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June 3, 2009  
JAFP-09-00XX

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555-0001

SUBJECT: Entergy Nuclear Operations, Inc.  
James A. FitzPatrick Nuclear Power Plant  
Docket No. 50-333  
License No. DPR-59  
Emergency License Amendment Request Application for Technical  
Specification 3.8.1 Required Action B.4 Completion Time

REFERENCE: Technical Specification 3.8.1, AC Sources Operating

Dear Sir or Madam:

Pursuant to 10 CFR 50.90 and 10 CFR 50.91(a)(5), Entergy Nuclear Operations, Inc. (Entergy) requests Nuclear Regulatory Commission (NRC) review and approval of a proposed emergency license amendment for the James A. FitzPatrick Nuclear Power Plant (JAF). Entergy proposes a one-time change to Technical Specification 3.8.1 Required Action B.4 Completion Time. This request is to add a note allowing a Completion Time of "21 days", on a one-time basis. This one-time allowance will expire at 1015 on June 16, 2009.

During the performance of the 2-Year EDG Preventive Maintenance (PM) a deficiency with the rotor on 93EDG-C was identified. Through inspection and testing it has been determined that one of the eight poles on the rotor must be rewound. Review of test data determined that the deficiency does not extend to JAF's other three safety-related EDGs. The proposed change is required to complete rewind of the rotor pole and return the EDG to operable status without requiring a plant shutdown.

Attachment 1 provides a description and evaluation of the proposed TS changes.  
Attachment 2 provides the proposed changes to the current TS on marked up pages.  
Attachment 3 provides the proposed TS changes in final typed format.  
Attachment 4 provides a simplified diagrams of the Electrical Distribution System  
Attachment 5 provides a list of commitments made as part of this submittal.

Entergy requests approval of the proposed License Amendment by June 8, 2009, with the amendment being implemented immediately.

In accordance with 10 CFR 50.91, a copy of this application, with the associated attachments, is being provided to the designated New York State official.

There are no commitments contained in this letter. Should you have any questions concerning this submittal, please contact Mr. Joseph Pechacek at 315-349-6766.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on the \_\_\_\_ day of June, 2009.

Sincerely,

Pete Dietrich  
Site Vice President

PD/JP/ed

- Attachments:
1. Description and evaluation of the proposed TS changes
  2. Proposed changes to the current TS on marked up pages
  3. Proposed TS changes in final typed format
  4. Simplified Electrical Distribution Diagrams
  5. List of Commitments

cc: next page

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cc:

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**JAFP-09-00XX  
Attachment 1**

**Description and Evaluation**

**Emergency License Amendment Request Application  
for  
Technical Specification 3.8.1 Required Action B.4 Completion Time**

**DRAFT**

## 1.0 Description

The proposed amendment would revise the Technical Specification (TS) 3.8.1 Required Action B.4 Completion Time, on a one-time basis by adding a footnote to the completion time. The proposed note would read "For the "A" EDG subsystem only the Completion Time that the subsystem can be inoperable as specified by Required Action B.4 may be extended beyond the "14 days and 21 days from discovery of failure to meet LCO" up to a total of 21 days as part of the 93EDG-C rotor repair. Upon completion of the repair and restoration, this footnote is no longer applicable and will expire at 1015 on June 16, 2009."

During the performance of the 2-Year EDG Preventive Maintenance (PM) a deficiency with the rotor on 93EDG-C was identified. Through inspection and testing it has been determined that one of the eight poles on the rotor must be rewound. The affected EDG rotor has been transported to an approved vendor facility where repairs are in progress. JAF plant personnel are on-site at the repair facility providing continuous oversight of the repair activity.

Review of PM test data for 93EDG-A, 93EDG-B and 93-EDG-D has been completed and it has been determined that the deficiency does not extend to those EDGs.

By granting the one-time allowance of 21 days for completion of TS 3.8.1 Required Action B.4 unnecessary challenges to plant operations personnel performing a plant shutdown will be avoided.

### **JAF AC Power Design:**

#### **Offsite Power:**

During power operation, the JAF Emergency power buses are normally supplied by Normal Station Service Transformer (NSST) 71T-4 through separate feeder breakers. (See Figure 71o-1 in Attachment 4) Should the plant trip for any reason the feeder breakers from 71T-4 are o-tripped and feeder breakers from Reserve Station Service Transformers (RSST) 71T-2 and 71T-3 are closed such that each emergency bus is supplied by a separate RSST. The RSSTs are supplied by the JAF 115 KV offsite power system. The offsite power system is supplied by two (2) independent lines. One line (Line 4) receives power from the Oswego substation via the Nine Mile Point switchyard and the second line (Line 3) is supplied directly from the Lighthouse Hill hydro-electric power station. These lines come into the JAF 115 KV switchyard and are connected through motor operated disconnect 10017. This normally closed disconnect allows either line to supply power to both RSSTs such that power would be available to both emergency buses in the event that one offsite power source is lost.

### **Emergency Power:**

The JAF emergency power system (Figure 2 in Attachment 4) consists of four (4) EDGs each located in a separate room within the EDG building, connected to the "A" and "B" Emergency busses to supply emergency power during a loss of offsite power. Each of the two (2) independent and redundant emergency power systems (i.e., divisions) consists of an EDG pair connected to emergency switchgear, which contains the emergency bus, generator output and tie circuit breakers, and the ECCS load circuit breakers. The EDGs are designed to provide an alternate, onsite source of reliable 4160 VAC power for safe shutdown equipment required to mitigate the consequences of a design basis accident in the event of a total loss of the normal and offsite power sources. Each generator has a continuous rating of 2,600 KW, therefore, the total loading capacity available per division from the EDGs, with both EDGs in the divisional pair operating, to the emergency power divisional loads is 5200kw at 4160VAC and 60Hz. Each EDG also has short time ratings of 2,850 KW for 2,000 hours, 2,950 KW for 160 hours and 3,050 KW for 30 minutes.

The worst case loading (normal and emergency) for the "A" emergency bus with a single EDG supplying power is 3179.1 KW, which excludes the second RHR pump that is blocked from starting if one EDG in a divisional pair fails to start. With regard to the blocked RHR pump, operators can manually start the RHR pump as needed within the EDG capacity, as directed by the emergency, abnormal and normal operating procedures. The RHR system would be capable of providing the 100% capacity divisional function that is required for the RHR system to perform the Low Pressure Injection function with a single EDG in the division. In the current configuration with one 93EDG-C out of service, operators have transferred normal loads to the "B" emergency bus in order to reduce the loading to within the capacity of 93EDG-A (refer to Compensatory Measures discussed below).

This unique configuration (2 EDGs per emergency power train) allows JAF to maintain emergency AC power to an emergency AC power bus with a single EDG out of service. Each generator has sufficient capacity to supply the required loads necessary to achieve safe reactor shutdown during an operational transient [i.e., loss of offsite power (LOOP) or degraded 4160 VAC emergency bus voltage]. The JAF EDG train availability is maintained by automatically limiting the initial loading of the single EDG while maintaining all emergency loads available.

In conclusion the JAF plant design provides multiple and diverse means of supplying both normal and emergency power to the 4160V buses.

**Coping Strategies:**

Abnormal Operating Procedures (AOPs) address the loss of individual 4160 VAC buses, the loss of station batteries and in the worst case Station Blackout. These procedures are periodically trained on in licensed operator requalification in the classroom, in the simulator, and through walkdowns. These procedures provide guidance for achieving a safe shutdown condition.

In addition to the AOPs the plant also has a strategy of extending the station blackout coping time, Technical Support Guideline (TSG) TSG-8, "Extending Station Blackout Time", provides guidance on this strategy. TSG-8 provides direction to start the EDG manually without electrical power available, flashing the field if the EDG does not self-excite, and ensure cooling water supply. RCIC operation time is extended by providing AC power to a Station Battery Charger using a portable generator. In addition, instructions are provided to manually operate RCIC with no DC power is available. All necessary equipment is pre-staged. The operations department periodically trains on the implementation of the strategies in TSG-8.

The plant will also implement measures to protect the following in accordance with Protected Equipment Program AP-12.12:

<b>Noun Name</b>	<b>Component ID</b>
4160V Normal Switch Gear Bus 10300	71H03
4160V Normal Switch Gear Bus 10400	71H04
4160V Emergency Switch Gear Bus 10500	71H05
4160V Emergency Switch Gear Bus 10600	71H06
"A" Station Battery	71SB-1
"B" Station Battery	71SB-2
"A" Station Battery Charger	71BC-1A
"B" Station Battery Charger	71BC-1B
"A" DC Battery Control Board	71BCB2A
"B" DC Battery Control Board	71BCB-2B
North 115KV Bus Reserve Station Transformer T-3 Disconnect Switch	71EDSC-10015

Noun Name	Component ID
South 115KV Bus Reserve Station Transformer T-2 Disconnect Switch	71-EDSC-10025
Reserve Station Service Transformer T2	71T-2
Reserve Station Service Transformer T3	71T-3

## 2.0 Assessment

The James A. FitzPatrick Nuclear Power Plant (JAF) Technical Specification (TS) 3.8.1, "AC Sources – Operating," requires two qualified circuits between the offsite transmission network and the onsite Class 1E AC electrical power distribution system and two emergency diesel generator (EDG) subsystems to be operable in Modes 1, 2, and 3.

At 1015 on May 26, 2009 the plant entered Condition B of LCO 3.8.1 to support planned maintenance and inspection activities on 93EDG-C. On the second night of the maintenance activities during a preventive maintenance task to megger the EDG rotor a low reading was obtained. The reading indicated a potential fault on the rotor. Subsequent inspection and testing has determined that one of eight poles on the rotor was faulted. The rotor has been removed and transported to an approved vendor facility where additional inspection and testing has determined that it is necessary to rewind the faulted pole on the rotor. Using industry standard repair methodologies the faulted pole will be rewound and tested.

TS 3.8.1 Condition B, One EDG subsystem inoperable, Required Action B.4 states, "Restore EDG subsystem to Operable status" and the associated Completion Time is "14 days AND 21 days from discovery of failure to meet LCO". TS 3.8.1 Required Actions F.1 and F.2 require that, if the required actions and completion times of Condition B are not met be in Mode 3 within 12 hours and in Mode 4 within 36 hours.

The current estimate for return of the EDG generator rotor from the rewind vendor is Sunday, June 7<sup>th</sup>. The rotor will have to be received on-site, inspected and transported to the EDG building in preparation for re-installation. It is expected that re-installation activities will commence late on Sunday, June 7<sup>th</sup> once the rotor is released for re-installation. The re-installation window for the rotor and reassembly of the generator is estimated to be approximately 24 hours. Remaining maintenance activities which were part of the original maintenance window but that could not be performed with the generator disassembled are estimated to take an additional 12 hours. Post-maintenance testing is estimated to be approximately 24 hours with an estimated completion of June 9<sup>th</sup>. Although this time line appears to be within the 14 day



completion time allowed by LCO 3.8.1 Condition B it is only an estimate that is based upon currently available information and does not include any allowances for unforeseen circumstances either at the rotor rewind vendor or the site.

Since the removal and re-installation of an EDG rotor is a first-time evolution at FitzPatrick, it is critical that the maintenance is performed in a deliberate manner without perceived time pressure. The pre-job briefings for the reassembly will clearly identify the expectation to stop work in the event that unanticipated circumstances arise or additional time is required to complete the specific task.

Based on the above, an extension of 7 days to the current 14 day AOT is requested. The 7 day extension will allow ample time to avoid undue time pressure to complete this first time evolution and will provide a reasonable period of time to resolve any unanticipated circumstances that may arise.

The Bases for TS 3.8.1 Condition B states, "The 14 day Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and low probability of a DBA occurring during this period. While the JAF Probabilistic Risk Assessment (PRA) Model has not been through the Regulatory Guide 1.200 peer review process at this time, the risk model was used to assess the proposed completion time and the delta Core Damage Frequency (CDF) is  $1.25E-06/ry$ .

JAF's request to allow a one-time use of a 21 day completion time allows time to complete the required repairs without maneuvering the plant. During this period additional compensatory measures will be implemented to minimize risk to the plant these measures are described in section 3.1 below.

### **PRA Quality**

As noted above the JAF PRA Model has not been through the Regulatory Guide 1.200 peer review process, however, the scope, level of detail, and quality of the James A. Fitzpatrick Nuclear Power Plant (JAFNPP) PRA are sufficient to support a technically defensible and realistic evaluation of the risk change for this proposed completion time extension. The JAF PRA addresses internal events at full power only.

The JAF PRA is based on the original JAF PRA that was performed to support the Individual Plant Examination (1991). Since 1991, several updates have been made to incorporate plant design and procedure changes, update plant-specific reliability and unavailability data, improve the fidelity of the model, incorporate BWR Owners' Group (BWROG) peer review comments, and support other applications, such as on-line maintenance, ILRT extension, risk-informed in-service inspection, and Licensing Renewal.

The JAF PRA is maintained through a periodic review and update process. Peer certification of the JAF PRA using the BWROG peer review certification guidelines was

performed in December 1997. Certification was performed by a team of independent PRA experts from U.S. nuclear utility PRA groups and PRA consulting organizations. This intensive peer review involved approximately two person-months of engineering effort by the review team and provided a comprehensive assessment of the strengths and limitations of each element of the PRA. On the basis of its evaluation, the certification team determined that, with certain findings and observations addressed, the quality of all elements of the PRA would be of sufficient quality to support risk significant evaluations with defense-in-depth input.

Facts and Observation sheets documented the peer review teams' insights and potential level of significance. All issues and observations from the BWROG Peer Review (i.e., Level A, B, C, and D observations) have been addressed and incorporated into the PSA model used for the JAF Licensing Renewal project SAMA (Severe Accident Mitigating Alternatives) analysis (JAFNPP PSA Model Revision 2, October 2004). The current PSA model (JAFNPP PSA Model Revision 3, May 2007) was updated to include the plant design and procedural changes and component failure data of the MSPI systems and used for June 2007 NRC CDBI inspection.

To meet the requirement of the Regulatory Guide 1.200, the latest updated JAF PSA model (JAFNPP PSA Model Revision 4) was developed. The major model changes that were incorporated into the JAF PSA since the last version can be summarized as follows:

- Updated the PSA model to reflect the current plant design and procedural changes.
- Updated the initiating events frequencies, component failure data by using generic data in NUREG/CR-6928, "Industry Average Performance for Components and Initiating Events at U. S. Commercial Nuclear Power Plants", February 2007 and performed the Bayesian update with the plant data. Updated CCF data by using generic data taken from U.S. Nuclear Regulatory Commission, "CCF Parameter Estimations, 2007 Update", <http://nrcoe.inl.gov/results/CCF/ParamEst2007/ccfparamest.htm>, September 2008.
- Updated the offsite power recovery model based on NUREG/CR-6890, "Reevaluation of Station Blackout Risk at Nuclear Power Plants Analysis of Loss of Offsite Power Events: 1986-2004", December 2005, which contains data through 2004. In addition, JAF PSA Update supplemented with EPRI loss of offsite power events data from 2005 to December 2007.
- Revised the core damage definition from the peak clad temperatures greater than or equal to 2200°F to 1800°F defined in American Society of Mechanical Engineers, "Standard for Probabilistic Risk Assessment for Nuclear Power Plant Applications," ASME RA-Sb-2005, December 30, 2005.

- Updated the Human Reliability Analysis methodology from THERP (NUREG/CR-1278, "Handbook of Human Reliability Analysis with Emphasis on Nuclear Power Plant Applications," October 1983) to EPRI HRA Method (EPRI-TR-100259, "An Approach to the Analysis of Operator Actions in Probabilistic Risk Assessment,").
- Updated the internal flooding frequencies from updated pipe failure data analyses provided in EPRI report TR-1013141, "Pipe Rupture Frequency for Internal Flooding PRAs, Revision 1", March 2006.
- The accident sequence quantification truncation limit has been lowered from  $10^{-11}$  to  $10^{-12}$ .
- Enhanced the PSA model to incorporate the insights from the Vermont Yankee and Pilgrim BWROG Regulatory Guide 1.200 peer reviews.

This updated PSA model has undergone an internal PSA group peer check and is currently scheduled for BWROG Regulatory Guide 1.200 peer review during September 2009.

### **PRA Capability and Calculation of Risk Increase**

Risk-informed support for the proposed change is based on an evaluation of PRA calculations performed to quantify the change in Core Damage Frequency (CDF), Incremental Conditional Core Damage Probability (ICCDP) and Incremental Conditional Large Early Release Frequency (ICLERF) resulting from the increased completion time for the 93EDG-C.

### **PRA Analysis**

#### **Internal Event Risk**

In order to support the change in the TS 3.8.1 requirements, a probabilistic risk assessment was performed given a 93EDG-C Allowable Outage Time (AOT) of 17 days (minimum), 21 days and 24 days (maximum). The risk assessment involved use of the average maintenance unavailability PSA model from both the current PSA model (Revision 3) and the updated PSA model (Revision 4).

The risk assessment predicted no unacceptable increase in risk during the period of 93EDG-C inoperability using either the current or updated PSA model.

The risk of continued JAF operation with 93EDG-C out-of-service beyond the current 14 days AOT as measured by the delta core damage frequency (CDF), incremental conditional core damage probability (ICCDP), delta large early release frequency (LERF) and incremental conditional large early release probability (ICLERP) for internal events is shown below:

	Updated Model
Delta CDF/ry	1.25E-06
ICCDP (21 days)	7.19E-08
Delta LERF	6.40E-08
ICLERP (21 days)	3.68E-09

These values are less than the ICCDP and ICLERP guidance thresholds of 5E-07 and 5E-08, respectively, identified in NRC RG 1.177 ("An Approach for Plant-Specific, Risk-Informed Decision Making: Technical Specifications", 1998).

### **External Event Risk**

The Individual Plant Examination External Events (IPEEE) was performed as a one-time assessment of the impact of external events and is not periodically updated. The evaluation can be used to quantify changes due to specific pieces of equipment being removed; however, full update to incorporate changes in methodology and plant modification would be manpower intensive. Therefore, this analysis conservatively uses the original IPEEE model and notes several changes that if fully incorporated would result in even greater margins than those quantified below.

### **Fire**

The original JAF IPEEE fire PRA model was re-quantified with 93EDG-C out of service. The delta CDF is 8.15E-07/ry and ICCDP for fire events is 4.69E-08 for 21 days. As noted above, this evaluation is conservative, because plant improvements identified by the IPEEE that have been implemented are not reflected in this evaluation. These include the following:

1. The IPEEE recommended relocating heat detectors in the cable spreading room to severely limit contribution from transient fires. In lieu of the hardware modification, a change was made to administrative procedures proscribing unattended combustible material in the room. This change in procedure potentially reduces the CDF contribution from transient fires in the Cable Spreading Room.

2. In the IPEEE analysis, spurious actuation or failure due to hot shorts and open circuits within cable jackets was included with a conservatively high probability of occurrence of 1.0. However, in the latest fire PRA methodology for NFPA-805 compliance [NUREG/CR-6850], this probability is addressed by assigning a probability of occurrence based on the configuration of the cabling and nature of the short circuit. Open circuits are no longer considered, therefore reducing the impact of the cable damage assessment. JAF uses thermoset cables which have a high damage temperature.

A conservative estimate considering this new methodology for worst-case failure mode probabilities of hot short circuits for thermoset cables in trays with control power transformer (typical of MCC circuits) results in a probability of failure of 0.05. This change would reduce the CDF contribution from transient fires in Cable Spreading Room and Reactor Building.

3. In the IPEEE analysis, the dominant scenario in the Control Room analysis is a generic control room fire with a forced evacuation and failure to properly shut down the plant by implementing abnormal operating procedures. The ignition frequency used for the IPEEE was  $1.07E-02$  per year. However, with almost 10 years of additional accumulated industry experience, this frequency has been reduced to  $2.5E-03$  per year [NUREG/CR-6850]. This change would reduce the CDF contribution from fires in Control Room.

Additionally, a backup battery charger was installed in the plant which could be utilized for scenarios which lead to battery depletion on loss of bus 10500 or 10600.

### **Seismic**

The JAF plant has been designed to accommodate a safe-shutdown earthquake (SSE) with 0.15g peak ground acceleration (PGA). The seismic analysis performed in the IPEEE study is intended to act as a performance check on the design, estimating seismic capacity beyond the SSE.

The seismic analysis methodology implemented for JAF satisfied the NRC requirements for performing a seismic IPEEE as presented in Generic Letter 88-20, Supplement 4. Seismic events were evaluated using the Seismic Margins Analysis (SMA) method. The SMA methodology uses a deterministic approach to identify the weakest components in terms of High Confidence Low Probability of Failure (HCLPF) peak ground acceleration. A seismic margin can be expressed in terms of the earthquake motion level that compromises plant safety--the seismic margin assessment determines whether there is high confidence that the plant can survive a given earthquake. No core damage frequency sequences were quantified as part of the IPEEE seismic risk analysis.

The seismic analysis is dominated by seismic initiating events that lead to station blackout; specifically, seismic-induced station blackout sequences controlled by

seismic-induced block wall failures, in the EDG Building.

For the proposed extended LCO 3.8.1 Required Action B.4 Completion Time seismic-induced failure of the block walls remains the limiting failure. Since the block wall failure is the limiting failure the inoperable status of 93EDG-C during this period would not result in any significant change to the existing core damage contribution from seismic events.

### **Flood**

The analyses completed for the internal events PRA and IPEEE did not identify any risk significant contribution related to the 93EDG-C as a result of internal or external flooding.

### **Configuration Risk Management**

Changes to plant configuration due to corrective and preventive maintenance will be controlled in accordance with procedure EN-WM-104, On-Line Risk Assessment. This Entergy fleet procedure complies with the requirement of 10CFR50.65 (a)(4), Regulatory Guide 1.182, and NUMARC 93-01 require that prior to performing maintenance activities, risk assessment shall be performed to assess and manage the increase in risk that may result from proposed maintenance activities.

### **Compensatory Measures**

As discussed previously the scope of the repair is limited to a single pole on the rotor. This has been confirmed by inspection and testing at an approved vendor facility. The requested one-time allowance of a 21 day completion time for LCO 3.8.1 Required Action B.4 provides adequate time to complete the rewind activity, reassemble the rotor, test the rotor, transport the rotor to JAF, re-install the rotor, and perform the required post-maintenance testing to restore the EDG to Operable status. During the period of the extended out-of service time the "B" train of emergency power will remain Operable, both qualified offsite circuits will be available, and the second EDG (93EDG-A) on the "A" train of emergency power will remain available. This configuration is discussed in the current design basis for the plant and is allowed for limited periods of time (LCO 3.8.1 Condition B). Operations trains on various scenarios relating to loss of power and off-normal plant conditions. The operations staff is familiar with this configuration and the limitations on an emergency bus with only one EDG available.

To ensure the health and safety of the public, the following risk management actions will be implemented to increase operator awareness of critical equipment to provide reasonable assurance that the assumptions in the risk model are maintained, and to minimize the likelihood of a transient for the duration of the proposed LCO period.

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Attachment 1

1. The following equipment will be protected in accordance with the plant Protected Equipment Program, AP-12.12, during the time 93EDG-C is out of service:
  - Emergency Diesel Generators 93EDG-A, 93EDG-B and 93EDG-D
  - Emergency Service Water Pumps 46P-2A and 46P-2B
  - 4160V Normal and Emergency Switchgear Buses 10300, 10400, 10500 and 10600
  - Station Batteries 71SB-1 and 71SB-2
  - Station Battery Chargers 71BC-1 and 71BC-2
  - 125-Vdc Control boards 71BCB-2A and 71BCB-2B
  - Main Transformers 71T-1A, and 71T1B
  - Normal Station Service Transformer 71T-4
  - Reserve Station Service Transformers 71T-2, and 71T-3
  - North and South 115KV Bus Reserve Station Service Transformer Disconnect Switches 71EDSC-10015 and 71EDSC-10025
  - RHR/RHR SW Loops 'A' & "B"
  - HPCI pump 23P-1
  - RCIC pump 13P-1
  - Torus vent valves 27AOV-117 and 27AOV-118
  - Diesel Driven Fire Pump 76P-1
  - Diesel Driven Fire Pump 76P-4
2. Transfer non-vital loads from the "A" emergency bus to the "B" emergency bus to reduce the "A" bus loading to within the short time capacity of 93EDG-A.
3. Stage a 1500 KW, 4160v temporary diesel generator on-site as a back-up power supply.
4. Increased administrative control will be exercised for any proposed hot work in the vicinity of protected equipment.
5. Transient combustible loading in these areas will be reviewed and any unnecessary transient combustibles will be removed.
6. If an equipment failure occurs that could affect the protected equipment noted above, the Operations Manager will be contacted and the On-site Safety Review Committee will convene a meeting to evaluate plant status and determine if the basis for the NRC's granting of the proposed TS amendment extended LCO period is affected.
7. Maintenance and surveillance activities which could lead to Main Turbine trip will be avoided.

8. The plant Operations crew and Maintenance staff will be briefed on these risk management measures.
9. As an enhancement to the existing communications protocols daily communications will take place between JAF Operations and the Grid Operator.
10. Just-in-time training will be provided to the operating shifts to heighten their awareness of challenges to the distribution system in this configuration.
11. Operations will monitor weather conditions to assess potential impacts on plant conditions due to adverse weather conditions.
12. These compensatory measures will be promulgated to the operating crews in an operations department standing order.

### **Conclusion**

Based upon this review, there is no significant increase in the incremental core damage probability or large early release probability during the proposed TS amendment extended LCO period while operating at power.

### **3.0 Regulatory Analysis**

#### **3.1 No Significant Hazards Consideration Determination**

Entergy has performed a "no significant hazards consideration determination" for the proposed amendment focusing on the three standard considerations as set forth in 10 CFR 50.92(c), Issuance of Amendment," as described below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed license amendment introduces a one-time 21 day completion time allowance for TS 3.8.1, Required Action B.4. The proposed completion time does not introduce any new accident initiators. The probability of an accident occurring is not affected by the proposed completion time and the consequences of the accidents evaluated in the UFSAR Accident Analysis are not affected by the proposed extension.



2. Does the proposed amendment create the possibility of a new or different kind of accident from any previously evaluated?

Response: No.

The proposed amendment makes a one-time allowance of a 21 day completion time for TS 3.8.1 Required Action B.4. The proposed amendment does not introduce any new equipment, create any new failure modes for existing equipment, or create any new limiting single failures. The plant equipment considered when evaluating the existing completion time remains unchanged. The extended completion time will permit completion of repair activities without unnecessarily challenging the plant operators to maneuver the plant to perform a shutdown with one train of emergency power out of service.

3. Does the proposed amendment involve a significant reduction in the margin of safety?

Response: No.

The proposed license amendment makes a one-time allowance of a 21 day completion time for TS 3.8.1 Required Action B.4. The proposed completion time has been evaluated using the JAF PRA Model as discussed above. The use of a one-time completion time of 21 days results in an ICCDP of  $7.19E-08$  which is less below the ICCDP guidance of  $5E-07$ , and an ICLERP of  $3.68E-09$  which is below the ICLERP guidance of  $5E-08$ . Therefore the proposed amendment does not involve a significant reduction in any margin of safety.

### **3.2 Applicable Regulatory Requirements / Criteria**

While JAF was not built or licensed to the 10 CFR 50 Appendix A, General Design Criteria (GDC), it was evaluated and determined to meet the intent of Appendix A. GDC-17 requires two independent power sources; the proposed amendment does not alter JAF's compliance with the intent of that criterion. The one-time allowance of a 21 day completion time for TS 3.8.1 Required Action B.4 does not change the requirement to restore the inoperable EDG to operable status.

In conclusion, based upon the considerations described above:

1. there is reasonable assurance that the health and safety of the public will not be adversely affected by operation in the proposed manner,
2. such activities will be conducted in compliance with the Commission's regulations, and,

3. the issuance of the amendment will not be detrimental to the common defense and security or to the health and safety of the public.

#### **4.0 Environmental Evaluation**

In accordance with 10 CFR 51.30 an environmental assessment for proposed actions, other than those for a standard design certification under 10 CFR 52 or a manufacturing license under Part 52, shall identify the proposed action and include:

1. A brief discussion of:
  - i. The need for the proposed action;
  - ii. Alternatives as required by section 102(2)(E) of NEPA;
  - iii. The environmental impacts of the proposed action and alternatives as appropriate; and
2. A list of agencies and persons consulted, and identification of sources used.

#### **Need for Proposed Action:**

As previously stated in this submittal, a one-time amendment to the Technical Specifications will provide sufficient time to repair and test the "C" EDG. By granting a one-time allowance the increase in transient risk encountered during a plant shutdown with only one emergency diesel generator subsystem available as required by TS 3.8.1.F will be avoided.

#### **Alternatives Required by Section 102(2)(E) of NEPA:**

No alternatives are required by section 102(2)(E) of NEPA for this action.

#### **Environmental Impacts of Proposed Action:**

#### **Environmental Effluents:**

There is no change in the types of effluents or increase in the amounts of effluents, radioactive or non-radioactive, that are being, or may be released to the environment. The proposed TS amendment does not affect the generation of any effluent, nor does it affect any of the permitted release paths.

#### **Radiation Exposure:**

There is no increase in individual or cumulative, occupational or public radiation exposure or planned increase in radiation exposure as a result of the planned EDG repairs during the proposed TS amendment extended LCO period. The component and activities that relate to the proposed amendment do not affect plant radiation levels, and therefore, do not affect dose rates and occupational exposure.

**Risk of Radioactive Release:**

Although the JAF PRA Model has not been evaluated through the Regulatory Guide 1.200 peer review process at this time, it was used to evaluate the requested one-time allowance of a 21 day completion time for TS 3.8.1 Required Action B.4 from a probabilistic risk standpoint. This assessment considered the expected plant configuration during the period of the extended LCO and determined that it does not involve an unacceptable increase in risk. The risk of continued JAF operation with the "C" EDG out of service during the additional 7 day period beyond the technical Specification 14-day Completion Time, as measured by the Incremental Core Damage Probability (ICCDP), is  $7.19E-08$ , and an ICLERP of  $3.68E-09$  which is below the ICLERP guidance of  $5E-08$  for internal events. This value is below the ICCDP guidance of  $5E-07$  and  $5E-08$  identified in NRC Regulatory Guide 1.177, "An Approach for Plant Specific, Risk Informed Decision making: Technical Specifications", 1998. The ICCDP for seismic, fire and flood external events is bounded by the ICCDP for internal events, and therefore, also meets the guidance threshold. Based upon this review, there is no significant increase in the incremental core damage probability or large early release probability during the proposed TS amendment extended LCO period while operating at power.

Therefore, Entergy has concluded that the proposed action will not involve additional direct, indirect, or cumulative impact to the environment, cultural, or historic resources, threatened or endangered species, or critical habitat. No environmental resources are affected by the proposed TS Amendment.

**Agencies and Personnel Contacted:**

No federal or State agencies were consulted during the preparation of this environmental assessment based upon a finding of no impact.

JAFP-09-00XX  
Attachment 2

Proposed Technical Specification Changes (Mark up)

Pages

3.8.1-3

DRAFT



**JAFP-09-00XX  
Attachment 3**

**Proposed Technical Specification Changes  
(Final Typed)**

**Pages**

**3.8.1-3**

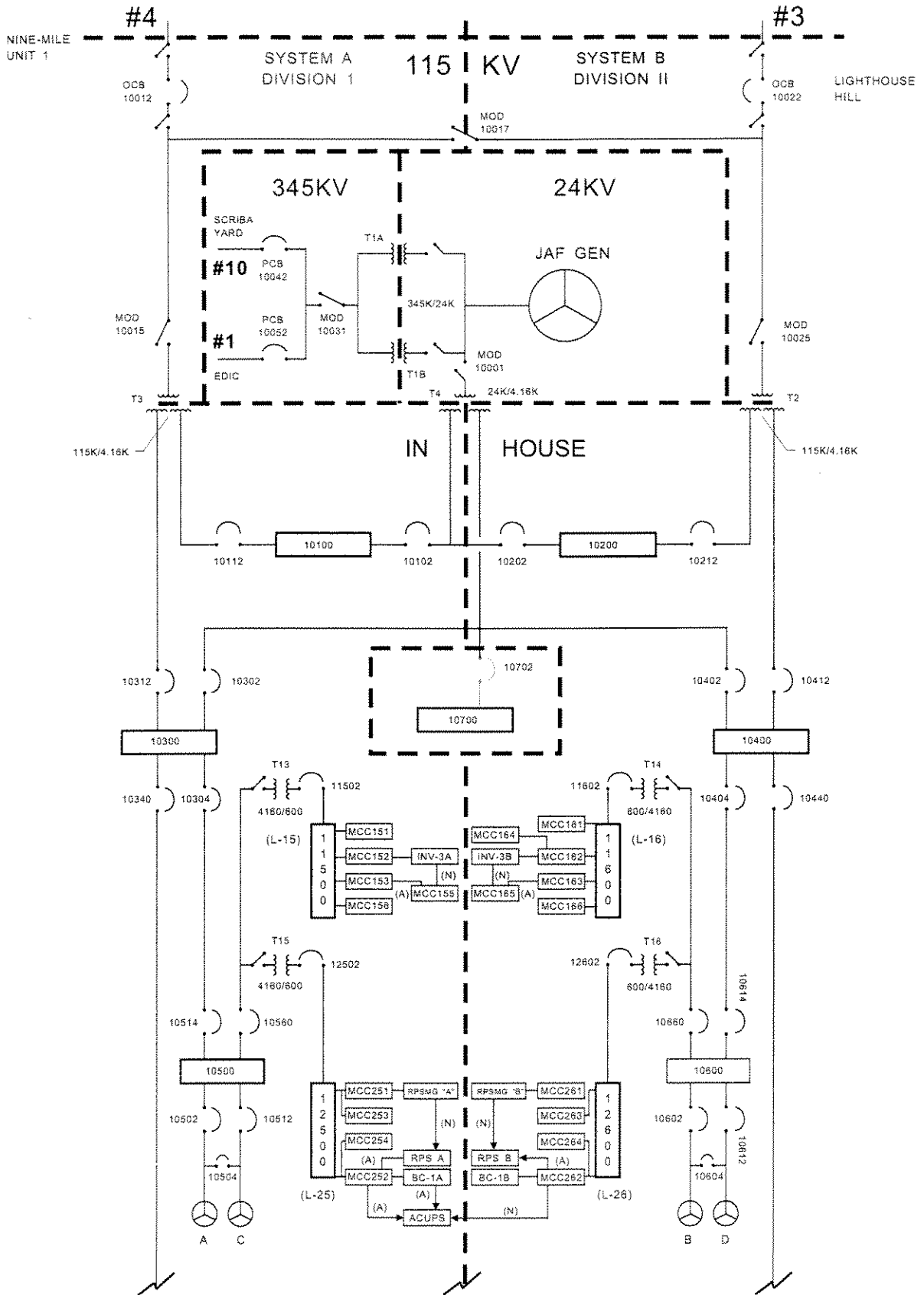
**3.8.1-4**

**DRAFT**

JAFP-09-00XX  
Attachment 4

**Simplified Electrical Distribution Diagrams**

DRAFT



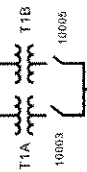
FOR  
TRAINING  
PURPOSES  
ONLY.

PROJECT		
<b>AC Distribution</b>		
FIG. #	SDLP #	DWG #
710-1	SDLP 710	S71-002.cdr

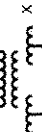
ORIG CAD DATE	PAGE OF
Mar. 1996	1 2
REV. DATE/No.	
06/17/02 Rev. 02	
DRAFTER	
J. Paquette	



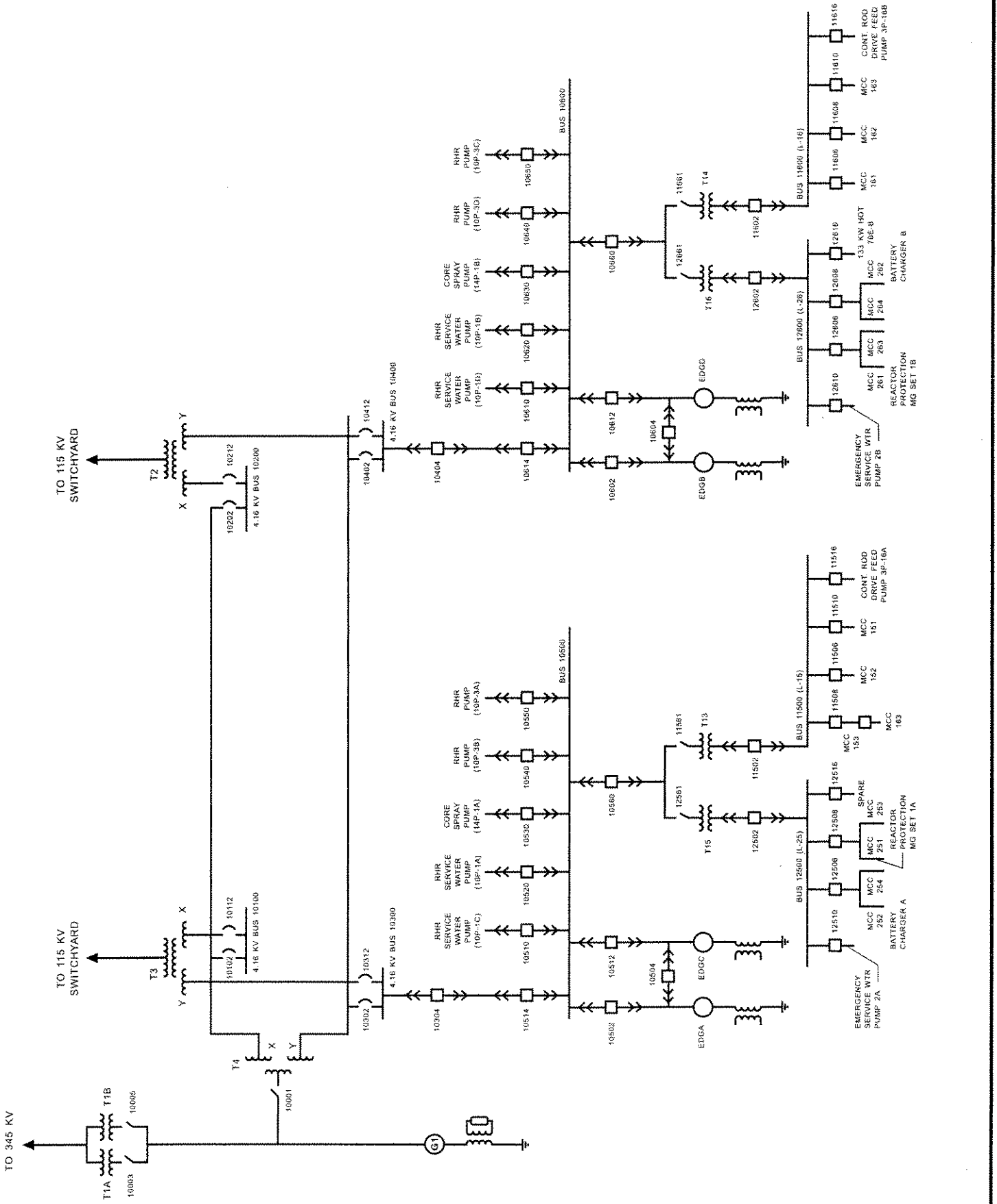
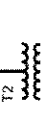
TO 345 KV



TO 115 KV SWITCHYARD



TO 115 KV SWITCHYARD



FOR TRAINING PURPOSES ONLY.

PROJ:	Electrical Distribution Emergency Diesel Generators		
FIG. #	2	SDLP #	SDLP 93
DWG #	S93-002.cdr		

ORIG. CAD DATE	June 2004	PAGE OF	1 1
REV. DATE / No.	06/13/04	Rev. 0	
DRAFTER	J. Paquette		

**JAFP-09-00XX  
Attachment 5**

**List of Commitments**

DRAFT

### List of Regulatory Commitments

The following table identifies those actions committed to by Entergy in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE- TIME ACTION	CONTINUING COMPLIANCE	
<b>None</b>			

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