

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>Virgil C. Summer Nuclear Station</b>	DOCKET NUMBER (2) <b>0 5 0 0 0 3 9 5</b>	PAGE (3) <b>1 OF 0 3</b>
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TITLE (4)  
**Charging/Safety Injection Pump Misalignment**

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
0 6	1 2	8 6	8 6	0 1	0 0	0 7	1 1	8 6			0 5 0 0 0
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											

OPERATING MODE (9) <b>1</b>	POWER LEVEL (10) <b>9.7</b>	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME <b>W. R. Higgins, Assoc. Manager, Regulatory Compliance</b>	TELEPHONE NUMBER
	AREA CODE: <b>8 0 3</b> NUMBER: <b>3 4 5 - 5 2 0 9</b>

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On June 12, 1986, the Licensee identified a condition for which the breaker alignment of the "B" Train Charging/Safety Injection (SI) pumps resulted in disabling the pumps from an automatic start under conditions of a Loss of Offsite Power followed by an SI. Following modification retest activities on June 6, 1986, the "B" Charging/SI Pump was placed in pull-to-lock to prevent automatic starting in the event of an SI. The "B" Pump was capable of performing its intended function but had outstanding paperwork to be reviewed and signed off for completion of the modification. The "C" Charging/SI Pump was aligned to the "B" Train and was considered to be the operable pump of that train for the purpose of meeting the Technical Specification Limiting Condition for Operation (LCO). However, the alignment of the "B" and "C" Charging/SI pumps on the "B" Train with the "B" Pump in pull-to-lock would prevent the automatic start of either pump on the "B" Train under conditions of a Loss of Offsite Power followed by an SI. This design feature was not known to the operators at the time the action was taken to place the "B" Pump in pull-to-lock.

The Licensee attributes this event to personnel error and inadequate procedures. The personnel error was a result of inadequate understanding of the system design. The operating procedures inadequately addressed various system configurations which are created by maintenance and modification activities. Administrative procedures for removal and restoration of equipment were also identified as being inadequate for control of equipment for post-maintenance and modification testing. The appropriate corrective action will be taken to these concerns.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
			- 0 1 0	- 0 0	0 3	OF 0 3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

On June 12, 1986, the Licensee identified a condition for which the breaker alignment of the "B" Train Charging/Safety Injection (SI) pumps resulted in disabling the pumps from an automatic start under conditions of a Loss of Offsite Power followed by an SI. Following modification retest activities on June 6, 1986, the "B" Charging/SI Pump was placed in pull-to-lock to prevent automatic starting in the event of an SI. The "B" Pump was capable of performing its intended function but had outstanding paperwork to be reviewed and signed off for completion of the modification. The "C" Charging/SI Pump was aligned to the "B" Train and was considered to be the operable pump on that train for the purpose of meeting the Technical Specification Limiting Condition for Operation (LCO). However, the alignment of the "B" and "C" Charging/SI pumps on the "B" Train with the "B" Pump in pull-to-lock would prevent the automatic start of either pump on the "B" Train under conditions of a Loss of Offsite Power followed by an SI. This design feature was not recognized by the operators at the time the action was taken to place the "B" Pump in pull-to-lock.

On June 10, 1986, the "A" Diesel Generator was removed from service for preventive maintenance which lasted 13 hours. This included verification of the operability of "B" Train components in accordance with the Action Statement of Technical Specification 3.8.1.1. Again, it was the operator's understanding that the "C" Charging/SI Pump was operable on the "B" Train. Under these conditions, the "A" and "C" pumps would have started on an SI. For a Loss of Offsite Power, the Charging/SI pumps are not required to start automatically. For an SI followed by a Loss of Offsite Power, the "A" and "C" pumps would have automatically started on an SI and following the Loss of Offsite Power, the "C" Pump would have restarted since it was previously running. For a Loss of Offsite Power followed by an SI, no Charging/SI pumps would have automatically started.

On June 11, 1986, an operator questioned the alignment of the "B" Train Charging/SI pumps, and following discussions and evaluation by the Shift Supervisor, the "B" Charging/SI Pump Breaker was racked out. This alignment would allow the automatic start of the "C" Charging/SI Pump under conditions previously discussed.

The concern about the condition which existed from June 6, 1986 to June 11, 1986 was identified to Operations management and a review committee was convened to determine the safety significance and impact on Technical Specification LCO's.

The Licensee attributes this event to personnel error and inadequate procedures. The personnel error was a result of inadequate understanding of the system design. The operating procedures inadequately addressed various system configurations which are created by maintenance and modification activities. Administrative procedures for removal and restoration of equipment were also identified as being inadequate for control of equipment for post-maintenance and modification testing.

The consequences to safety for this event were minimal. The Charging/SI System would have functioned per design for all accident scenarios with the exception of a Loss of Offsite Power followed by an SI. However, under that condition, the "B" or "C" Pump could have been manually started as part of the operator's immediate actions. The Licensee considers this event to be a failure to meet the intention of the Limiting Condition for Operation for Technical Specification 3.8.1.1 action statement C.1.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
					0   3	OF	0   3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

The Licensee has taken the following interim actions in response to this event until long term corrective action can be formulated.

- 1) Breakers for swing components which are not fully operable (either technically or administratively) are required to be "racked out."
- 2) The use of the "pull-to-lock" feature will be restricted to situations specifically addressed in procedures or emergency situations to prevent equipment from starting or operating.
- 3) A moratorium, on design changes for all equipment and systems that could impact on operability of equipment required to support plant operations, will remain in effect until August 1st or such time that all outstanding MRFs are reviewed for inclusion of pre-modification planning and post-modification testing requirements. Emergency MRF work (work that must be done to keep the plant on line) may be implemented only after pre-modification planning and post-modification testing have been defined.
- 4) The event and interim corrective actions have been reviewed with Operations personnel to assure their awareness of the consequences of this event and to address the short term actions implemented for control of swing components.

Long term corrective action will include:

- 1) An evaluation of the control circuitry design will be conducted in order to determine if modifications can be made so that all swing component alignment circuitry operates in an identical manner. Also in this evaluation, consideration will be given to include a modification that would provide an annunciation on the main control board for a "NOT READY FOR AUTO START" condition if the selected swing components were not properly aligned.
- 2) A program of strict, detailed preplanning will be implemented for maintenance and modification activities which may require system or component alignments other than those specified by System Operating Procedures.
- 3) Revisions to the equipment status control procedures will be made requiring more stringent logging of equipment status at all times.
- 4) Future training will emphasize rigid standards for determination of operability by comparing system or component alignment with approved operating procedures and equipment status controls.
- 5) The three operators involved in this event have been removed from shift to complete an intensified training program. The objectives of this special training program will be to develop three Operations organization systems experts on swing components and the Administrative Procedures used to control them. These system experts will present this material, along with lessons learned, to all licensed operators.



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Dan A. Nauman  
Vice President  
Nuclear Operations

July 11, 1986

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Document Control Desk  
Washington, DC 20555

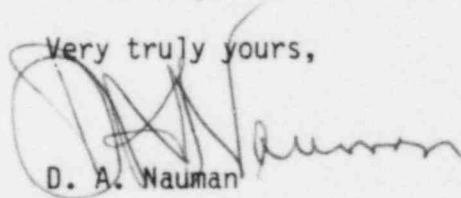
SUBJECT: Virgil C. Summer Nuclear Station  
Docket No. 50/395  
Operating License No. NPF-12  
LER 86-010

Dear Sir:

Attached is Licensee Event Report #86-010 for the Virgil C. Summer Nuclear Station. This report is submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(i).

Should there be any questions, please call us at your convenience.

Very truly yours,



D. A. Nauman

RMF:DAN/lcd  
Attachment

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