

To: Jim Mehl, ERU Supervisor
From: Zack Clayton, Rad Coord
Subject: July Monthly Report
Date: August 8, 2007

Beans:

Training: 0
Drills 0
Meetings: 4
Technical Assistance: 2
Public Assistance: 0
SAIC 3

Web Page Hits: There were 73 RAD hits in July.

Coming Attractions:

Working Group 8/8
After Action 8/8
SAIC 8/6, 8/20, 8/27

Facility Updates:

For all units, the grid status changed to Orange due to high anticipated demand from hot weather on July 9.

Davis Besse Nuclear Power Station

Davis Besse operated for the month at full power.

Perry Nuclear Power Plant

Perry went into a shutdown on the 29th that will include a replacement of the motor windings for one of the recirculation pumps. This work was complete July 23 and the plant started up on the 24th to return to full power operation.

Beaver Valley Nuclear Power Station had a fire July 30 in an offsite breaker in their switch yard that did not affect plant operations. The breaker supplied a circuit to a local steel mill.

Beaver Valley Unit I

Beaver Valley Unit I operated for the month at full power.

Beaver Valley Unit II

Beaver Valley Unit II operated at full power for the month. During the breaker fire mentioned above the non safety-related compressed air system went offline, this was restored with no entry into the Emergency Action Level tables.

Fermi II

Fermi operated for the month at full power. The 120 KV Swan Creek line went out of service July 9. This outage was anticipated.

Meetings:

- 7/5 Working Group covered plant activities in advance of the URSB meeting, FENOC has not indicated the status of the non-release spill reporting agreement with Pennsylvania. FENOC will be invited to the next WG meeting to discuss that and other outstanding issues.
- 7/5 After Action Meeting discussed several issues from the Davis Besse Exercise and assigned agency leads. ODH returned the revised draft of the field plume sampling data form and the group approved it for use.

Office Issues:

OEMA has had to implement cost recovery on services it had been providing free of charge to other state agencies. Specifically this impacts all calibration and repair services at the Rad Lab at OSU. This is an across the board charge implementation to all State agencies. This will impact the grant budget for SFY 08 and 09. Ongoing budgeting will need to account for these charges for equipment maintenance.

NRC Reports and Statistics:

July operating power levels

Date	BV1	BV2	DB	Fermi	Perry	
1	100	100	100	100	0	Down to replace recirculation pump motor winding
2	100	100	100	100	0	
9	100	100	100	100	0	
16	100	100	100	100	0	
23	100	100	100	100	0	
24	100	100	100	100	2	Repairs to motor complete.
25	100	100	100	100	37	

26	100	100	100	100	74
30	100	100	100	100	100
31	100	100	100	100	100

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There was a magnitude 6.8 earthquake near one of the nuclear power plant sites in Japan on Monday, July 15. There were reports of leaked fluid at the time, with follow up reports of 50 individual reportable items as of Wednesday. Some of the items that hit the news are addressed below.

The leaked fluids were below regulated quantities. The FENOC plants here have been putting a plan together to notify us about this type of release that is not required to be reported by rule; but that would probably attract public attention as the release from the Japanese plant did. They are finalizing the agreement with Pennsylvania and then they reporting will be implemented as a corporate practice.

The 50-100 drums of low level waste that were found overturned, some with their lids off, have dry material in them. This is usually items such as slightly contaminated pieces of machinery, valving or piping, used PPE clothing or respirators, and tools. No liquids are stored in these drums.

The fires reported were in transformers and electrical equipment. These are not radioactive or contaminated with radioactivity from the reactor. They are the same type used at any power plant, be it nuclear, coal, oil, or gas fired. Activist complaints about the fires are used to raise hot button concerns that are meaningless in the conversation about nuclear power vs. other electric generation methods.

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Nuclear Mishap or Meltdown?: It's All a Matter of Degree

An obscure scale helps communicate the relative severity of a nuclear accident was devised to communicate the relative severity of a nuclear accident.

Scientific American, Jul 25 - Earthquake stories are incomplete without information from the Richter scale. Without the measurement of magnitude 6.8, for instance, few could grasp the relative severity of the recent earthquake off the western coast of Japan. Scales are also essential to any weather report-from hurricane intensity (measured on the Saffir-Simpson hurricane scale from categories 1 to 5) to the temperature.

An analogous scale exists for portraying the broad range of potential danger from a nuclear accident-whether it be a small leak of radioactive material or the meltdown of a reactor-though it lingers in relative obscurity. But with plans to build many more nuclear reactors worldwide, including as many as 30 in the U.S. alone over the next few decades, the International Nuclear

Event Scale (INES) may become more familiar.

The scale ranges from level 0 (a "deviation" of "no safety significance") to level 7 (a "major accident"). No major nuclear accidents have occurred since it was implemented in 1992, but it has been used to assess damage from previous events. Only one event, the 1986 meltdown of the Chernobyl nuclear plant in Ukraine, has merited its most serious degree, level 7. The explosion in the reactor core spread both short- and long-lived radioactive material as far as the U.K. Therefore, it fulfilled all three of the scale's criteria: on-site impact, off-site impact and so-called "defense in depth."

The latter concept refers to the numerous safeguards designed to limit the impact of potentially deadly accidents. "How did the safety provisions function and how close the event was to causing a problem," says Cynthia Jones, the U.S. Nuclear Regulatory Commission's (NRC) senior technical advisor for nuclear security. "It's like if you had a car accident and you broke your turn signal. Can you still drive the car? Yes, but you've lost one of your defenses. It's a degradation of warning."

In the case of Chernobyl, all such preventive measures failed. In the case of the 1979 accident at the Three Mile Island nuclear plant near Middletown, Pa., radioactivity spread but was limited to a 10-mile radius, which led to it being downgraded to level 5, even though it had the makings of a full-scale catastrophe due to human error.

In all, there were 10 incidents at U.S. nuclear plants last year that merited ratings of 2- "significant spread of contamination / overexposure of a worker" and "incidents with significant failures in safety provisions," as the INES handbook puts it-or above, Jones says. "Two reactor events and eight nonreactor events."

Among the eight nonreactor events was a spill at the Nuclear Fuel Services, Inc., fuel production plant in Erwin, Tenn., in March 2006. More than eight gallons (31 liters) of highly enriched, weapons-grade uranyl nitrate, the liquid form of transportable uranium, nearly pooled in a sufficient quantity to achieve the conditions necessary for a spontaneous chain reaction-uncontrolled fission, otherwise known as a criticality.

"Nothing did happen in terms of a criticality event," says NRC commissioner Gregory Jaczko. "That would have been the kind of event that would have been a potential." Because such fission was avoided, the incident was reported to the International Atomic Energy Agency (IAEA) by the NRC as a level 2 event on the INES scale. Subsequently, the plant was closed for seven months and a major reorganization has been undertaken by Nuclear Fuel Services, according to notes from a meeting with NRC commissioners.

The INES scale notwithstanding, word of this near-fission event did not reach the public until this year due to secrecy provisions put in place by the Bush administration to stop would-be terrorists and others from getting information about nuclear power plants. "Certainly, in my view, this was something we should have reported initially," Jaczko says.

Notes Rejane Spiegelberg Planer, who is in charge of incident reporting at the IAEA: "There is

no obligation to report." So far, 63 countries have agreed to voluntarily report and rank incidents on the scale. Each country has its own internal reporting requirements; the NRC requires that all licensed U.S. nuclear operators promptly notify it of any incidents.

The information, of course, can only be as good as the reporting-and the scale itself. The leaks of nuclear fuel rod cooling water, a burning transformer and other problems at the world's largest nuclear reactor-Kashiwazaki-Kariwa in Japan-caused by the earthquake this past week have yet to rise above INES level 0. The coolant's radioactivity has been reported as 16,000 becquerels per liter in the roughly liter-and-a-half (0.39-gallon) spill. (One becquerel is the measure of a material's radioactive decay equal to one nucleus disintegration per second.) To merit a 2 on the scale, for example, would require the leak of material emitting several gigabecquerels. "We can't even measure that [Japanese spill] with any kind of device that we have," Jones says.

A malfunction in the water pump at the Oyster Creek nuclear power plant in New Jersey caused it to shut down on July 17 and release one curie of tritium (an isotope of hydrogen) in vented steam, according to the NRC. One curie equals 37 billion becquerels, "just half the radiological exposure of living with a household smoke detector," according to Exelon, the power company that runs the plant. As a result, this incident at the oldest operating nuclear reactor in the U.S. also does not merit inclusion on INES.

But with more nuclear power plants being built and planned (there are licenses pending at the NRC to build 30 plants in the U.S.), the aging of those currently on line as well as the proliferation of radioactive materials used in other applications, the INES scale may yet become more familiar. "I like to compare it with a very simple scale that is a thermometer," IAEA's Spiegelberg Planer says. Level 0 is equivalent to the human body at its normal temperature. Level 2 might be a slight rise in temperature that prompts taking an aspirin. "You don't go to the emergency room if you can take an aspirin," she says, whereas at level 7 "you are already in the hospital."

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Power Reactor	Event Number: 43458
Facility: BEAVER VALLEY Region: 1 State: PA Unit: [] [2] [] RX Type: [1] W-3-LP,[2] W-3-LP NRC Notified By: DAVE HELD HQ OPS Officer: PETE SNYDER	Notification Date: 06/29/2007 Notification Time: 00:20 [ET] Event Date: 06/29/2007 Event Time: 00:14 [EDT] Last Update Date: 06/29/2007
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(3)(xiii) - LOSS COMM/ASMT/RESPONSE	Person (Organization): RAY POWELL (R1)

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

Event Text

RADIATION MONITORING INFORMATION TO ERDS AND SPDS WILL BE UNAVAILABLE DURING PLANNED UPGRADE TO THE SYSTEM.

"The computer servers which supply radiation monitoring information to the ERDS (Emergency Response Data System) and SPDS (Safety Parameter Display System) systems will be taken out of service to implement a planned upgrade. The servers are being replaced with upgraded models and are expected to be out of service for approximately 4 to 8 hours. The ability of radiation monitors to alarm in the control room will be unavailable while the servers are being replaced. The in plant radiation monitoring skids will be unaffected, as will any automatic actions generated by the monitors. The safety related radiation monitor displays in the control room will also remain available. As a compensatory measure while both servers are unavailable, a dedicated radiation protection technician will monitor the in plant radiation monitor skids to update the control room if anomalous indications are observed. In addition, operations will record the safety related radiation monitor readings every 2 hours.

"This is an 8 hour reportable event per 10CFR50.72(b)(3)(xiii), Major Loss of Assessment Capability. The operations of BVPS Unit 2 plant systems is not affected by this planned action. BVPS Unit 1 is not affected by this planned action.

"The NRC Resident Inspector has been notified."

* * * UPDATE AT 1736 EDT ON 6/29/07 FROM G. STOROLIS TO W. HUFFMAN * * *

The Radiation Monitor System Servers have been upgraded and returned to service and the Radiation Monitoring Information to the Emergency Response Data System (ERDS) and Safety Parameter Display System (SPDS) is now available and returned to service.

The licensee will notify the NRC Resident Inspector. R1DO (Powell) notified.

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General Information or Other	Event Number: 43504
Rep Org: OHIO BUREAU OF RADIATION PROTECTION Licensee: TEAM INDUSTRIAL SERVICES Region: 3 City: EAST PALESTINE State: OH County: License #: 03320-99 Agreement: Y Docket: NRC Notified By: STEPHEN JAMES HQ OPS Officer: JOHN KNOKE	Notification Date: 07/19/2007 Notification Time: 09:39 [ET] Event Date: 07/18/2007 Event Time: 11:00 [EDT] Last Update Date: 07/19/2007
Emergency Class: NON EMERGENCY 10 CFR Section: AGREEMENT STATE	Person (Organization): ERIC DUNCAN (R3) SANDRA WASTLER (FSME)

Event Text

AGREEMENT STATE REPORT - DEFECTIVE RADIOGRAPHY CAMERA

The licensee provided the following information via email:

"Licensee notified [Ohio] Bureau of Radiation Protection (BRP) at approximately 11:00 AM on 7/18/07. Licensee reported that an Ir-192 radiography source in the guide tube of a radiography camera could not be fully retracted. Source is housed in an Amersham Model 660B camera (Serial

number: B1558). Source activity is 86 curies. Source was being used at a temporary job site in East Palestine, Ohio. Radiography crew was from licensee's Pennsylvania office. Source was being used in a building away from customer's main production facilities, in a make-shift chamber behind 3 foot concrete block walls. Area has been secured by licensee personnel, roped off, with boundaries established to ensure no exposure to non-radiological workers or members of the public. Licensee stated that no over exposure licensee personnel are expected as a result of this occurrence. QSA Global has been contacted by licensee to assist with source retrieval. Information current as of 11:45 AM, 7/18/07.

"UPDATE: Ohio BRP Duty Officer received call from QSA Global requesting waiver of 3-day notification for reciprocity work to enter Ohio and retrieve stuck source. Permission was granted. QSA Global rep stated that they would not be on-site until Thursday, 7/19. Information current as of 5:00 PM, 7/18/07.

"UPDATE: BRP Duty Officer contacted Licensee rep at temporary job site to discuss security of the camera and source. Licensee stated that boundaries are being maintained at the site and that the licensee would have a two-man crew (radiographer and assistant) on site throughout the night until QSA Global arrived to effect repairs. Information current as of 5:30 PM, 7/18/07.

"UPDATE: BRP Duty Officer spoke with licensee personnel Thursday morning, 7/19/07. Licensee had crews in attendance at the site throughout the night to maintain security of temporary job site. Licensee stated that the radiography camera had been maintained and resourced approximately two weeks ago. After discussions with the manufacturer the licensee suspects that a spring clip at the connecting nut may have dislodged, causing the nut to become misaligned and preventing the source from retracting. QSA Global is expected on site at approximately 1:30 PM on today (7/19/07). Information current as of 9:25 AM, 7/19/07."

Equipment is being returned to manufacturer for repair or disposal.

Ohio Notice: OH070004

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Power Reactor	Event Number: 43534
Facility: BEAVER VALLEY Region: 1 State: PA Unit: [1] [2] [] RX Type: [1] W-3-LP,[2] W-3-LP NRC Notified By: DAVE HELD HQ OPS Officer: JOE O'HARA	Notification Date: 07/28/2007 Notification Time: 19:24 [ET] Event Date: 07/28/2007 Event Time: 16:57 [EDT] Last Update Date: 07/28/2007
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(2)(xi) - OFFSITE NOTIFICATION	Person (Organization): JOHN WHITE (R1) MICHAEL TSCHILTZ (NRR) THOMAS BLOUNT (IRD)

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

Event Text

OFFSITE NOTIFICATION TO FIRE DEPARTMENT

"At 1605 hours on 7/28/07, an offsite breaker in the Beaver Valley Power Station Switchyard developed a failed 'B' phase which resulted in a fire and a subsequent 'B' phase insulator failure. Station fire brigade personnel were dispatched. Offsite assistance was requested at 1657 hours. The fire was extinguished at 1747 hours. The offsite fire department left the site at 1806 hours.

"The circuit containing the failed breaker is associated with a local steel manufacturer and is not a feeder to Beaver Valley Power Station. This is a 4 hour reportable event per 10CFR50.72(b)(2)(xi), Notification to Offsite Governmental Agencies. The operation of BVPS Unit 1 plant systems are not affected by this event. At BVPS Unit 2, the non safety related station air compressors tripped during this event. A backup air compressor was manually started. These compressors were reset and restarted locally without impacting the operation of Beaver Valley Unit 2.

"No EAL criteria was met for this event."

The licensee intends to issue a press release. The NRC Resident Inspector has been notified

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Other Nuclear Material	Event Number: 43536
Rep Org: US EPA Licensee: US EPA Region: 3 City: CINCINNATI State: OH County: License #: 34-12736-02 Agreement: Y Docket: NRC Notified By: RICK FALK HQ OPS Officer: JOHN MacKINNON	Notification Date: 07/30/2007 Notification Time: 16:25 [ET] Event Date: 07/30/2007 Event Time: 16:25 [EDT] Last Update Date: 07/30/2007
Emergency Class: NON EMERGENCY 10 CFR Section: 20.2201(a)(1)(ii) - LOST/STOLEN LNM>10X	Person (Organization): STEVE ORTH (R3) DENNIS RATHBUN (FSME) ILTAB (e-mailed) ()

This material event contains a "Less than Cat 3" level of radioactive material.

Event Text

MISSING/LOST NICKEL-63 15 MILLICURIE SOURCE

The Radiation Safety Officer (RSO) for The United States Environmental Protection Agency located in Cincinnati, OH reported they are missing a 15 millicurie Ni-63 source. The source was last seen December 01, 2006 when its 6 month leak test was performed. After the source was leak tested, the source was placed back in an unlocked drawer, where it has been kept since December 2001. The source was located below the HP Model # 5890 Series II Gas Chromatograph in which it was used. The RSO said that they have been looking for the missing source since early June and they have been unable to find the source. The RSO said that anybody working for the US EPA in their building can enter the room in which the source was stored.

THIS MATERIAL EVENT CONTAINS A "LESS THAN CAT 3" LEVEL OF RADIOACTIVE MATERIAL

Sources that are "Less than IAEA Category 3 sources," are either sources that are very unlikely to cause permanent injury to individuals or contain a very small amount of radioactive material that

would not cause any permanent injury. Some of these sources, such as moisture density gauges or thickness gauges that are Category 4, the amount of unshielded radioactive material, if not safely managed or securely protected, could possibly - although it is unlikely - temporarily injure someone who handled it or were otherwise in contact with it, or who were close to it for a period of many weeks.