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 FACIL: 50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co.      05000389  
 AUTH. NAME      AUTHOR AFFILIATION  
 HARMIN, W.      Florida Power & Light Co.  
 SAGER, D.A.      Florida Power & Light Co.  
 RECIPIENT AFFILIATION

SUBJECT: LER 94-005-00: on 940708, TS 3.0.3 entered when emergency core cooling systems limiting condition for operation was not met due to personnel error. Operations has revised format of equipment. W/940802 ltr.

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August 2, 1994

L-94-192  
10 CFR 50.73

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

Re: St. Lucie Unit 2  
Docket No. 50-389  
Reportable Event: 94-005  
Date of Event: July 8, 1994  
Technical Specification 3.0.3 entered when Emergency Core  
Cooling Systems Limiting Condition for Operation was not met  
due to personnel error

The attached Licensee Event Report is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Very truly yours,

*D. A. Sager*  
D. A. Sager  
Vice President  
St. Lucie Plant

DAS/JWH/kw

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, USNRC Region II  
Senior Resident Inspector, USNRC, St. Lucie Plant

DAS/PSL #1170-94

9408100270 940802  
PDR ADCK 05000389  
S PDR

*IEZ*

**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) <b>St. Lucie Unit 2</b>	DOCKET NUMBER (2) <b>05000389</b>	PAGE (3) <b>1 OF 4</b>
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TITLE (4) **Technical Specification 3.0.3 entered when Emergency Core Cooling Systems Limiting Condition for Operation was not met due to personnel error.**

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 NAME	DOCKET NUMBER
07	08	94	94	--005--	0	07	29	94	N/A	
									N/A	

OPERATING MODE (9) <b>1</b>	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
POWER LEVEL (10) <b>100</b>	<input type="checkbox"/>	20.402(b)	<input type="checkbox"/>	20.405(c)	<input type="checkbox"/>	50.73(a)(2)(iv)	<input type="checkbox"/>	73.71(b)		
	<input type="checkbox"/>	20.405(a)(1)(i)	<input type="checkbox"/>	50.36(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	<input type="checkbox"/>	73.71(c)		
	<input type="checkbox"/>	20.405(a)(1)(ii)	<input type="checkbox"/>	50.36(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)	<input type="checkbox"/>	OTHER		
	<input type="checkbox"/>	20.405(a)(1)(iii)	<input checked="" type="checkbox"/>	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366a)			
	<input type="checkbox"/>	20.405(a)(1)(iv)	<input type="checkbox"/>	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(viii)(B)				
<input type="checkbox"/>	20.405(a)(1)(v)	<input type="checkbox"/>	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(x)					

LICENSEE CONTACT FOR THIS LER (12)										
NAME <b>John W. Harmon, Shift Technical Advisor</b>	TELEPHONE NUMBER (Include Area Code) <b>(407) 465-3550</b>									

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE	
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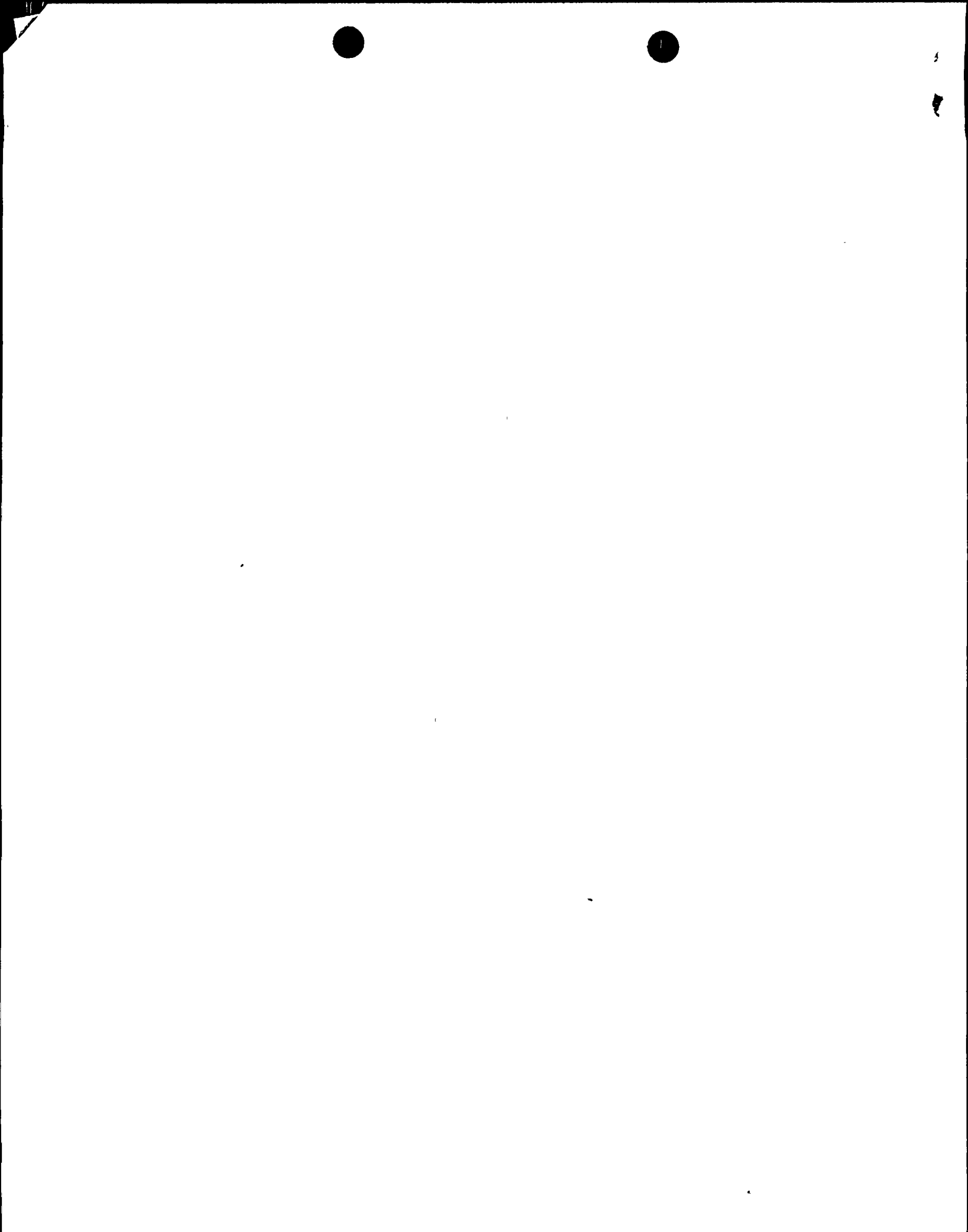
SUPPLEMENTAL REPORT EXPECTED (14)					EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/>	NO							

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

On 7/8/94 Unit 2 was at 100% power in mode 1. Due to simultaneously having the 2A Low Pressure Safety Injection (LPSI) pump and 2B Charging pump out of service, Technical Specification 3.0.3 was entered at 0820. The Nuclear Plant Supervisor had identified that the condition of the Emergency Core Cooling System (ECCS) was in violation of Technical Specification 3.5.2 "ECCS Subsystems with Tavg greater than or equal to 325 Fahrenheit." Operations expeditiously restored the 2A LPSI System at 0849 and exited Technical Specification 3.0.3.

The root cause of the event was cognitive personnel error by a utility-licensed operator in that all opposite train ECCS equipment was not verified operable prior to removing the 2A LPSI System from service.

Corrective Actions for this event include: 1. The 2A LPSI pump and the 2B Charging pump were returned to service. 2. Operations has revised the format of the Equipment Out of Service Log for both units to enhance the awareness for minimum equipment required to be in service. 3. The Operations Department supervisor issued a Night Order to all licensed operators on the need to perform a thorough review of Technical Specifications and the Out of Service Equipment Log prior to taking safety-related equipment out of service. 4. A further process change to address equipment clearances will require a signoff for the ANPS to verify opposite train equipment availability immediately prior to issuance of a clearance. 5. During the 1994 Licensed Operator Requalification training program, the Training Department will review this event with all utility licensed operators and shift technical advisors.



NRC FORM 366A (5-92)

**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 INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, 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	
St. Lucie Unit 2	05000389	94	--005--	0	2 OF 4

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

**DESCRIPTION OF THE EVENT:**

The St. Lucie Unit 2 Technical Specification Limiting Condition for Operation 3.5.2 requires two independent Emergency Core Cooling System (ECCS) subsystems to be operable in modes 1, 2 and 3 with RCS pressure greater than 1750 psia; with each ECCS subsystem composed of: One High Pressure Safety Injection (HPSI) (EIIS:BQ) pump, one Low pressure Safety Injection (LPSI) (EIIS:BP) pump, an independent flow path from the Refueling Water Storage Tank (EIIS:CB), and one Charging Pump (EIIS:CB). With one ECCS subsystem inoperable, the Action Statement requires that the inoperable subsystem must be restored to OPERABLE within 72 hours or be in HOT STANDBY within the next 6 hours.

On 7/8/94 Unit 2 was at 100% power in mode 1. The 2B Charging Pump was placed out of service at 0520 for a scheduled preventative maintenance activity. The 2A and 2C Charging Pumps were both OPERABLE and electrically aligned to the A ECCS train. A work clearance order had been performed for maintenance on a leaking sample valve (V-3471) for the 2A Shutdown Cooling Heat Exchanger. During the draindown of the associated piping, clearance boundary valve HCV-3647 was found to be leaking by its seat. To facilitate better isolation for V-3471, the Assistant Nuclear Plant Supervisor (a utility licensed senior reactor operator) expanded the clearance for V-3471 by closing the 2A LPSI Pump discharge valve (V-3206) placing the 2A LPSI System out of service at 0750. At 0820, the Nuclear Plant Supervisor identified that there was non-compliance with Technical Specification 3.5.2 "ECCS Subsystems with Tavg greater than or equal to 325 Fahrenheit."

Therefore, at 0820 the Limiting Condition for Operation of Technical Specification 3.0.3 was entered. Operations expeditiously restored the 2A LPSI System at 0849 to OPERABLE status and then exited Technical Specification 3.0.3.

**CAUSE OF THE EVENT:**

The root cause of the event was cognitive personnel error by a utility-licensed operator in that all opposite ECCS train equipment was not verified operable prior to removing the 2A LPSI System from service. This was due to an insufficient review of the Equipment Out Of Service log and Technical Specifications as required by an approved plant procedure. There were no unusual characteristics of the work location that contributed to the personnel error.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
St. Lucie Unit 2	05000389	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 4
		94	--005--	0	

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

ANALYSIS OF THE EVENT

This event is reportable under 10CFR50.73.a.2.i.B as "any operation or condition prohibited by the plant's Technical Specification." As per NUREG 1022, this includes any entry into Technical Specification 3.0.3. Technical Specification 3.0.3 was entered because the Limiting Condition for Operation for Technical Specification 3.5.2 was not met. For a period of 59 minutes, the 2A LPSI pump and the 2B Charging pump were simultaneously inoperable.

The ECCS Limiting Condition for Operation bases requires two independent subsystems to be OPERABLE to satisfy single failure design considerations. However, the single failure criteria is temporarily relaxed while observing the time limitations for ACTION statements. This relaxation is to allow for maintenance and repairs of equipment to improve plant reliability while maintaining continued power operation.

The function of the ECCS subsystems is to provide sufficient emergency core cooling capability to the Reactor Coolant System (EIIS:AB) during design basis accidents. During the condition described in this report, both trains of Emergency Diesel Generators (EIIS:EK) and HPSI systems were available. The B LPSI and two Charging Pumps aligned to A electrical train were available. The Refueling Water Tank and the required number of flowpaths were also available. If a postulated design basis accident had occurred during this condition, one complete ECCS subsystem would have always been available (but not independent) to successfully mitigate the postulated accident.

The safety impact of this event was evaluated by FPL Engineering. Based on the St. Lucie Unit 2 Probabilistic Safety Assessment, any risk increase due to the charging pump being unavailable at the same time as the LPSI pump is considered to be insignificant.

Therefore, the health and safety of the public were not affected by this event.

NRC FORM 366A (5-92)

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
St. Lucie Unit 2	05000389	94	--005--	0	4 OF 4

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)  
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**CORRECTIVE ACTIONS:**

1. The 2A LPSI system was returned to service on July 8 at 0849.
2. The 2B Charging pump was returned to service on July 8 at 0948.
3. Operations has revised the format of the Equipment Out of Service Log for both units to enhance the awareness for minimum equipment required to be in service.
4. The Operations Department supervisor issued a Night Order to all licensed operators on the need to perform a thorough review of Technical Specifications and the Equipment Out of Service Log prior to taking safety-related equipment out of service.
5. A further process change to address equipment clearances will require a signoff for the ANPS to verify opposite train equipment availability immediately prior to issuance of a clearance.
6. During the 1994 Licensed Operator Requalification training program, the Training Department will review this event with all utility licensed operators and shift technical advisors.
7. V-3471 was returned to service on July 14.

**ADDITIONAL INFORMATION:**

Failed Component Identification: None

Previous Similar Events: Previous similar events are described in LER 335-84-010, LER 335-85-001, LER 389-89-006, and LER 335-92-005 when equipment required by Technical Specifications was inadvertently taken out of service due to personnel error. These previous events involved removal of equipment from service simultaneously with opposite train emergency power out of service. That particular concern was addressed with a process review change in 1992. For this event, a further process change to address equipment clearances will require a signoff for the ANPS to verify opposite train equipment availability immediately prior to issuance of a clearance.