

Mr. Robert Leyse
P.O. Box 2850
Sun Valley, ID 83353

December 10, 2001

Dear Mr. Leyse:

I am responding to concerns you expressed to Kathleen E. Trever, Coordinator for INEEL Issues for the State of Idaho. By letter dated October 26, 2001, Ms. Trever forwarded your concerns to me and asked that I respond to you directly. Ms. Trever stated that you had the following concerns regarding unusually heavy crud buildup at the River Bend Station Unit 1 that were identified in Licensee Event Report (LER) 50-458/99-016-00.

1. The LER may not have received widespread attention and you wished to ensure that the regulators of the Columbia Generating Station are aware of this LER.
2. The extent to which the NRC has evaluated the issue of crud buildup at other boiling water reactors, especially the Columbia Generating Station.

The issue at River Bend was first identified by Entergy Operations Inc., the licensee for River Bend, as a possible fuel cladding defect in a Daily Event Report on September 21, 1998. The plant was operating at the time. The Union of Concerned Scientists filed a petition on September 25, 1998, requesting the NRC to suspend the operating license for River Bend because of the fuel cladding issue. The NRC denied the petition on April 18, 1999 (Enclosure 1). On April 20, 1999, with the plant down for refueling, plant personnel identified a heavy deposit of crud on fuel assemblies. On June 22, 1999, a meeting was held between the NRC and Entergy to discuss the issues associated with the crud deposits including the root cause investigation. For your information, I have enclosed the meeting summary (Enclosure 2). On March 1, 2000, the licensee submitted the LER.

Issue 1

The NRC staff, including the staff responsible for the Columbia Generating Station, was aware of this LER. The staff was engaged with Entergy on this issue prior to the issuance of the LER, as demonstrated by the meeting held with Entergy on June 22, 1999. As the meeting summary shows, 16 NRC staff members attended the meeting. The staff present at the meeting included individuals with expertise in fuel cladding, chemistry, materials and fuel design.

The licensee event reporting system is required by 10 CFR 50.73 which identifies the types of reactor events and problems that are believed to be significant and useful to the NRC in its effort to maintain public safety. It is designed to provide the information necessary for engineering studies of operational anomalies and trends and patterns analysis of operational occurrences. The reporting system ensures that the information is widely available, including to the regulators of the Columbia Generating Station. The LER was made available through the NRC's public electronic reading room.

Issue 2

The Operational Experience, Financial, and Non-Power Reactors Branch of the Office of Nuclear Reactor Regulation evaluates operational experience, including LERs, for generic applicability. If an event is determined to have generic implications then the information is communicated to the affected licensees. In this instance, the event was determined to be caused by a number of factors. NRC Inspection Report 50-458/99-07 describes these factors and the corrective actions taken by the licensee (Enclosure 3). The factors were determined to be specific to River Bend operating conditions. River Bend has not experienced a high level of crud buildup since cycle 8.

The amount of oxidation or crud buildup on the fuel cladding cannot be directly measured while a plant is operating. Licensees have strict chemistry controls that reduce the amount of oxidation or crud buildup on the fuel. Licensees also measure the activity of the reactor coolant system and from that determine if the fuel is experiencing pin hole size fuel leaks.

The Columbia Generating Station has had two refueling outages since the River Bend event. During the refueling outages, a portion of the fuel is replaced and the condition of the fuel is determined. The fuel at the Columbia Generating Station has not experienced the same heavy crud buildup that River Bend experienced.

The LER did receive widespread attention. The LER system ensures that events are evaluated for their generic implications which would include applicability to the Columbia Generating Station. The enclosed material provides a discussion of the fuel cladding, its role as one of the three barriers to the release of fission products, how this barrier is monitored and maintained and the actions the licensees take on the discovery of fuel defects.

If I can be of further assistance, please contact me at (301) 415-1424.

Sincerely,

/RA/

Jack Cushing, Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-397

Enclosures: 1. Director's Decision 99-08
2. June 22, 1999, Meeting Summary
3. Inspection Report 50-458/99-07

cc w/encls:
Ms. Kathleen E. Trever
Coordinator for INEEL Issues
900 North Skyline, Suite C
Idaho Falls, Idaho 83706

Issue 2

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Ms. Kathleen E. Trever
Coordinator for INEEL Issues
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Idaho Falls, Idaho 83706

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*For previous concurrences see attached ORC

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