

Regulatory Conference

Emergency Preparedness Preliminary White Finding
October 24, 2006



Opening Remarks

Jim Lash

Site Vice President, Beaver Valley

Desired Outcomes

- Present additional information:
 - FENOC corrective actions in response to the 2004 exercise finding.
 - 2006 exercise – ERO communications and basis for dose assessment.
- Provide FENOC's analysis and conclusions for NRC further consideration.

Issue Review

Larry Freeland EOF Exercise Controller (Exercise Position)

Agenda

- Introduction – L. Freeland
- 2004 Issue/Corrective Action Review – L. Freeland
- 2006 Preliminary White Finding – L. Freeland
- 2006 Exercise Timeline Review – B. Tuite
- Environmental Assessment & Dose Projection – J. Lebda
- Facility Communications – S. Vicinie
- Exercise Review and Licensee Conclusions – L. Freeland
- Summary – J. Lash

2004 NRC Inspection Report

- “...Key players were aware that there was less than one full train of containment spray available because they used this information in making the general emergency declaration based upon EAL 1.3.2 (In post-exercise discussions, it was determined that **dose assessment personnel were unaware of the degraded containment spray capability during the exercise and that they also did not know the basis for the one hour release time.**)
...”

Communication Corrective Action

- The offsite protective action recommendation flowchart in EPP/IP-4.1 was revised to add provisions to ensure consideration of plant conditions important for dose projection.

2004 Issue Communication Training

- CR 04-04232 “Evaluated Exercise Green Finding for Critique Failure” was presented as internal operating experience in ERO training.
- Continuing training was completed for the following personnel EPP/IP-4.1 “Offsite Protective Actions” procedure changes:
 - Radiation Protection Technicians,
 - OSC Health Physics personnel,
 - TSC Radiation Protection Coordinators,
 - Emergency Directors & Assistants,
 - Emergency Recovery Managers & Assistants and
 - Environmental Assessment & Dose Projection personnel

2004 Issue Communication Training

- The following operations training scenarios were revised to include delayed failures impacting critical parameters. Scenarios developed using this guidance included:
 - Failure of RPRW/SWS cooling to one train of recirculation spray heat exchangers with an auto start failure of the opposite train recirculation spray pump - (2005 Module 1 Licensed Operator Retraining (LRT) for both units)
 - Incomplete transfer to cold leg recirculation requiring manual operator action - (2005 Module 2 LRT for both units)
 - Recirculation sump blockage scenarios using new sump blockage guideline - (2005 Module 3 LRT for both units)
- Training increased operator sensitivity to impact of degraded equipment conditions and promotes communication of the equipment status to other emergency facilities.

2004 Issue Communication Training

- Emergency response organization drills were conducted and emphasized communication of plant conditions and effects on emergency response parameters which included dose assessment.
- Most recent ERO drill prior to the evaluated exercise challenged a different ERO team with the 2004 exercise scenario. Results were positive with appropriate plant conditions recognized, proper dose assessment and protective action recommendations developed by EA&DP personnel.

NRC Inspection 2006009

Preliminary White Finding (excerpt):

“Specifically, in the 2006 exercise, the licensee dose assessment team did not adequately consider plant-specific situational information to develop the best dose projection estimate achievable at the time, which was an apparent repeat of a problem exhibited in the 2004 exercise.”

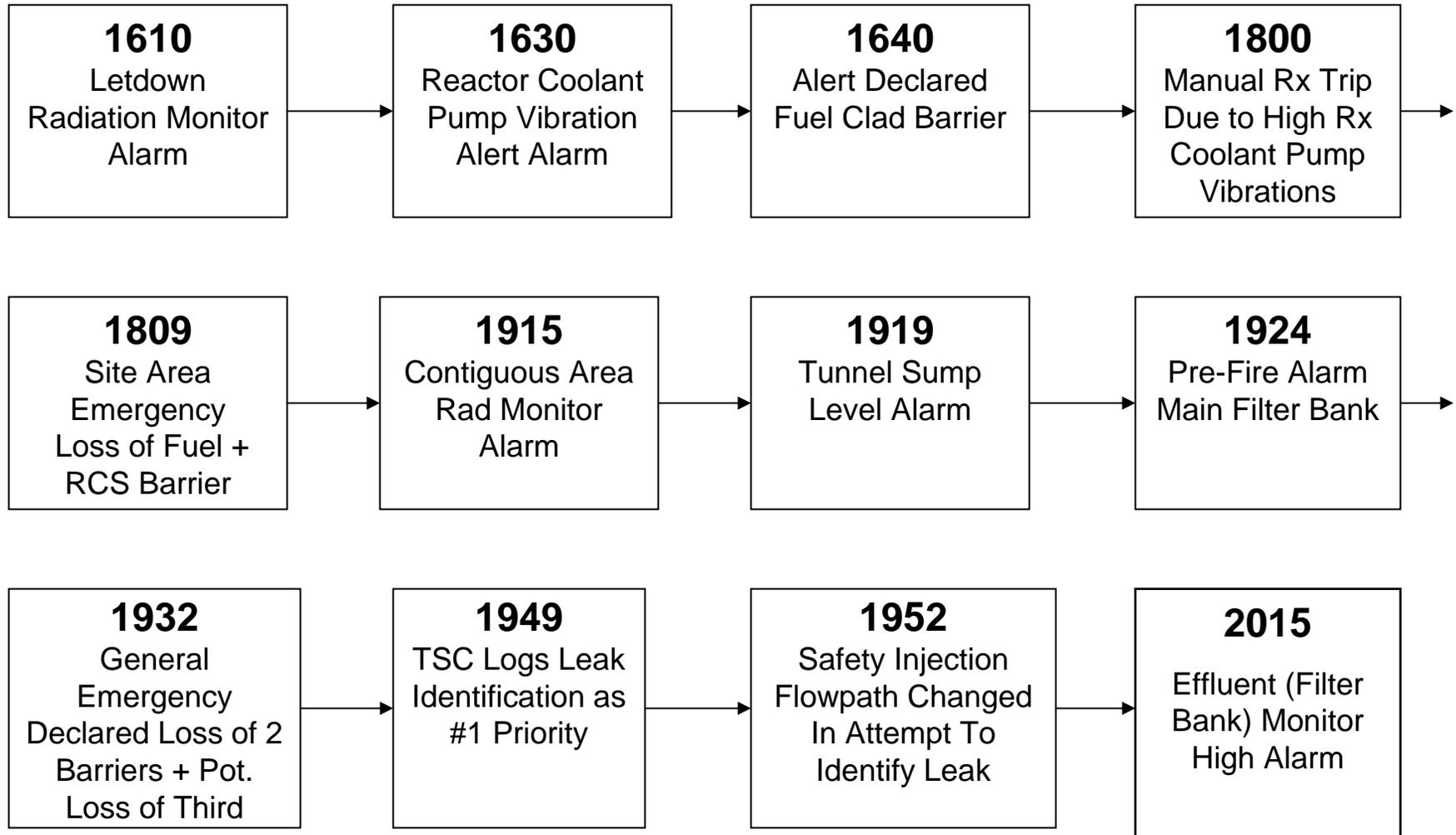
“The licensee’s 2006 performance regarding the development of a dose projection without a sound technical basis demonstrated that the licensee had implemented ineffective corrective actions for the 2004 inspection finding.”

Underscore added for emphasis.

Timeline Review

Brian Tuite Assistant Emergency Recovery Manager (Exercise Position)

Exercise Timeline



Simplified Plant Drawing

Figure to be added

Dose Projection Review

John Lebda

**Environmental Assessment & Dose
Projection Coordinator
(Exercise Position)**

Environmental Assessment and Dose Projection Actions and Bases

- EA&DP personnel were knowledgeable of the best available information for dose assessment from the Control Room, Technical Support Center, and Emergency Operations Facility.
- First anticipatory dose projection performed based upon LOCA w/Gap activity
 - Developed during the Site Area Emergency to be prepared if conditions worsened
 - Plant Conditions known to EA&DP
 - Reactor coolant pump high vibrations,
 - Reactor coolant system radiation monitor has increasing indications of radioactivity
 - No other radiation monitors in alarm
 - Containment pressure subatmospheric

Environmental Assessment and Dose Projection Actions

- Second anticipatory dose projection based upon LOCA w/Gap activity
 - Wind speed change
 - Plant Conditions known to EA&DP
 - Auxiliary building sump alarms started
 - Containment air radiation monitor in alarm
 - Containment area radiation monitors elevated
 - No effluent radiation monitors in alarm
 - Containment pressure subatmospheric

Environmental Assessment and Dose Projection Actions

- Initial Protective Action Recommendation – evacuate 0-5 miles, 360 degrees, shelter remainder of EPZ and advise offsite agencies to administer KI in accordance with the State plans
 - General Emergency declared
 - PAR based upon meteorological and plant conditions, not based upon radiological conditions
 - Plant conditions known to EA&DP
 - Source of leak unknown; method of isolation unknown
 - Containment contiguous area air radiation monitor in alarm
 - No effluent radiation monitors in alarm
 - Containment pressure subatmospheric
 - Radiological Monitoring Team results indicate no release

Environmental Assessment and Dose Projection Actions

- Upgraded Protective Action Recommendation (PAR)
 - Full EPZ Evacuation 0-10 miles 360 degrees
 - Plant conditions known to EA&DP
 - Increasing radiological effluent monitor readings from the Supplementary Leak Collection and Release System (secondary containment treated ventilation system)
 - Source of leak unknown; method of isolation unknown
 - Priority efforts were underway to identify and isolate the leak in the containment contiguous area
 - This is the protective action recommendation cited in the NRC inspection report (page 2, paragraph 2) – “...The NRC team observed that the EA&DP team did not estimate the release duration, nor did they confer with the technical support center (TSC) staff to develop a technically sound release duration estimate....”

Environmental Assessment and Dose Projection Actions

- A second, additive, dose projection was developed approximately 20 minutes following the upgraded PAR.
- EA&DP initiated this dose projection based upon delays to access the area for identifying and isolating the release point and a marked increase in containment radiation levels.
- This second, additive, dose projection was performed based upon these factors and a conclusion that the release would continue for greater than one hour.
 - These actions are described in the NRC inspection report noting EA&DP personnel responded to plant conditions and followed the dose assessment procedure. (Ref. page 2, paragraph 2)

ERO Communications Review

Susan Vicinie
Exercise Controller
(Exercise Position)

Emergency Response Intra-Facility Communication

- EA&DP had the best available plant condition information from the control room, TSC, and EOF to conduct dose assessment.
- Intra-facility communications (teleconference bridge circuits, common sequence of events log, TSC/EOF briefings, and direct ring down telephones) were effectively used to convey information from all three of the emergency response facilities including control room, TSC and EOF.
- Two conference calls were conducted including the control room, TSC, EOF and JPIC, separate from the conference bridge circuit, following declaration of the Site Area Emergency.

Emergency Response Intra-Facility Communication

- Several building briefs were conducted from the Emergency Director in the TSC to the TSC staff and the EOF following the General Emergency about activities, priorities and plant conditions.
- Six TSC log entries during the approximate two-hour time period following declaration of the General Emergency confirms the TSC did not locate source of the release (sample line relief valve). Consequently, a release duration to provide an isolation of the release was not available and release duration was unknown.
- The release was stopped by the relief valve reseating itself and location of the source of the leak remained unknown to the control room, TSC, and EOF at the conclusion of the exercise.

Dose Projection Review

John Lebda
Environmental Assessment & Dose
Projection Coordinator
(Exercise Position)

Environmental Assessment and Dose Projection Actions Taken

- Performed two anticipatory dose projections knowing there was elevated reactor coolant radioactivity as indicated by radiation monitor information.
- Maintained awareness of plant conditions via the Assistant Emergency Recovery Manager, common facility logs, facility briefings, and radiation protection bridge circuit information.
- Frequently challenged emergency response organization about duration of the release.
- EA&DP responded to challenges by the Assistant Emergency Recovery Manager about release duration.

Environmental Assessment and Dose Projection Actions Taken

- Maintained awareness of radiation monitor trend information, sensitive to changing release rate.
- Maintained awareness of changing meteorological conditions.
- Challenged conflicting data from radiation monitor data.
- Performed manual dose projections
- Followed dose assessment procedures as written for performing dose projections based upon known information

ERO Communications Review

Susan Vicinie
Exercise Controller
(Exercise Position)

Emergency Response Intra-Facility Communication

- Shared event information was consistent between three emergency response facilities.
- **EA&DP** source of information is principally through the Assistant Emergency Response Manager, the common facility log, building briefs, and the radiation protection teleconference bridge circuit.
- **Two teleconference communication bridges** are established closely linking the three emergency response facilities.
 - A complete picture of the intra-facility integrated communications requires monitoring the continuous, online communications among personnel in the three emergency facilities.
 - Teleconferencing bridges are maintained as a continuous communication bridge line with emergency response facility personnel using dedicated headsets to allow real-time communication of important information.

Emergency Response Intra-Facility Communication

- The Operations teleconference bridge joins the control room, operations support center, technical support center and emergency operations facility to maintain updates to actions, priorities, and status of plant conditions.
- ERO personnel on the Operations teleconference are as follows:

<u>Facility</u>	<u>Title/Position</u>
Control Room	Operations Communicator (Ops experience)
OSC	Operations Communicator
TSC	Operations Coordinator (Ops experience) Operations Communicator
EOF	Operations Coordinator (Ops experience) Operations Communicator

Emergency Response Intra-Facility Communication

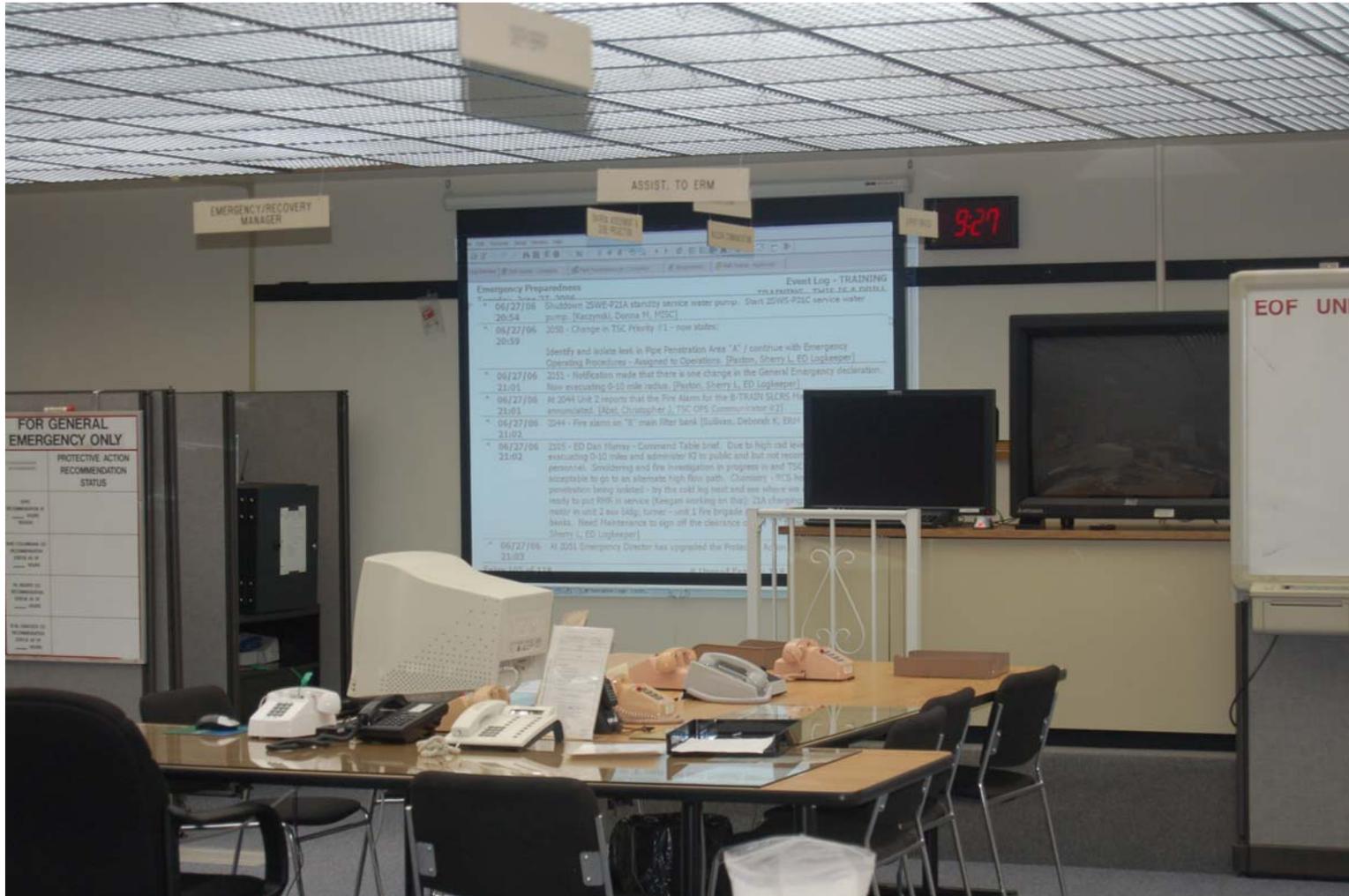
- Radiation Protection teleconference bridge joins the control room, operations support center, technical support center, and emergency operation facility to maintain updated information for in-plant radiological conditions, radiation monitor and plant conditions that affect dose assessment and PAR development.
- Emergency response personnel on the circuit are as follows:

<u>Facility</u>	<u>Title/Position</u>
Control Room	RP technician – radiation monitor info
OSC	RP technician – in plant conditions
TSC	RP assistant coordinator – rad monitor info
EOF	RP assistant coordinator – EA&DP staff

Emergency Response Intra-Facility Communication

- **Ring down circuits** for person to person communications – dedicated telephone circuits – These are redundant, parallel communication circuits for personnel connected by teleconference bridge circuits.
- **A common facility electronic log** is displayed in the five facilities to ensure important information is shared between emergency personnel. This is displayed by computer projection in the Control Room, Technical Support, Emergency Operations Facility, Operations Support Center and Joint Public Information Center.
 - This communication method was not in place during the 2004 evaluated exercise and has helped strengthen communication of significant information affecting emergency conditions and response.
- **Building briefs** – a periodic, common brief is provided by the Emergency Director in the TSC to all TSC staff and EOF personnel to ensure consistent information between these two facilities.

Electronic Log Display in EOF



Review & Conclusions

Larry Freeland EOF Exercise Controller (Exercise Position)

Exercise Review and Licensee Conclusions

- There was good communications between the control room, TSC and EOF.
- EA&DP personnel were apprised of and sought out the best available information about the release and estimates for isolation as part of providing accurate dose assessment.
- Source of the radioactive leak and method of isolation could not be identified by the ERO participants through the end of the exercise. Consequently, the time estimate for release duration was unknown.
- EA&DP personnel were sensitive to the release duration and therefore attentive to providing additional information to offsite response organizations as soon as practical with accurate communications about not being able to identify the source of the radioactive release.

Exercise Review and Licensee Conclusions

- Dose assessment was performed correctly. Providing a different value for release duration would have no technical basis and would have violated dose assessment procedural requirements.
- There was not a performance deficiency in dose assessment since EA&DP maintained awareness of plant conditions, had the best available plant information, and followed procedure requirements for developing dose assessment and protective action recommendations. There is no failure to critique a deficiency.
- There is no evidence of a repeat of the weakness identified in the 2004 evaluated exercise. There was not a failure to communicate important information to EA&DP that would have changed development of protective action recommendations.

Summary

Jim Lash
Site Vice President, Beaver Valley

Summary

- FENOC believes that corrective actions taken for 2004 issue were adequate and that the 2006 exercise dose projection was made with best available information and in accordance with procedure requirements.