

Briefing Notes For Nozzle Dam Installation Breathing Air Supply Issues

During the nozzle dam installation evolution, four (4) separate incidents of personnel breathing air issues occurred. Of those four (4) events, one (1) occurrence was reported to the OCC. The following is a brief summary of those events:

- 1) Worker experiences low air pressure to bubble hood while in steam generator bowl.
 - Worker is cut out of bubble hood. Air pressure to workers is raised without consultation to procedural requirements. Reported to OCC.
- 2) Worker air supply line disconnected while in steam generator bowl.
 - Worker is cut out of bubble hood. Worker experienced a complete loss of breathing air, bubble hood deflated and fogged.
- 3) Worker air supply line disconnected upon attempted bowl entry.
 - Supply line is reconnected. Fitting connections are taped on all workers in an effort to prevent inadvertent disconnections.
- 4) Worker air supply line damaged/cut.
 - Platform equipment inadvertently cut workers air supply line. Line is taped to prevent contamination spread on platform.

No personnel injuries occurred as a result of the above events.
Evolution resulted in multiple personnel contaminations.

Through review of station logs, personnel interviews, work orders, plant procedures, and action requests, the following causes have been identified which led to this event:

- 1) **Lack of Ownership**
 - It was unclear who owned the nozzle dam installation. When interviewing personnel from each of the departments involved, no single point of contact was identified.
 - The station's contractor liaison responsible for nozzle dam installation was unaware of management expectations & responsibilities associated with nozzle dam installation.
 - No management oversight of evolution was provided. There wasn't anyone stepping back to see the big picture.
- 2) **Lack of Procedural Adherence**
 - Air supply regulator was adjusted outside the procedural requirements of HPIP 4.51.3 and HPIP 4.58. CAP 055595 was initiated to document this deviation.
 - Air supply to nozzle dam seals and eddy current equipment does not meet requirements of NP 8.4.9. Procedure requires service air hoses to be yellow or a base color with yellow stripe. Original hoses were red, however yellow tape has been applied to the hose and verified by engineering. CAP 055560 documents this deviation.
 - During the steam generator nozzle dam installation bubble hoods used for the job were not issued in accordance with HPIP 4.58. The procedure requires the issuance to be documented on PBF-4234 and this was not

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completed. CAP 055645 has been initiated to document this deviation.

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3) Lack of Questioning Attitude

- Confined Space Rescue Team (CSRT) members stated that they wanted to be at the job site. This request was denied by the Radiation Protection department due to dose concerns. CSRT did not question further.
- Worker had issues fitting through manway opening. Worker was wet down to aid in entry, and after three (3) attempts successfully entered the steam generator.
- Integrated training session was not completed. The station's contractor liaison stated that it was desired to complete integrated training, however did not actively advocate.
- Radiation Protection personnel did not question appropriateness of air supply regulator adjustments. Personnel interviews indicated individuals were unaware of procedural requirements.

4) Low Sensitivity for Raising Issues

- Untimely communications of anomalies. Four (4) separate incidents involving personnel breathing air occurred. One (1) issue reported to the OCC.
- The station's contractor liaison did not elevate events as the evolution progressed.
- NOS personnel assessed IPTE Briefing as "less than adequate." Feedback was not given to brief leader. Evaluation appeared in the 4/8/04 Nights, Nuclear Oversight Rapid Trending Assessment Daily Report, however issues were not raised at the time of initial assessment.
- CAP 055527 written by RP manager summarizing three (3) of the air supply issues. CAP was twice amended to include the fourth issue and provide clarification of original CAP.