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16805 WCR 19 1/2, Platteville, CO 80651

June 19, 1992
Fort St. Vrain
Unit No. 1
P-92234

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Docket No. 50-267

SUBJECT: LICENSEE EVENT REPORT 92-004-00, FINAL REPORT

REFERENCE: Facility Operating License No. DPR-34

Gentlemen:

Enclosed, please find a copy of Licensee Event Report No. 50-267/92-004-00, Final, submitted per the requirements of 10 CFR 50.73(a)(2)(i)(B).

If you have any questions, please contact Mr. M. H. Holmes at (303) 620-1701.

Sincerely,

Donald W. Warembourg
Manager, Nuclear Operations
Fort St. Vrain Nuclear
Generating Station

DWW/JFH/lmg

Enclosure

cc: Regional Administrator, Region IV

Mr. J. B. Baird
Senior Resident Inspector
Fort St. Vrain

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F5301), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

[illegible]

At 0324 hours on May 20, 1992, with the Reactor Building Louvers opened for building cooling, the Fuel Handling Machine (FHM), containing eight irradiated fuel elements, was moved with the Reactor Building Crane. Movement of the FHM while irradiated fuel is being stored inside the machine is considered to be handling of irradiated fuel.

For St. Vrain Technical Specification LCO 4.5.1 requires that Reactor Building integrity be maintained at all times whenever irradiated fuel is handled inside the Reactor Building. One of the requirements for maintaining Reactor Building integrity is to have the building louvers closed. Movement of the FHM containing irradiated fuel elements on May 20, 1992 while the Reactor Building Louvers were open constitutes a violation of LCO 4.5.1 requirements and is being reported herein per the requirements of 10 CFR 50.73 (a)(2)(i)(B).

Immediately upon discovering that the FHM had been moved while the louvers were open, the building louvers were closed.

A similar event was reported in LER 92-002.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Fort St. Vrain, Unit No. 1

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EVENT DESCRIPTION:

On the evening of May 19, 1992, with all irradiated fuel removed from the PCRV, efforts were underway on the refueling floor to load irradiated fuel from the Fuel Storage Wells (FSWs) into a Spent Fuel Transfer Cask for shipment to the Independent Spent Fuel Storage Installation (ISFSI). At approximately 2040 hours on May 19, 1992, refueling floor personnel initiated a Reactor Building Louver Opening Permit to allow the building louvers to be opened for building cooling purposes. The Reactor Building Louver Opening Permit was a new procedure to allow using the louvers to cool the building during the remainder of defueling. The louver opening permit and associated procedure had just recently been implemented on May 18, 1992.

At 2045 hours on May 19, 1992, the louvers were opened. Caution placards were placed on the Reactor Building Crane control pendent, the FHM Cask Isolation Valve controls, and the appropriate Reactor Isolation Valve(s) in accordance with the louver opening procedure. These caution placards are strategically placed to alert refueling floor personnel to the fact that the louvers are open and that no irradiated fuel handling or reactor vessel internal maintenance is to be performed. At 2252 hours the louver permit was terminated and the louvers were closed to allow fuel handling activities.

At 2320 hours on May 19, 1992, refueling floor personnel initiated another Reactor Building Louver Opening Permit, again to cool the refueling floor. After placing caution placards the louvers were opened at 2327 hours. At 0324 hours on May 20, 1992, with the building louvers still open, a Senior Special Licensed Operator (SSLO) hoisted the FHM with the reactor building crane and moved the machine from region 3 of the reactor top head to the New Fuel Loading Port. The FHM contained eight irradiated fuel elements at the time and therefore its movement constituted handling of irradiated fuel. The SSLO stated that he did not see the caution placard that was attached to the Reactor Building Crane control pendent.

After moving the FHM the SSLO noticed the caution placard on the FHM CIV control panel and immediately notified the Fuel Deck Superintendent that the FHM had been moved while the louvers were open. The louvers were closed at approximately 0325 hours.

CAUSE:

Failure To Follow Procedure:

Moving the FHM containing irradiated fuel while the Reactor Building Louvers were open was a violation of the louver opening permit procedure contained in Administrative Controls Procedure G-4.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Fort St. Vrain, Unit No. 1	DOCKET NUMBER (2) 050002679	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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CAUSE (Cont'd)

The Fuel Deck Superintendent failed to recognize that the louvers were open when he gave the SSLO permission to move the FHM. The SSLO also failed to recognize that the louvers were open and failed to heed the caution placard that was placed on the Reactor Building Crane pendent. The crane pendent is used to operate the reactor building crane. The Fuel Deck Superintendent signed the louver opening permit to document that he had hung the caution placards. The SSLO signed the permit to document that he had verified the caution placards were properly placed. Given that these two individuals were directly involved with placing the caution placards confirms their knowledge that the louvers were open and that irradiated fuel handling activities were to be suspended during the time that the louver opening permit was in effect.

It is recognized that the Reactor Building louver opening permit was new and that refueling floor personnel had not used the permit until the night of May 19, 1992. Nevertheless, PSC considers that the louver opening procedure should have been adequate to control fuel handling activities on the fuel deck while the louvers were open. The events of May 20, 1992 occurred because refueling floor personnel failed to comply with the controls established by the louver opening permit.

SAFETY ANALYSIS:

The basis of Technical Specification LCO 4.F.1 identifies that "integrity of the reactor building and operation of the ventilation system in combination limit the off-site doses under normal and abnormal conditions". Maintaining Reactor Building integrity during irradiated fuel handling operations minimizes the potential for an unfiltered release of radioactivity to the environment in the event of a fuel handling accident.

It is the intent of this safety analysis to examine: (1) the safety consequences of moving the FHM containing irradiated fuel while the building louvers were open and, (2) the potential for having an unfiltered release of radioactivity while moving the FHM.

The May 20, 1992 event in which irradiated fuel was handled while the building louvers were open consisted of hoisting the FHM containing eight irradiated fuel elements with the reactor building crane and moving the FHM over the refueling floor (approximately 4 inches above the floor) from the reactor top head area to the new fuel loading port (i.e., approximately 100 feet).

The reactor building crane snubbing device is engaged whenever the crane is used to move the FHM. This snubbing device controls the travel of the main hoist when the FHM is being raised or lowered. As described in FSAR section 9.2.1.2, this snubber system is designed so that in no case will the machine come in contact with the refueling floor except at isolation valve locations for receiving the FHM. FSAR section 9.2.1.1 states that with this snubbing device in place, the 170 ton crane-hook combination is considered to be single failure proof. Use of the snubbing device virtually eliminates the possibility of a FHM drop accident.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20556, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

YEAR

SEQUENTIAL NUMBER

REVISION NUMBER

Fort St. Vrain, Unit No. 1

0 5 0 0 0 2 6 7

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0 4 OF

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SAFETY ANALYSIS (Cont'd)

Moving the FHM with the crane creates little if any risk of generating airborne radioactivity, even in the event of a misoperation. The inherent safety provided by the FHM is discussed in FSAR section 9.1.1.3 which states "when the handling machine itself is being moved it is closed at the bottom by a massive shielded valve, making loss of fuel incredible. Interlocks are provided so the valve cannot be inadvertently opened. A gross mechanical malfunction or misoperation cannot endanger the operators or the public because all radioactive material is contained in a cooled and purified inert atmosphere. Also, when the cask isolation valve is shut, forming a closed gas-tight system, protection is provided for an inadvertent pressure rise inside the closed volume. A vent line that is continuously connected to the gas waste system, in conjunction with a check valve safely vents the gases". These design provisions provide excellent assurance that all radioactivity inside the FHM will be contained while the FHM is moved. All fuel handling operations performed on the refueling floor are performed in accordance with written procedures specific to the task at hand.

Based on the safety features of the FHM and Reactor Building Crane in combination with the controls established in the fuel handling procedures, it is concluded that the May 20, 1992 incident involving movement of the FHM while the reactor building louvers were open did not pose a threat to the health and safety of the public.

CORRECTIVE ACTION:

Immediately upon discovering that the FHM had been moved while the louvers were open, the building louvers were closed.

The personnel involved with the event have been reminded of the necessity to follow procedures.

To preclude future incidents of this nature, plant management terminated use of the reactor building louvers for building cooling purposes and has canceled the louver opening permit.

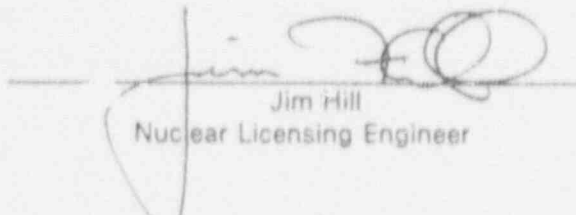
PSC requested a Temporary Waiver Of Compliance from the requirements of LCO 4.2.15, PCRV Cooling Water Temperatures. By letter dated May 21, 1992, the Nuclear Regulatory Commission granted the Temporary Waiver Of Compliance. This waiver will allow PSC to terminate admitting steam to the liner cooling system which was necessary to maintain temperatures within LCO 4.2.15 limits. Adding steam to the liner cooling system also added heat to the reactor building and created unpleasantly hot working conditions on the refueling floor. It was these hot working conditions that prompted using the reactor building louvers for building cooling. With steam heat no longer required to maintain liner cooling system temperatures, the existing reactor building HVAC system should be capable of maintaining the refueling floor at acceptable temperatures without the added cooling effects provided by the building louvers.

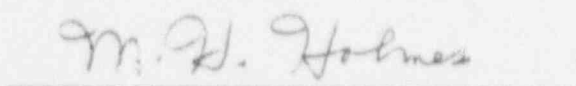
LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

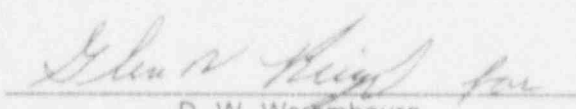
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FACILITY NAME (1) Fort St. Vrain, Unit No. 1	DOCKET NUMBER (2) 0 5 0 0 0 2 6 7	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 2	— 0 0 4	— 0 0	0 5	OF	0 5

TEXT (If more space is required, use additional NRC Form 386A's) (17)


Jim Hill
Nuclear Licensing Engineer


M. H. Holmes
Nuclear Licensing Manager


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Manager, Nuclear Operations
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