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RC-03-0124  
June 13, 2003

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Sir / Madam:

Subject: VIRGIL C. SUMMER NUCLEAR STATION  
DOCKET NO. 50-395  
OPERATING LICENSE NO. NPF-12  
LICENSEE EVENT REPORT (LER 2003-001-00)  
STEAM PROPAGATION BARRIER DOOR FOUND SECURED IN OPEN  
POSITION

Attached is Licensee Event Report (LER) No. 2003-001-00, for the Virgil C. Summer Nuclear Station (VCSNS). The report describes an event in which a steam propagation barrier door was found secured in the open position. This LER is being submitted in accordance with 10 CFR 50.73(a)(2)(i)(B).

Should you have any questions, please call Mr. Mel Browne at (803) 345-4141.

Very truly yours,

Stephen A. Byrne

AJC/SAB/dr  
Attachment

c: N. O. Lorick  
N. S. Carns  
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RTS (0-C-03-1364-3)  
File (818.07)  
DMS (RC-03-0124)

IE22

**LICENSEE EVENT REPORT (LER)**(See reverse for required number of  
digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [bj1@nrc.gov](mailto:bj1@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503.

**1. FACILITY NAME**

Virgil C. Summer Nuclear Station

**2. DOCKET NUMBER**

05000395

**3. PAGE**

1 OF 4

**4. TITLE**

STEAM PROPAGATION BARRIER DOOR FOUND SECURED IN OPEN POSITION

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
04	22	2003	2003	- 001 - 00		06	13	2003	FACILITY NAME	DOCKET NUMBER
9. OPERATING MODE			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)							
1			20.2201(b)			20.2203(a)(3)(ii)			50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
10. POWER LEVEL			20.2201(d)			20.2203(a)(4)			50.73(a)(2)(iii)	50.73(a)(2)(x)
100			20.2203(a)(1)			50.36(c)(1)(i)(A)			50.73(a)(2)(iv)(A)	73.71(a)(4)
			20.2203(a)(2)(i)			50.36(c)(1)(ii)(A)			50.73(a)(2)(v)(A)	73.71(a)(5)
			20.2203(a)(2)(ii)			50.36(c)(2)			50.73(a)(2)(v)(B)	OTHER Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iii)			50.46(a)(3)(ii)			50.73(a)(2)(v)(C)	
			20.2203(a)(2)(iv)			50.73(a)(2)(i)(A)			50.73(a)(2)(v)(D)	
			20.2203(a)(2)(v)		X	50.73(a)(2)(i)(B)			50.73(a)(2)(vii)	
			20.2203(a)(2)(vi)			50.73(a)(2)(i)(C)			50.73(a)(2)(viii)(A)	
			20.2203(a)(3)(i)			50.73(a)(2)(ii)(A)			50.73(a)(2)(viii)(B)	

**12. LICENSEE CONTACT FOR THIS LER****NAME**

M. N. Browne, Mgr., Nuclear Licensing

**TELEPHONE NUMBER (Include Area Code)**

(803) 345-4141

**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X				N					

**14. SUPPLEMENTAL REPORT EXPECTED**

YES (If yes, complete EXPECTED SUBMISSION DATE).

X

NO

**15. EXPECTED SUBMISSION DATE**

MONTH

DAY

YEAR

**16. ABSTRACT (Limit to 1400 spaces. i.e., approximately 15 single-spaced typewritten lines)**

On April 22-23, 2003, steam propagation barrier door DRIB/107 was first discovered chained and strapped open and later found blocked open.

This event was caused by a lack of specific training for the Security Officers assigned to continuously monitor materials stored in the room behind the door. The door was being opened to provide cooling to the Security Officer on duty in the area. Upon first discovery, the chains and straps were removed and the door was secured. Approximately 10 hours later, the door was found blocked open by the Security Officer on duty by physically standing with his back against the door. At this time the door was secured again.

Investigation revealed the event was reportable under 10 CFR 50.73(a)(2)(i)(B). Opening door DRIB/107 beyond normal ingress and egress impacted both trains of control room ventilation as a result of breaching the pressure boundary encompassing all three Heating, Ventilation, and Cooling Water (HVAC) rooms. Loss of both trains of Control Room Ventilation is prohibited by Technical Specifications (TS) 3.7.6.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

**PLANT IDENTIFICATION**

Westinghouse - Pressurized Water Reactor

**EQUIPMENT IDENTIFICATION**

DRIB/107

**IDENTIFICATION OF EVENT**

On April 22-23, 2003, steam propagation barrier door DRIB/107 was first discovered chained and strapped open and later found blocked open. The door was in this configuration to allow cooling for the Security Officer assigned to continuously monitor two drums of refrigerant stored in the room. The door was immediately returned to the required position and the Security force was trained on the proper control of doors/barriers in the plant.

**EVENT DATE**

04/22/03

**REPORT DATE**

06/13/03

**CONDITIONS PRIOR TO EVENT**

Mode 1, 100% Power

**DESCRIPTION OF EVENT**

On April 22-23, 2003 Security Officers were assigned to continuously monitor two drums of refrigerant while maintenance was being performed on "C" HVAC chiller, which is the swing component. After the maintenance crew completed work on April 22, the drums were continuously monitored throughout the night as required by station security procedure. Door DRIB/107 is a double door designed as a steam propagation barrier for protection of the HVAC chillers and pumps from harsh environment during a steam

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**DESCRIPTION OF EVENT**

line break. The temperature in the chiller room behind the door is relatively hot and not conducive to long stay times. As a result, a Security Officer opened the door in order to cool himself by securing one side of the door with a hoist chain and the other with a lifting strap.

During his rounds, an Operations Test Specialist noticed the door secured open and notified the duty Shift Supervisor. The door was returned to the closed position and the Security Officer was informed as to the required position of the door.

During shift rounds on the morning of April 23, the Auxiliary Building Operator found the door open again by another Security Officer who was standing with his back against the door. The Auxiliary Building Operator closed the door and informed the Security Officer as to the required position of the door.

With DRIB/107 open, both trains of Chilled Water are considered inoperable due to steam line break accident environment. This condition results in both trains of Control Room Ventilation being inoperable. This condition is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B).

Investigation of the event determined that the maximum time the door was opened for any given time was four hours and forty minutes. Fire protection procedures specifically address steam propagation barriers in that doors may be opened for normal ingress and egress only. However, it was determined that Security training does not include requirements for steam propagation barrier doors.

In addition to immediately returning the door to the required position, immediate corrective actions included Security training addressing the proper control of doors/barriers in the plant and that no door in the plant should be used for anything other than normal ingress/egress without prior approval from Operations.

Condition Event Report C-03-1364 was generated to address the event and to perform a root cause evaluation to understand why the event happened and to design effective corrective actions.

**CAUSE OF EVENT**

The cause of this event is a lack of specific training for the Security force on the requirements for steam propagation barrier doors.

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**ANALYSIS OF EVENT**

During the investigation of this event, it was discovered that a Security Officer had restrained DRIB/107 in the open position using a hoist chain and lifting strap in an effort to provide cooling to himself in a hot environment. Another Security Officer used his body to block the door for cooling.

While the door was opened beyond normal ingress/egress, both trains of Chilled Water were considered inoperable which resulted in both trains of Control Room Ventilation being inoperable.

**CORRECTIVE ACTIONS**

The door was immediately returned to the required position when discovered open on both occasions. The Security force was trained on the requirements for steam propagation barrier doors in the plant. The event was documented in Condition Event Report C-03-1364 and root cause evaluation RCA03-1364 was performed. As an immediate interim measure, an information notice on Steam Propagation Barrier doors was provided to all personnel. Steam Propagation Barrier awareness training will be provided to all site personnel during initial and annual Station Orientation Training.

**PRIOR OCCURRENCES**

In August 2002, a non-cited violation (NCV) evaluated as having very low safety significance (Green) was issued for failure to follow procedural controls for steam propagation barrier doors. During the post maintenance testing process for a diesel generator jacket water heater replacement, the water fill hose was routed through a steam propagation barrier (SPB) door. Operators performing the fill evolution did not understand that routing a hose through the door did not constitute minor maintenance. Procedurally, SPB doors could remain open for up to one hour for minor maintenance. After discussions with control room supervision the activity was suspended until the alternate method of supplying water was implemented.

In order to prevent recurrence Condition Event Report (CER) C-02-2704 was generated with the following corrective actions.

- Fire Protection Procedure, FPP-025, Revision 3, Change E was issued 11/20/02 to clarify that minor maintenance applies only to the respective door.
- Station Operating Procedure, SOP-306, Revision 15, Change B was issued 11/11/02 to add mode requirements to which valve (or which door) is used to fill the expansion tank.
- Enhancements to Licensed/Auxiliary Operator Initial and Requal programs are being made to include training modules consisting of Steam Propagation Barriers, Flood Barriers and Fire Barriers. This action is scheduled for completion in December, 2003.
- A synopsis of CER C-02-2704 was included in the October 2002 Operator Required Reading.

SCE&G believes that completion of actions identified for the prior occurrence, supplemented by those for the most recent event, will ensure future compliance.