



Crystal River Nuclear Plant  
Docket No. 50-302  
Operating License No. DPR-72

Ref: 10 CFR 50.90

April 27, 2004  
3F0404-11

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

**Subject:** Crystal River Unit 3 – Modified Proposed License Condition, License Amendment Request #280, Revision 1, Revised Improved Technical Specification (ITS) 3.7.9, Nuclear Services Seawater System

- References:**
1. PEF to NRC letter, 3F0304-09, dated March 25, 2004, Proposed License Condition for License Amendment Request #280, Revision 0, Revised Improved Technical Specification (ITS) 3.7.9, Nuclear Services Seawater System
  2. PEF to NRC letter, 3F0703-04, dated July 14, 2003, Crystal River Unit 3 – License Amendment Request #280, Revision 0, Revised Improved Technical Specification (ITS) 3.7.9, Nuclear Services Seawater System (TAC No. MC 0119)

Dear Sir:

Florida Power Corporation, doing business as Progress Energy Florida, Inc. (PEF), proposed a License Condition for License Amendment Request (LAR) #280, Revision 0, in Reference 1. The purpose of this letter is to amend the proposed License Condition with additional compensatory measures to be implemented during the one-time extended allowed outage time for work on Nuclear Services Seawater System Emergency Pump RWP-2B. RWP-2B provides cooling water from the ultimate heat sink to the Nuclear Services Closed Cycle Cooling system heat exchangers. This function can also be performed by the Nuclear Services Seawater Normal Duty Pump, RWP-1 or RWP-2A

The genesis of the proposed License Condition is a sensitivity evaluation performed by the NRC staff using the Crystal River Unit 3 (CR-3) Individual Plant Examination of External Events (IPEEE) risk model which indicates that during the extended allowed outage period, when RWP-2B is out of service, the risk due to fire is increased. The evaluation assumed that for zones where all three pumps capable of providing cooling to the Nuclear Services Closed Cycle Cooling system could be affected (RWP-1, RWP-2A, and RWP-2B) there was no increased risk. However, in zones where only RWP-1 and/or RWP-2A would be affected, fires would pose an increase in risk while RWP-2B is out of service. Therefore, compensatory actions are proposed for all fire zones containing circuits for RWP-1 or RWP-2A. More extensive compensatory actions are being proposed for the risk significant zones that contain circuits for RWP-1 and RWP-2A.

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The Crystal River IPEEE was submitted to the NRC in 1997 and is based on the 1993 IPE and plant configuration from the mid 1990s. Although the IPEEE has not been updated, several plant changes have been made since that time which are expected to significantly decrease the risk associated with some scenarios. These include the installation of a non-safety related motor driven auxiliary feedwater pump (FWP-7) and its dedicated diesel generator, and a third safety related diesel driven emergency feedwater pump (EFP-3). There have also been numerous improvements based on Appendix R considerations which are not reflected in the IPEEE results.

Attachment A contains the modified proposed License Condition. License Condition Item 7 lists more fire zones than identified previously. The reason for their inclusion is that the extensive work performed to assure Appendix R compliance assumes potential fire induced circuit damage to support equipment that was not assumed when the IPEEE model was created. Attachment B provides tables with information regarding the risk significant fire zones containing circuits for both RWP-1 and RWP-2A, additional specific compensatory measures and the specific risk factor for each zone. Attachment C provides a list of ignition sources and their ignition frequency contribution for each of these fire zones from the CR-3 IPEEE model.

The compensatory measures proposed will enhance the already strong Fire Protection Program in place at CR-3. As a measure of the effectiveness of the CR-3 Fire Protection Program, PEF has reviewed CR-3 inspection findings since January 2000 associated with Fire Protection/Appendix R requirements. No findings regarding detection, auto suppression, ignition sources or transient combustibles were identified.

During the refurbishment of RWP-2B, CR-3 will also establish enhanced work controls such as: management work observations and the reinforcement of human performance tool usage at pre-job briefings in order to ensure work activities in the area are conducted safely and effectively.

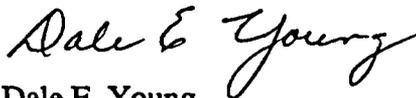
The proposed License Condition supports issuance of the referenced LAR #280 and does not impact the conclusions of the no significant hazards consideration or environmental evaluation (Reference 2).

No new regulatory commitments are made in this letter.

The CR-3 Plant Nuclear Safety Committee has reviewed this request and recommended it for approval.

If you have any questions regarding this submittal, please contact Mr. Sid Powell, Supervisor, Licensing and Regulatory Programs at (352) 563-4883.

Sincerely,



Dale E. Young  
Vice President  
Crystal River Nuclear Plant

DEY/lvc

Attachments:

- A. Modified Proposed License Condition
- B. Information Regarding Risk Significant Fire Zones Containing Circuits for Both RWP-1 and RWP-2A
- C. List of Initiators Applied to Each Fire Zone

xc: NRR Project Manager  
Regional Administrator, Region II  
Senior Resident Inspector

STATE OF FLORIDA

COUNTY OF CITRUS

Dale E. Young states that he is the Vice President, Crystal River Nuclear Plant for Florida Power Corporation, doing business as Progress Energy Florida, Inc.; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

*Dale E. Young*

Dale E. Young  
Vice President  
Crystal River Nuclear Plant

The foregoing document was acknowledged before me this 27th day of April, 2004, by Dale E. Young.

*Janet Schroeder*

Signature of Notary Public  
State of Florida



(Print, type, or stamp Commissioned  
Name of Notary Public)

Personally Known  -OR- Produced Identification

**PROGRESS ENERGY FLORIDA, INC.**

**CRYSTAL RIVER UNIT 3**

**DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72**

**ATTACHMENT A**

**Modified Proposed License Condition**

**Modified Proposed License Condition**

Florida Power Corporation, doing business as Progress Energy Florida, Inc. (PEF), requests the addition of the following License Condition for Crystal River Unit 3 (CR-3).

Proposed License Condition 2.C.(13):

2.C.(13) During the one-time extended allowed outage time for work on Nuclear Services Seawater System Emergency Pump RWP-2B, authorized in Improved Technical Specification (ITS) 3.7.9, CR-3 will implement the following compensatory measures:

1. No elective maintenance will be scheduled on other related risk sensitive equipment beyond that required for the refurbishment activity of RWP-2B that could degrade the risk profile of the plant. For these purposes, the systems are: Nuclear Services and Decay Heat Seawater System, Decay Heat System, Decay Heat Closed Cycle Cooling Water System, Nuclear Services Closed Cycle Cooling Water (SW), Emergency Diesel Generators, Chilled Water, Emergency Feedwater System, Emergency Feedwater Initiation and Controls System (EFIC) Auxiliary Feedwater Pump and Makeup System.
2. Makeup Pump configurations will be selected to minimize risk.
3. Increased operator attention will be focused on loss/restoration of RW/SW/ redundant train and the Appendix R Chiller. This will be accomplished by on shift operating crew review of Abnormal Procedure (AP)-330, Loss of Nuclear Service Cooling.
4. Operator attention will be focused on potential use of non-safety grade Feedwater Pump FWP-7 and its dedicated Diesel Generator (MTDG-1). This will be accomplished by on shift operating crew review of Emergency Operating Procedure (EOP)-14, Enclosure 7, Emergency Feedwater Pump (EFTP) Management.
5. Daily operator walkdowns of the redundant train of RW/SW/Pumps and associated power supply switchgear will be conducted.
6. No elective maintenance to be scheduled in the switchyard that would challenge the availability of offsite power to the ES Buses or to the Bus for RWP-1.
7. Hourly roving fire watches will be established in fire zones identified as containing circuits required for RWP-1 or RWP-2A to minimize fire risk in these areas. Those fire zones are: AB-95-3AA, AB-95-3B, AB-95-3E, AB-95-3F, AB-95-3G, AB-95-3K, AB-95-3T, AB-95-3U, AB-95-3W, AB-95-3X, AB-95-3Z, CC-108-102, CC-108-104, CC-108-105, CC-108-106, CC-108-108, CC-108-109, CC-108-110, CC-124-111, CC-124-116, CC-124-117, CC-134-118A, IB-95-200C, IB-119-201B, TB-119-400E, TB-119-403, TB-95-400A, TB-95-401, AB-119-6 and AB-119-6A.
8. Prior to entering the Allowed Outage Time for rebuild of RWP-2B, fire zones containing circuits for either RWP-1 or RWP-2A will be walked down to identify and minimize transient combustibles not related to ongoing approved work. Hourly

roving fire watches will be charged with continuing to monitor for the presence of transient combustible materials until RWP-2B is returned to service.

9. For the risk significant fire zones containing circuits for both RWP-1 and RWP-2A, the following additional compensatory measures will be established which address the specific risk factors in each zone. No additional compensatory measures beyond roving fire watches will be established for fire zones that contain circuits for all three pumps (RWP-1, RWP-2A and RWP-2B).

Fire Zone CC-108-108

A continuous Fire Brigade Qualified fire watch will be stationed in the fire area except while 4160V breaker manipulations are being performed. The individual's turnout gear will be available in the adjacent area where a fire hose station is also located equipped with an electrically safe fog nozzle.

Fire Zone AB-95-3W

The Waste Transfer Pumps will only be operated when there is a qualified fire watch in the immediate vicinity of the operating pump equipped with a radio and fire extinguisher. No hot or spark producing work will be conducted. A roving hourly fire watch will observe this zone.

Fire Zone AB-95-3E

The operating makeup pump will be selected based on minimizing the risk from internal events as a result of redundancy in its cooling water source. No hot or spark producing work will be conducted. Roving hourly fire watches will be conducted.

Fire Zone AB-95-3AA

The operating makeup pump will be selected based on minimizing the risk from internal events as a result of redundancy in its cooling water source. No hot or spark producing work will be conducted. Roving hourly fire watches will be conducted.

Fire Zone AB-95-3F

The operating makeup pump will be selected based on minimizing the risk from internal events as a result of redundancy in its cooling water source. No hot or spark producing work will be conducted. Roving hourly fire watches will be conducted.

Fire Zone AB-95-3T

The portion of the fire zone that can be locked will be locked and the keys will be administratively controlled. Entries will be limited to only operationally necessary activities and require inspection for transient combustible materials upon exit. The portion of the zone that cannot be locked will be observed by the roving fire watch. No hot or spark producing work will be conducted.

Fire Zone AB-95-3U

The portion of the fire zone that can be locked will be locked and the keys will be administratively controlled. Entries will be limited to only operationally necessary activities and require inspection for transient combustible materials upon exit. The portion of the zone that cannot be locked will be observed by the roving fire watch. No hot or spark producing work will be conducted.

**PROGRESS ENERGY FLORIDA, INC.**

**CRYSTAL RIVER UNIT 3**

**DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72**

**ATTACHMENT B**

**Information Regarding Risk Significant Fire Zones Containing Circuits for  
Both RWP-1 and RWP-2A**

**Information Regarding Fire Zones Containing Circuits for  
Both RWP-1 and RWP-2A**

For the risk significant fire zones containing circuits for both RWP-1 and RWP-2A, additional compensatory measures will be established which address the specific risk factors in each zone. Compensatory measures have been chosen which will reduce fire incidence by focusing on minimizing or mitigating ignition sources. Those are described in the tables which follow for each fire zone.

Where cable insulation is listed below as combustible material, it consists of IEEE-383 thermoset insulation and jacket.

<b>Fire Zone: CC-108-108 4160 ES Switchgear Bus Room 3A</b>			
<b>Detection</b>	<b>Automatic Suppression</b>	<b>Ignition Sources in IPEEE Model</b>	<b>Combustible Loading and Type</b>
Ionization detectors are installed throughout the area to provide for early warning of fire.	None	<ul style="list-style-type: none"> <li>• Transient combustibles</li> <li>• 4160V bus and switchgear</li> <li>• DC distribution panel</li> <li>• Relay panels</li> <li>• MTTR-4 (37.5 KVA 480-240/120V Transformer)</li> <li>• AHF-72 - Cooling Coil Fan motor (1/10 HP, 115V, 60Hz)</li> </ul>	90,147 Btu/ft <sup>2</sup> consisting principally of cable insulation and Thermo-Lag material, with small amounts of rubber, plastic and fiberglass.
<b>Compensatory Measures:</b> <ul style="list-style-type: none"> <li>• Transient combustibles will be minimized.</li> <li>• A continuous Fire Brigade Qualified fire watch will be stationed in the fire area except while 4160V breaker manipulations are being performed.</li> <li>• The individual's turnout gear will be available in the adjacent area where a fire hose station is also located equipped with an electrically safe fog nozzle.</li> </ul>			
<b>Risk Drivers:</b> Switchgear for 4160V Engineered Safeguards components make this room significant since it is required for support of numerous internal events and post-fire safe shutdown safety functions.			

<b>Fire Zone: AB-95-3W Waste Transfer Pump Rooms</b>			
<b>Detection</b>	<b>Automatic Suppression</b>	<b>Ignition Sources in IPEEE Model</b>	<b>Combustible Loading and Type</b>
None	None	<ul style="list-style-type: none"> <li>• Transient combustibles</li> <li>• WDP-5A, 5B, and 5C waste transfer pumps</li> </ul>	101,808 Btu/ft <sup>2</sup> consisting mainly of cable insulation and Thermo-Lag material, with small amounts of lubricating oil and PVC.
<b>Compensatory Measures:</b> <ul style="list-style-type: none"> <li>• Transient combustibles will be minimized.</li> <li>• The Waste Transfer Pumps will only be operated when there is a qualified fire watch in the immediate vicinity of the operating pump equipped with a radio and fire extinguisher.</li> <li>• No hot or spark producing work will be conducted.</li> <li>• A roving hourly fire watch will observe this zone.</li> </ul>			
<b>Risk Drivers:</b> Operation of the Waste Transfer Pumps.			

<b>Fire Zone: AB-95-3E Makeup Pump (MUP) Room 3A</b>			
<b>Detection</b>	<b>Automatic Suppression</b>	<b>Ignition Sources in IPEEE Model</b>	<b>Combustible Loading and Type</b>
An ionization detector is provided in the pump space to give early warning of any fire that may occur.	Wet pipe sprinkler, east corridor of the room in the corridor connecting the three MUP spaces.	<ul style="list-style-type: none"> <li>• Transient combustibles</li> <li>• Makeup Pump 3A</li> </ul>	6,692 Btu/ft <sup>2</sup> consisting of lubricating oil.
<b>Compensatory Measures:</b> <ul style="list-style-type: none"> <li>• Transient combustibles will be minimized.</li> <li>• The operating makeup pump will be selected based on minimizing the risk from internal events as a result of redundancy in its cooling water source.</li> <li>• No hot or spark producing work will be conducted.</li> <li>• Roving hourly fire watches will be conducted.</li> </ul>			
<b>Risk Drivers:</b> Starting of a Makeup Pump.			

<b>Fire Zone: AB-95-3AA Makeup Pump Room 3B</b>			
<b>Detection</b>	<b>Automatic Suppression</b>	<b>Ignition Sources in IPEEE Model</b>	<b>Combustible Loading and Type</b>
An ionization detector is provided in the pump space to give early warning of any fire that may occur.	Wet pipe sprinkler, east corridor of the room in the corridor connecting the three MUP spaces.	<ul style="list-style-type: none"> <li>• Transient combustibles</li> <li>• Makeup Pump 3B</li> </ul>	7,878 Btu/ft <sup>2</sup> consisting of lubricating oil.
<b>Compensatory Measures:</b> <ul style="list-style-type: none"> <li>• Transient combustibles will be minimized.</li> <li>• The operating makeup pump will be selected based on minimizing the risk from internal events as a result of redundancy in its cooling water source.</li> <li>• No hot or spark producing work will be conducted.</li> <li>• Roving hourly fire watches will be conducted.</li> </ul>			
<b>Risk Drivers:</b> Starting of a Makeup Pump.			

<b>Fire Zone: AB-95-3F Makeup Pump Room 3C</b>			
<b>Detection</b>	<b>Automatic Suppression</b>	<b>Ignition Sources in IPEEE Model</b>	<b>Combustible Loading and Type</b>
An ionization detector is provided in the pump space to give early warning of any fire that may occur.	Wet pipe sprinkler, east corridor of the room in the corridor connecting the three MUP spaces.	<ul style="list-style-type: none"> <li>• Transient combustibles</li> <li>• Makeup Pump 3C</li> </ul>	7,965 Btu/ft <sup>2</sup> consisting of lubricating oil.
<b>Compensatory Measures:</b> <ul style="list-style-type: none"> <li>• Transient combustibles will be minimized.</li> <li>• The operating makeup pump will be selected based on minimizing the risk from internal events as a result of redundancy in its cooling water source.</li> <li>• No hot or spark producing work will be conducted.</li> <li>• Roving hourly fire watches will be conducted.</li> </ul>			
<b>Risk Drivers:</b> Starting of a Makeup Pump.			

<b>Fire Zone:</b> AB-95-3T Reactor Coolant Bleed Tank Room			
<b>Detection</b>	<b>Automatic Suppression</b>	<b>Ignition Sources in IPEEE Model</b>	<b>Combustible Loading and Type</b>
None	Wet pipe sprinkler in entrance area.	<ul style="list-style-type: none"> <li>• Transient combustibles</li> </ul>	1,053 Btu/ft <sup>2</sup> consisting of cable insulation.
<b>Compensatory Measures:</b> <ul style="list-style-type: none"> <li>• Transient combustibles will be minimized</li> <li>• The portion of the fire zone that can be locked will be locked and the keys will be administratively controlled.</li> <li>• Entries will be limited to only operationally necessary activities and require inspection for transient combustible materials upon exit.</li> <li>• The portion of the zone that cannot be locked will be observed by the roving fire watch.</li> <li>• No hot or spark producing work will be conducted.</li> </ul>			
<b>Risk Drivers:</b> None			

<b>Fire Zone:</b> AB-95-3U Decant and Slurry Pump Room			
<b>Detection</b>	<b>Automatic Suppression</b>	<b>Ignition Sources in IPEEE Model</b>	<b>Combustible Loading and Type</b>
None	None	<ul style="list-style-type: none"> <li>• Transient combustible</li> </ul>	58,467 Btu/ft <sup>2</sup> consisting mainly of cable insulation with a small amount of lubricating oil.
<b>Compensatory Measures:</b> <ul style="list-style-type: none"> <li>• Transient combustibles will be minimized</li> <li>• The portion of the fire zone that can be locked will be locked and the keys will be administratively controlled.</li> <li>• Entries will be limited to only operationally necessary activities and require inspection for transient combustible materials upon exit.</li> <li>• The portion of the zone that cannot be locked will be observed by the roving fire watch.</li> <li>• No hot or spark producing work will be conducted.</li> </ul>			
<b>Risk Drivers:</b> None			

**PROGRESS ENERGY FLORIDA, INC.**

**CRYSTAL RIVER UNIT 3**

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**ATTACHMENT C**

**List of Initiators Applied to Each Fire Zone**

**List of Initiators Applied to Each Fire Zone**

The columns show the ignition source, the fire zone and the reduction in ignition frequency if transient sources are eliminated. Zone CC-108-108 was found to be the only significant contributor to Core Damage Frequency (CDF).

Ignition Source	Fire Zone	Source Ignition Frequency	Zone Ignition Frequency (all sources)	Zone Ignition Frequency (wo/transients)
TRANS-3W	AB-95-3W	9.73E-05	2.54E-04	1.56E-04
WDP-5A	AB-95-3W	5.21E-05		
WDP-5B	AB-95-3W	5.21E-05		
WDP-5C	AB-95-3W	5.21E-05		
TRANS-3T	AB-95-3T	9.73E-05	9.73E-05	0.0
TRANS-3U	AB-95-3U	9.73E-05	9.73E-05	0.0
TRANS-3AA	AB-95-3AA	9.73E-05	1.49E-04	5.21E-05
MUP-1B	AB-95-3AA	5.21E-05		
TRANS-3E	AB-95-3E	9.73E-05	1.49E-04	5.21E-05
MUP-1A	AB-95-3E	5.21E-05		
TRANS-3F	AB-95-3F	9.73E-05	1.49E-04	5.21E-05
MUP-1C	AB-95-3F	5.21E-05		
TRANS-108-A	CC-108-108	4.86E-05	2.60E-04	1.63E-04
TRANS-108-B	CC-108-108	4.86E-05		
AHF-72	CC-108-108	1.85E-05		
CAIT-1	CC-108-108	7.20E-06		
DPDP-8A	CC-108-108	7.20E-06		
MTSW-2C R1	CC-108-108	7.20E-06		
MTSW-2C R2	CC-108-108	7.20E-06		
MTSW-2C R3	CC-108-108	7.20E-06		
MTSW-2C R4	CC-108-108	7.20E-06		
MTSW-2C R6	CC-108-108	7.20E-06		
MTSW-2C R7	CC-108-108	7.20E-06		
MTSW-2D R1	CC-108-108	7.20E-06		
MTSW-2D R2	CC-108-108	7.20E-06		
MTSW-2D R3	CC-108-108	7.20E-06		
MTSW-2D R4	CC-108-108	7.20E-06		
MTSW-2D R5	CC-108-108	7.20E-06		
MTSW-2D R6	CC-108-108	7.20E-06		
MTSW-2D R7	CC-108-108	7.20E-06		
MTTR-4	CC-108-108	7.20E-06		
RCMP-3A	CC-108-108	7.20E-06		
RSD AUX A RLY	CC-108-108	7.20E-06		
RSD RLY A	CC-108-108	7.20E-06		
RSD RLY A1	CC-108-108	7.20E-06		