

Point Beach Nuclear Plant RV Head Lift Problem  
April 22, 2004

On Wednesday, April 21, 2004, Point Beach Unit #1 was in day 18 of a scheduled 30 day refueling outage (1R28). The RV head lift was observed by Duane Karjala, acting Resident Inspector, and Ryan Alexander, DRS RP Inspector. During the lift of the RV head from the vessel, when the head cleared the top of the guide studs, the lift crew supervisor noted that a protective cover (called a conoseal bullet nose), was still on the head, when it should have remained attached to the upper internals.

The bullet nose's function is to protect core exit thermocouple connection wires from refueling water. The bullet nose is installed after the thermocouples are disconnected as part of the head lift preparation activities. The bullet nose is attached to the upper internals with a circular clip along with an O-ring to keep water from entering the bullet nose at the joint. Visual examinations were conducted, as required by procedure, when the head was approximately 1 foot and 4 feet above the vessel flange but no anomalies were identified.

When the anomaly was identified during the lift, the lift was stopped, and the situation was discussed by the lift crew personnel. It was decided to continue with the lift because the procedure does not permit lowering the head when it is above the top of the guide studs. The remainder of the lift was uneventful.

After the head was placed on the storage stand, it was observed that a rag was wrapped around the base of the bullet nose and the rag was held in place with green duct tape.

Preliminary results from the licensee's investigation have determined that the rag and duct tape prevented the bullet nose from sliding through the opening in the head and caused the retaining clip to fail. The retaining clip and O-ring were found still installed at the base of the bullet nose. It remains to be determined why the rag and duct tape were installed and whether that was a violation of the licensee procedures.

The licensee has developed a recovery plan. Water level in the refuel pool has been raised approximately 2 feet above the RV flange to provide some shielding from the radiation from the upper internals. The plan is to suspend workers in a manlift basket from the polar crane to install the bullet nose.

Ryan Alexander is monitoring the recovery efforts. Photos will be available later today.

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Questions or Inconsistencies to be resolved.

- Where is the guidance/procedure requirements for installing and removing the temporary FME protection (rag and duct tape)?

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The Director of Site Operations verbally informed us that the installation and removal have been historically performed as skill-of-the-craft activities.

- Procedure 1RMP 9096, step 5.6.25 says, "While having cavity stationed person ensure the following, continue head lift to about four feet above RV flange **AND** hold.
  - a. Head lift remains level.
  - b. **NO** control rod drives are moving with head.
  - c. **NO** unusual sound or vibrations are present."

Procedure RP 1A, step 5.37, says, " Lift the reactor vessel head about four feet above the flange with the observers watching control rods and thermocouple guide columns are **NOT** rising with the head."

Was the step in RP 1A performed and documented? Why are the two procedures inconsistent? Which procedure takes precedence?

- During the Just-In-Time information meeting, the pre-job briefing, and the discussion following discovery of the bullet nose problem, it was stated several times by several individuals that once the head is above the guide pins, the procedure requires that it cannot be lowered. This restriction can not be found in 1RMP 9096. What is the source of this restriction?
- Log entry on 04/21/2004 at 14:44 says, "Reactor Vessel head is approximately 3 feet from the top of the guide pins. Mechanical General Supervisor reports that it appears a bullet cover for one set of thermocouples appears to have come up with the head." If the head was below the top of the guide pins, could/should the head have been lowered? Why or why not? Was lowering the head adequately evaluated?
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