted that all ESF actuation signals achieve identical results. That is, regardless of the protection signal being generated, each signal causes the same equipment to be operated.

The engineered safety features actuation signals, often referred to as the Safety Injection (SI) signal, are listed below:

1. High steam line flow - coincident with low steam line pressure or low-low T_{avg} .
2. High steam line differential pressure - One steam line lower than two of the remaining three by 100 psid/or more.
3. Low pressurizer pressure - Two of three or two of four pressurizer pressure instruments less than setpoint.
4. High containment pressure - Two of three or two of four containment pressure instruments greater than setpoint.
5. Manual - one of two control board switches.

An additional signal is the containment spray actuation signal which actuates the containment spray system when containment pressure reaches approximately half of design pressure.

5.0.4 Typical Analysis Limits and Assumptions

For conservatism, each accident that is analyzed assumes the most conservative conditions, setpoints, equipment operability, and other factors which could conceivably affect the severity of the event. Listed below are some of the assumptions used in the accident analysis.

1. Maximum time delays for reactor trip, safety injection actuation, steam line isolation valve

closure, etc., are assumed.

2. Starting values for the various plant parameters will be assumed to be at their worst case conditions.
3. Plant history, reactivity coefficients and other variables affecting the accident will be chosen to produce a more severe transient.

5.0.4.1 Steam Line Break Accident Analysis

The steam break accident is outlined here as an example of the goals and concerns that are assumed in performing accident analysis.

The analysis is performed to demonstrate that:

1. There is no consequential damage to the primary system and the core remains intact.
2. Energy release for the worst case break does not cause failure of the containment.
3. There is no return to criticality after the reactor trip for a break equivalent to a stuck open steam bypass, relief, or safety valve.

5.0.4.2 Assumptions for Steam Line Break Analysis

The assumptions used for the steam line break accident are listed as follows:

1. The design end of life shut down margin at no-load, equilibrium Xenon conditions, and with the most reactive rod stuck in its fully withdrawn position.
2. The negative moderator temperature coefficient corresponding to the end of life rodded core with the most reactive rod in the fully withdrawn position. The variation of the coefficient with temperature and pressure has been included.
3. Minimum capability for injection of concentrated boric acid solution corresponding to the most restrictive single active failure in the safety injection system. This corresponds to