August 8, 2003

Mr. Craig G. Anderson
Vice President, Operations ANO
Entergy Operations, Inc.
1448 S. R. 333
Russellville, AR 72801

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT NO. 2 - ISSUANCE OF AMENDMENT RE: EXTENSION OF EMERGENCY DIESEL GENERATOR ALLOWABLE OUTAGE TIME (TAC NO. MB6361)

Dear Mr. Anderson:

The Commission has issued the enclosed Amendment No. 249 to Facility Operating License No. NPF-6 for Arkansas Nuclear One, Unit No. 2. This amendment consists of changes to the Technical Specifications in response to your application dated September 19, 2002, and as supplemented by letters dated January 8, May 22, and July 1, 2003.

The amendment extends the allowable outage time for the emergency diesel generators from 72 hours to a maximum of 14 days.

A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

Thomas W. Alexion, Project Manager, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-368

Enclosures:
1. Amendment No. 249 to NPF-6
2. Safety Evaluation

cc w/encls: See next page

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ENTERGY OPERATIONS, INC.

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 249
License No. NPF-6

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Entergy Operations, Inc. (the licensee), dated September 19, 2002, as supplemented by letters dated January 8, May 22, and July 1, 2003, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-6 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 249 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance. Implementation shall include revision of the Technical Specification Bases to reflect the 15 commitments identified in Attachment 3 of the supplemental letter dated May 22, 2003, as discussed in the staff's Safety Evaluation related to this amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert A. Gramm, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: August 8, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 249

FACILITY OPERATING LICENSE NO. NPF-6

DOCKET NO. 50-368

Replace or insert the following pages of the Appendix A Technical Specifications with the attached revised or new pages. The revised and new pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
3/4 8-1	3/4 8-1
---	3/4 8-1a
3/4 8-2	3/4 8-2
3/4 8-2a	3/4 8-2a
---	3/4 8-2b

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 249 TO

FACILITY OPERATING LICENSE NO. NPF-6

ENTERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NO. 50-368

1.0 INTRODUCTION

By application dated September 19, 2002, as supplemented by letters dated January 8, May 22, and July 1, 2003, Entergy Operations, Inc. (Entergy or the licensee), requested changes to the Technical Specifications (TSs) for Arkansas Nuclear One, Unit No. 2 (ANO-2). The supplements dated January 8, May 22, and July 1, 2003, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on November 12, 2002, (67 FR 68733).

The proposed changes would extend the allowable outage time (AOT) for the emergency diesel generators (EDGs). Specifically, the proposed change would revise the current 72-hour action completion time/AOT specified in Limiting Condition for Operation (LCO) 3.8.1.1 to allow 14 days to restore an inoperable EDG to operable status.

The proposed changes would allow the EDGs to be out of service (OOS) for 14 days rather than the current limit of 3 days (72 hours). The main purpose of the proposed change is to allow on line performance of 18-month EDG maintenance activities that would normally be performed during refueling outages. According to the licensee, this would provide it with needed flexibility and more efficient planning for performing various EDG maintenance and repair activities during power operation. In addition, the extended AOT may also be used for corrective maintenance that may be needed to resolve EDG deficiencies that are discovered during surveillance to avert a potential unplanned plant shutdown.

The proposed AOT extension is founded on the findings of both deterministic and probabilistic risk assessment (PRA) perspectives. The staff has reviewed the proposed changes to LCO 3.8.1.1 and finds them acceptable, as discussed in the following evaluation.

2.0 REGULATORY EVALUATION

2.1 Applicable Regulations and Regulatory Guidance

The regulatory requirements which the staff applied in its review of the application include:

General Design Criterion (GDC) 17, "Electric power systems," of Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10, Part 50, of the *Code of Federal Regulations* (CFR), which requires, in part, that nuclear power plants have onsite and offsite electric power systems to permit the functioning of structures, systems, and components (SSCs) that are important to safety. The onsite system is required to have sufficient independence, redundancy, and testability to perform its safety function, assuming a single failure. The offsite power system is required to supply power through two physically independent circuits that are designed and located so as to minimize, to the extent practical, the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. In addition, this criterion requires provisions to minimize the probability of losing electric power from the remaining electric power supplies as a result of loss of power from the unit, the offsite transmission network, or the onsite power supplies.

GDC-18, “Inspection and testing of electric power systems,” which requires that electric power systems that are important to safety be designed to permit appropriate periodic inspection and testing. 10 CFR 50.36, “Technical specifications,” which requires a licensee’s TSs to establish LCOs, which include AOTs for equipment that is required for safe operation of the facility.

The regulations at 10 CFR 50.63, “Loss of all alternating current power,” which require that all nuclear power plants have the capability to withstand a station blackout, as defined in 10 CFR 50.2, for an established period of time.

The maintenance rule in 10 CFR 50.65, “Requirements for monitoring the effectiveness of maintenance at nuclear power plants,” which requires that a licensee assess and manage the increase in risk that may result from proposed maintenance activities.

The staff also considered the following three guidance documents in its review of the application. Regulatory Guide (RG) 1.93, “Availability of Electric Power Sources,” provides guidance with respect to operating restrictions (i.e., AOTs) if the number of available AC sources is less than that required by the TS LCO. In particular, this guide prescribes a maximum AOT of 72 hours for an inoperable AC source.

RG 1.174, “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis,” describes a risk-informed approach, acceptable to the Nuclear Regulatory Commission (NRC), for assessing the nature and impact of proposed licensing-basis changes by considering engineering issues and applying risk insights. RG 1.177, “An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications,” describes an acceptable risk-informed approach specifically for assessing proposed TS changes in AOTs. These RGs also provide acceptance guidelines for evaluating the results of such evaluations.

2.2 Description of Structures, Systems, and Components

ANO-2 is equipped with seismically qualified, Class 1E EDGs that supply backup electrical power to the 4160 volt (V) engineered safety features (ESF) AC buses. Each engine is designed to automatically start and tie-on to its respective 4160 V ESF bus in the event of a bus under-voltage condition on either the 4160 V bus or its associated 480 V motor control center.

The EDGs also receive an auto start command on a safety injection actuation signal, but will not load unless a bus under-voltage condition exists. Upon receipt of a start demand, each EDG starts automatically, attains rated speed and voltage within 15 seconds, and sequentially accepts ESF loads if an under-voltage condition exists. Each EDG is sized to accommodate loading of all anticipated ESF actuated equipment with a continuous load rating of 2850 kilowatts (kW) and a 7-day rating of 3250 kW. Under procedurally controlled conditions, the EDGs may be aligned to supply the adjacent ESF bus via cross-tie breakers.

In addition to the EDGs, ANO-2 has installed an alternate AC (AAC) source pursuant to the requirements of 10 CFR 50.63. The AAC source is a diesel generator (DG) rated at 4400 kW continuous output and 5320 kW overload. It is sized well in excess of that required to support the station blackout (SBO) mission of 3100 kW and is capable of supplying the licensing basis loss-of-offsite power (LOOP) loads of any one of the four vital buses (Arkansas Nuclear One, Unit 1 (ANO-1) vital buses A3 or A4 or ANO-2 vital buses 2A3 or 2A4). It can also supply non-vital 4160 V buses A1 for ANO-1 or 2A1 for ANO-2. The buses can be supplied in any combination as long as the total load does not exceed the engine load rating. The design consideration for the AACDG assumed the DG would be started from the control room and available to power the vital buses within 10 minutes of the diagnosis of a SBO condition.

The AACDG is completely independent from offsite power and the EDGs, with the exception of the bulk fuel oil storage system. The AACDG, all support systems, and attendant electrical buses are housed in a dedicated building located outside the power block, inside the protected area fence. The AACDG is manually started and loaded. Operation and loading of the AACDG can be performed from the ANO-2 control room or locally.

3.0 DETERMINISTIC EVALUATION

3.1 Technical Specification Changes

LCO 3.8.1.1, Action b, currently requires that if one of the EDGs becomes inoperable, the inoperable EDG be restored to operable status within 72 hours. If the EDG cannot be restored to an operable status within 72 hours, the TS actions require that the plant be placed in hot standby within the following six hours and in cold shutdown within the following 30 hours. The proposed TSs and Note 1 provides an AOT extension for each EDG from the current 72 hours to 14 days based on the availability of the AACDG. The licensee has proposed the following replacement of Note 1 and changes to TS 3.8.1.1, Action b:

> b. With one diesel generator of the above required A.C. electrical power source inoperable, perform the following:

1. Demonstrate the OPERABILITY of both the offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and

2. Demonstrate the OPERABILITY of the remaining OPERABLE diesel generator within 24 hours by:

   i Determining the OPERABLE diesel generator is not inoperable due to a common cause failure, or

   ii Perform Surveillance Requirements 4.8.1.1.2.a.4 unless:

      1. The remaining diesel generator is currently in operation, or

      2. The remaining diesel generator has been demonstrated OPERABLE within the previous 24 hours, and

3. Restore the diesel generator to OPERABLE status within 14 days (See Note 1) or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Note 1 - If the Alternate A.C. Diesel Generator (AACDG) is determined to be inoperable during this period, then a 72 hour restoration period is applicable until either the AACDG or the diesel generator is returned to operable status (not to exceed 14 days from the initial diesel generator inoperability).

Additionally, ANO-2 TS 3.8.1.1, Actions c.4 and e.3 currently address the requirement to restore both EDGs to operable status within 72 hours with the allowance to use Note 1, which is associated with Action b.3. The licensee has proposed to revise these Actions to allow the inoperable EDG to be restored to an operable status with the proposed 14 day AOT extension for the single inoperable EDG. Actions c.4 and e.3 would be reworded as follows:

c.4 Restore the remaining inoperable A.C. Source to an OPERABLE status (Offsite A.C. Circuit within 72 hours or Diesel Generator within 14 days (see b.3, Note 1)) based on the time of the initiating event that caused the inoperability or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e.3 Restore the remaining inoperable diesel generator within 14 days (see b.3, Note 1) of the initiating event or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The purpose of the proposed change to extend the EDG AOT from the current 72 hours to 14 days, is to allow the licensee to perform selective corrective and preventative maintenance activities on-line. According to the licensee, the proposed amendments would provide it with increased flexibility in the scheduling of preventative maintenance. The licensee states that the extended AOT would typically be used for voluntary planned maintenance and inspections, but it can also be used for corrective maintenance. The licensee intends to limit use of the extended AOT for voluntary planned overhaul and vendor recommended inspections to once

within an operating cycle for each EDG. The licensee states that the proposed change would also reduce the number of individual entries into LCO action statements by providing sufficient time to perform related maintenance within a single entry.

3.2 Alternate AC Source

In addition to the EDGs, the licensee has installed an AACDG pursuant to the requirements of 10 CFR 50.63. The AACDG will be available as a backup to the inoperable EDG during the extended AOT. In addition, the AACDG will be confirmed to be available once per 8 hours while the EDG is OOS. The AACDG source can be available within 10 minutes of diagnosing an SBO event. Therefore, in the event of a LOOP and failure of the operable EDG during the extended AOT, power will be supplied from the AACDG to ANO-2 vital buses 2A3 or 2A4. The AACDG is tested periodically to ensure that power supply is available upon demand. It will be treated as a backup to the inoperable EDG and as a protected train component.

3.3 Additional Operating Restriction

Since the extension of the EDG AOT is based on the finding of a deterministic and probabilistic safety analysis, a risk assessment will be performed in accordance with a Configuration Risk Management Program (CRMP) before entry into this action. The above ensures that PRA-informed procedures are in place to provide for assessment of the overall impact of plant maintenance on plant risk prior to entering the LCO Action statement for planned activities.

3.4 Regulatory Commitments

The licensee committed to include several provisions, limitations, and compensatory actions related to the extended AOT. Since these commitments were considered to be relevant for both the deterministic and probabilistic staff evaluations, they are listed only once in Section 5.0 of this Safety Evaluation (SE).

3.5 Deterministic Findings

The staff has evaluated the proposed changes to determine whether the applicable regulations continue to be met. The staff observes that:

1) The extended AOT will be typically used to perform infrequent (i.e., once every 18 months) diesel manufacturer's recommended inspections and preventive maintenance activities.

2) The extended AOT would reduce entries into the LCO and reduce the number of EDG starts for major EDG maintenance activities.

3) The AACDG will be available and capable of powering the inoperable EDG bus loads in the event of an SBO or LOOP.

4) The licensee will implement its CRMP before entering the AOT and during the extended outage.

5) The steam driven feedwater pump will not be taken OOS during the extended EDG outage.

Further, the staff believes that regulatory commitments to implement other restrictions and compensatory measures would ensure the availability of the remaining sources of AC power during the extended AOT. Based on the above, the staff finds that the proposed changes will not affect the compliance of ANO-2 with the requirements of GDCs 17 and 18. Accordingly, the staff finds that extending the AOT for an inoperable EDG from the current 72 hours to 14 days is acceptable.

4.0 PROBABILISTIC RISK ASSESSMENT EVALUATION

4.1 Review Methodology

The staff reviewed the submittal using a three-tiered approach based on RG 1.177 and Standard Review Plan Chapter 16.1, "Risk-Informed Decisionmaking: Technical Specifications." Under the first tier, the staff evaluates the licensee's PRA and probabilistic safety assessment (PSA) and the impact of the change on plant operational risk, as expressed by the change in core damage frequency (ΔCDF) and the change in large early release frequency (ΔLERF). The change in risk is compared against the acceptance guidelines presented in RG 1.174. The first tier review is also structured to ensure that plant risk does not increase unacceptably during the period when equipment is taken OOS per the license amendment, as expressed by the incremental conditional core damage probability (ICCDP) and incremental conditional large early release probability (ICLERP). The incremental risk is compared against the acceptance guidelines presented in RG 1.177. The second tier addresses the need to preclude potentially high-risk plant configurations that could result if equipment, in addition to that associated with the proposed license amendment, are taken OOS simultaneously, or if other risk-significant operational factors, such as concurrent system or equipment testing, are also involved. The objective of this part of the review is to ensure that appropriate restrictions on dominant risk-significant plant configurations associated with the AOT extension are in place. The third tier addresses the licensee's overall CRMP to ensure that adequate programs and procedures are in place for identifying risk-significant plant configurations resulting from maintenance or other operational activities and taking appropriate compensatory measures to avoid such configurations. The CRMP is to ensure that equipment removed from service prior to or during the proposed extended AOT period will be appropriately assessed from a risk perspective.

4.2 Technical Evaluation

For the quantitative evaluation of risk impacts of extending the current EDG AOT from 3 days (72 hours) to 14 days, the licensee used the ANO-2 PSA Model, Revision 3p01. This model is an at-power Level 1 internal events risk model. The PSA evaluation was performed based on the assumption that the full, extended EDG AOT (i.e., 14 days) would be used for each EDG once per cycle. The cycle time is based on the current 18-month fuel cycle (allowing for planned and unplanned plant outage time) for a net assumed cycle length of 1.5 years. The licensee notes that EDG reliability and availability are monitored and evaluated in relation to Maintenance Rule (10 CFR 50.65) goals to ensure that EDG outage times do not degrade operational safety over time. All of these elements were included in a risk evaluation performed

using the three-tiered approach presented in RG 1.177. Each tier is discussed in the following subsections.

4.2.1 Tier 1: PSA Capability and Insights

Under the first tier, the staff evaluated the impact of the proposed AOT extension on plant operational risk based on the ANO-2 PSA model. The Tier 1 staff review involved two aspects: (1) evaluation of the validity of the PSA and its application to the proposed AOT extension, and (2) evaluation of the PSA results and insights stemming from its application.

4.2.1.1 PSA Capability

To determine whether the PSA used in support of the proposed AOT extension is of sufficient quality, scope, and detail, the staff evaluated the relevant information provided by the licensee in their submittal, as supplemented, and considered the findings of recent PSA reviews. The staff's review of the licensee's submittal focused on the capability of the licensee's PSA model to analyze the risks stemming from the proposed AOT extension and did not involve an in-depth review of the licensee's PSA.

The ANO-2 PSA model has been updated several times since the completion of their individual plant examination (IPE) in an effort to maintain it consistent with the as-built, as-operated plant and to incorporate PSA methodology improvements. The updates have consisted of cooperative efforts involving both Entergy personnel and PSA consultant support. In each of the updates, the licensee or its contractors independently reviewed all of the elements of the PSA and revised it, as appropriate. The PSA model and results have been maintained by the licensee as plant calculations or engineering reports. As part of each major update, the licensee's internal review of PSA model results was performed by utilizing an expert panel composed of experienced personnel from various plant organizations, including: Operations, Systems Engineering, Design Engineering, Safety Analysis, and PSA engineers.

A Combustion Engineering Owners Group (CEOG) PSA peer review, which followed a process adapted from the industry peer review process in Nuclear Energy Institute Report NEI-00-02, "Probabilistic Risk Assessment (PRA) Peer Review Process Guidance," was conducted on the ANO-2 PSA during the week of February 11, 2002. An interim version of the ANO-2 PSA peer review report (a final version was not available at the time of the submittal) identified six facts and observations (F&Os) in the ANO-2 PSA model that were graded with an "A" level of significance. The "A" level F&Os are defined as being extremely important and necessary to address to assure the technical adequacy of the PSA or the quality of the PSA update process. The "A" level F&Os and their resolution for this specific application are as follows:

1. The initiating event %T7 (Total Loss of Service Water) appears with basic event STM2-2P4BM (2P-4B In Test and Maintenance) in the top cutsets. Although, during normal operation, the standby service water (SW) pump is available for recovery from the %T7 initiator, there is an increased likelihood that the standby pump will fail due to the same common cause failure (CCF) event that resulted in the initiator. Thus, the model does not appear to account for the expected dependency between the loss of SW initiator and the availability of the standby SW pump to recover from this initiator.

This F&O does not affect the EDG AOT extension risk impact since cutsets that involve a CCF of all three SW pumps cannot also involve an EDG maintenance event, because the EDGs require SW for cooling. The licensee performed a sensitivity analysis with the subject F&O incorporated into the model, which yielded no impact on the conclusions of the ANO-2 EDG AOT extension submittal.

2. Many initiating events were assumed to challenge the primary safety relief valves (SRVs). However, very few of these initiators are realistically expected to challenge the SRVs.

   The licensee stated that the subject modeling leads to conservatively high CDF estimates and subsequently leads to a conservatively high estimate of the impact of the EDG AOT risks. Therefore, incorporating the subject F&O into the model would not impact the conclusions of the ANO-2 EDG AOT extension submittal.

3. The family of cutsets involving %T14 (Loss of AC Bus 2B5 <IE>)*DBT2DSCD11* PRY201002T*PRY201052T do not account for the potential of multiple operator actions and thus their contribution to the overall risk appears to be very conservative.

   The licensee stated that the subject family of cutsets leads to conservatively high CDF estimates and subsequently leads to a conservatively high estimate of the risk impact of the EDG AOT extension. Thus, incorporating the subject F&O into the model has no impact on the conclusions of the ANO-2 EDG AOT extension submittal.

4. This CCF modeling-related F&O was comprised of four issues:

   a. A CCF event affecting all three emergency feedwater/auxiliary feedwater (EFW/AFW) pumps (i.e., the turbine-driven EFW pump 2P-7A, the motor-driven (MD) EFW pump 2P-7B, and the MD AFW pump 2P-75) was not included in the ANO-2 PSA model.

   b. A CCF event between the AC-powered and direct current (DC)-powered EFW injection valves was not included in the ANO-2 PSA model.

   c. A CCF event between the AC and DC motor-operated valves associated with the emergency core cooling system vent valve and low-temperature overpressure protection valves was not included in the ANO-2 PSA model.

   d. CCF events HCC2SUCKVCCF (CCF high-pressure safety injection (HPSI) Suction Flow Path Check Valves (2 of 2) Fail to Open) and HCC2HRWTCV (CCF HPSI refueling water tank (RWT) Suction Flow Path Check Valves (2 of 2) Fail to Open) appear to have been erroneously assumed to be interchangeable.

   For items a. through c. above, based on sensitivity evaluations, the expected risk increases associated with incorporating the F&O has no impact on the conclusions of the ANO-2 EDG AOT. For item d. above, the licensee stated that the two CCF events were not used interchangeably. Event HCC2HRWTCV was used to account for CCFs associated with the RWT suction flowpath check valves. There are no equivalent check valves on the containment sump suction flowpath and, thus, HCC2SUCKVCCF was not

needed and was not used in the model. Therefore, this F&O has no impact on the conclusions of the ANO-2 EDG AOT.

5. The ANO-2 station batteries are assumed capable of providing DC power for up to 8 hours following the loss of all battery charging. However, operator action is necessary in order to assure battery availability over this period and the PSA model does not account for operator failure to shed DC loads during accidents involving the loss of all charging to a station battery.

   The licensee performed a sensitivity analysis involving: a) total battery discharge in 2.5 hours given no charging and no load reduction, and b) an operator failure probability of 0.1 to shed DC loads. According to the licensee, combining these effects revealed that the risk impacts of the proposed EDG AOT extension remained acceptable and thus, the F&O would not impact the conclusions of the ANO-2 EDG AOT.

6. Recovery action YHF2CSSUMP (Failure to Recover Sump Suction Valves 2CV-5649-1 and 2CV-5650-2) is applied to cutsets that involve CCF of the outside containment sump valves. A number of issues are identified with the application of this recovery to these cutsets, such that it is likely that the value for this event will exceed the current value (0.055) assigned to it.

   The licensee performed a sensitivity analysis on the internal events CDF portion of the ANO-2 EDG AOT extension risk analysis to assess the effect of taking no credit for operator action YHF2CSSUMP. The analysis revealed that the risk impact of the EDG AOT extension remained acceptable. Thus, incorporating the subject F&O into the model has no impact on the conclusions of the licensee's EDG AOT extension submittal.

In addition to the recent CEOG peer review, the staff has reviewed the results of the current ANO-2 PSA model as part of its benchmarking of the ANO-2 Significance Determination Process notebook. This review was conducted by the staff and its contractors at the ANO-2 site during the week of November 26, 2001. Also, the staff performed a review of the risk assessment methods used in the ANO-2 PSA model as part of its review of the risk impact of the ANO-2 power uprate. This review included a site visit on December 18 and 19, 2001. Neither of these staff reviews identified any issues that would directly impact the licensee's EDG AOT extension submittal.

The ANO-2 PSA model does not address the risks associated with external events, such as seismic events and internal fires. It also does not address the risks associated with several other risk contributors, namely anticipated transients without scram (ATWS), interfacing systems loss of coolant accidents (ISLOCA), and high and medium energy line breaks (HELBs and MELBs). As described in the following subsection, the licensee performed qualitative and/or simplistic evaluations to assess the risk impact of these non-modeled events on extending the current EDG AOT.

4.2.1.2 PSA Insights

Based on the ANO-2 PSA model and qualitative insights generated from the ANO-2 IPE, the licensee calculated values for ΔCDF, ICCDP, ΔLERF, and ICLERP for the proposed 14-day EDG AOT. The results of the risk evaluations are presented in the table below for preventive maintenance (PM) and compared to the acceptance guidelines of RG 1.174 and RG 1.177. PM is defined as planned maintenance evolutions not precipitated by equipment failure. It is assumed by the licensee that plant risk is minimized consistent with the requirements of the Maintenance Rule (10 CFR 50.65). Consistent with this definition, during EDG PM activities, it is assumed that CCF contributors that affect both EDGs are not applicable and that testing and maintenance (T&M) activities on other plant equipment are minimized. Thus, for the EDG PM calculations, EDG CCF basic events and the AC power-related T&M events were set equal to zero. Specifically, it was assumed that no T&M that affects the reliability of the ANO-2 train associated with the operable EDG or with offsite power sources will be scheduled during the EDG OOS time.

14-DAY PM EDG AOT		
Risk Metric	**Acceptance Guideline**	**PSA Results**
ΔCDF	< 1.0E-5/reactor-year	9.6E-8/reactor-year
ICCDP	< 5.0E-7	7.2E-8
ΔLERF	< 1.0E-6/reactor-year	1.2E-8/reactor-year
ICLERP	< 5.0E-8	9.0E-9

Corrective maintenance (CM) is defined as emergent maintenance evolutions precipitated by equipment failure. Because CM is not planned, it is assumed by the licensee that the plant risk may be elevated due to plant conditions that existed when the subject equipment failure occurred. Consistent with this definition, during EDG CM, it was assumed by the licensee that CCF contributors that affect either both EDGs or the AACDG are elevated due to the failure that leads to the CM and that nominal values for T&M are applicable. The results of the risk evaluations for CM are shown in the table below.

14-DAY CM EDG AOT		
Risk Metric	**Acceptance Guideline**	**PSA Results**
ΔCDF	< 1.0E-5/reactor-year	4.8E-7/reactor-year
ICCDP	< 5.0E-7	3.6E-7
ΔLERF	< 1.0E-6/reactor-year	6.4E-8/reactor-year
ICLERP	< 5.0E-8	4.8E-8

The current and proposed TS 3.8.1.1, Action b requires performance of a CCF evaluation with respect to the operable EDG within 24 hours of entering Action b. If a CCF were to be present,

the licensee would consider both EDGs inoperable and TS 3.8.1.1, Action e would be entered. Since the TS addresses CCF, the risk values associated with the CCF (i.e., CM risk values) do not affect the risk results listed in the first table (i.e., PM risk values). Additionally, the risk values in both the first table (PM) and the second table (CM) are within the RG 1.177 and RG 1.174 acceptance guideline values, indicative of a small incremental increase in risk (i.e., ICCDP and ICLERP) and a very small increase in the change in risk (i.e., ΔCDF and ΔLERF).

Additionally, as stated above, it was assumed that no T&M that affects the reliability of the train associated with the remaining operable EDG or associated offsite power sources will be scheduled during the EDG OOS time. TS 3.0.5 requires that when an emergency or normal power source is inoperable for one train that: 1) its corresponding normal or emergency power source be operable, and 2) all of its redundant system(s), subsystem(s), train(s), component(s), and device(s) be operable. If either of these requirements is not met, then within 6 hours, the unit must be placed in at least hot standby within the next 6 hours and in at least cold shutdown within the following 24 hours. Thus, to comply with the TS and to avoid the possibility of a unit shutdown, the licensee states that the ANO-2 operations staff will take every precaution to ensure that redundant systems and the corresponding normal or emergency power sources are operable. The assumptions used when evaluating the risk associated with PM activities are therefore included within the TSs.

Further, the licensee allows only minimal T&M activities regardless of the cause of the OOS EDG (i.e., PM or CM). Any T&M activity that renders a redundant component inoperable would result in a plant shutdown as required by TS 3.0.5. Any T&M activity on the corresponding normal or emergency power source that would result in inoperability would also require a plant shutdown. If T&M activities were ongoing upon declaring an EDG inoperable, then the appropriate TS Action would be entered.

The AACDG is not a TS LCO-controlled component. The proposed EDG AOT change to 14 days presumes the operability of the AACDG in order to extend the AOT beyond 72 hours. In addition, if the AACDG were to become inoperable during the extended EDG AOT, the EDG AOT would be reduced to 72 hours from the point when the AACDG becomes inoperable; not to exceed the original 14 day AOT.

The licensee concludes that the current and proposed TSs require a review of the CCF possibilities with respect to the operable EDG within 24 hours, and ensure reduced T&M activities during the AOT; the proposed change also includes a requirement based on operability of the AACDG. These requirements should greatly reduce the contributions due to CCF and nominal T&M that are included in the CM risk calculations. Therefore, the risk contribution of PM activities should more closely reflect the risk that would result when a single EDG is removed from service.

The total change in risk due to the ANO-2 EDG extended AOT, assuming an EDG may be removed from service once for PM and once for CM during the same operating cycle, is shown in the table below. The total risk increase is within the RG 1.174 acceptance guidelines, indicative of a very small risk increase. The incremental conditional risk values for PM and CM are not summed together since the equipment cannot be removed from service for PM and CM at the same time (i.e., in the same incremental time period).

14-DAY EDG AOT - TOTAL CHANGE IN RISK		
Risk Metric	**Acceptance Guideline**	**PSA Results**
ΔCDF	< 1.0E-5/reactor-year	5.8E-7/reactor-year
ΔLERF	< 1.0E-6/reactor-year	7.6E-8/reactor-year

As stated previously, the ANO-2 PSA model does not address the risks associated with external events, ATWS, ISLOCA, HELBs, and MELBs. The licensee performed qualitative and/or simplistic evaluations to assess the risk impact of these events on extending the current EDG AOT. In the licensee's September 19, 2002, application, the licensee provided estimated values for the external events contributions, which also included the contributions from ATWS and ISLOCA events. These results were based on qualitative insights from the ANO-2 individual plant examination (IPE) and ANO-2 IPE of externally initiated events (IPEEE).

The staff's SE dated April 24, 2002, which approved an extended power uprate (EPU) for ANO-2, refers to a calculated CDF value for fires at ANO-2 that is slightly greater than 1E-4/reactor-year. The EPU SE indicates that this high CDF value for fires was due to a relatively conservative application of the fire-induced vulnerability evaluation (FIVE) methodology and discusses a number of these conservatisms. RG 1.174 states that for very small increases in risk (i.e., those in Region III of Figures 3 and 4 of RG 1.174), the change in risk would be considered regardless of whether there is a calculation of the total base risk. However, this statement is followed by a caution that states that even though there is no requirement to calculate the total base risk, if there is an indication that the risk may be "considerably higher than" 1E-4/reactor-year for CDF (or 1E-5/reactor-year for LERF), then the focus should be on finding ways to decrease rather than increase the risk.

Since there was some indication from prior staff reviews that the risk from external events could be a significant contributor, the staff sought additional information regarding the methodology used by the licensee to evaluate the external events contribution and impacts associated with the proposed 14-day EDG AOT. In the May 22, 2003, supplemental letter, the licensee described its methodology and results for the events not currently modeled by the ANO-2 PSA. The licensee indicated that its approach to addressing the risk impact of these events on extending the current EDG AOT was considered qualitative since the analyses were relatively simplistic and not based on comprehensive and detailed fault tree/event tree models. The stated intent of these analyses was to provide an "order-of-magnitude" assessment of the risk associated with these contributors. As part of its response, the licensee provided a revised analysis of seismic events to account for a revised seismic capacity that had been developed for the ANO EDG fuel tank, which had been identified during the EPU evaluation. In addition, the licensee augmented their original fire impact evaluation, which assumed a nominal CDF value of 1.0E-6/reactor-year for internal fires, with a qualitative evaluation of the fire areas that had been identified as being risk-significant in the IPEEE and EPU evaluations. This qualitative evaluation of the fire areas resulted in the licensee identifying additional regulatory commitments associated with the EDG extended AOT, as documented in Section 5.0 of this SE.

For ATWS, ISLOCA, and internal flooding events, the licensee assumed that the effect of removing an EDG from service was proportional to the effect on the ANO-2 internal events

PSA, since none of these events were judged to have a unique adverse effect on the EDGs or AACDG. For high winds, the licensee also assumed the effects to be proportional to that associated with the internal events, since the main effect, which is to create a LOOP, is already accounted for in the internal events LOOP initiator frequency.

The licensee assumed that the effects of the MELB are bounded by the effects of the HELB. In turn, the licensee assumed that the HELB effects are bounded by the effects from the main steam line break (MSLB), which is included in the ANO-2 internal events PSA model. The licensee's rationale is that none of the postulated HELBs result in both safety system actuation and the loss or partial loss of an actuated safety system, while the MSLB outside containment results in a plant trip and the concurrent loss of main feedwater. Thus, the MSLB outside containment risk impact is expected to be a first order estimate of the HELB risk impact. Since the MSLB outside containment is a small contributor to the nominal ANO-2 CDF, at about 1.2E-8/reactor-year, the risk associated with HELB and MELB are expected to be negligibly small.

For seismic events, the licensee used information from its IPEEE and subsequent analyses to determine the potential impact of various earthquake magnitudes on key plant systems (e.g., Offsite Power, AACDG, EDGs, EFW). Based on the identified potential impacts, the licensee used the ANO-2 PSA model for internal events to calculate a conditional probability of core damage, given that an earthquake in the associated range occurred. When combined with the mean frequency of the magnitude of earthquakes in that range, as derived from Electric Power Research Institute information, the licensee was able to estimate a CDF for each range, and thus, a total seismic CDF contribution from seismic events. This information was then used to determine the impact of the EDG extended AOT.

For internal fires, as stated above, the licensee originally assumed a nominal CDF value of 1.0E-6/reactor-year. The staff does not agree with the licensee's assumption that the internal fires contribution to CDF is this low, especially in light of the fact that the IPEEE and EPU evaluations indicated a value near 1.0E-4/reactor-year. Though the IPEEE and EPU evaluations are recognized as being conservative, the staff does not believe they are so conservative as to support the assumed reduction of two orders of magnitude. In response to the staff's request for additional information, the licensee supplemented their original submittal by performing a qualitative evaluation of the potential impacts of the extended EDG AOT on each of the fire areas that had previously been identified as being risk-significant contributors. This evaluation resulted in the licensee obtaining risk management insights that could be used to lower plant risk, especially during EDG AOT conditions. In particular, several areas were identified as being risk sensitive to an EDG outage, including: switchgear area in the turbine building (2A1/2A2/2A9), transformer yard, and south switchgear room (SS/2100-Z). For a number of other fire areas, though the calculated fire risk is not affected by removing an EDG from service, they are significant contributors to the overall plant fire risk, including: cable spreading room (G/2098-L), intake structure, diesel corridor (JJ/2109-U), lower south electrical/piping penetration room (EE/2055SC), and electrical equipment room (TT/2108-S). Specific management actions were identified to minimize and control the fire risks in these areas, as identified in Section 5.0 of this SE. For fire events, the staff's acceptance of the licensee's requested extension of the EDG AOT is based on the licensee's evaluation of the risk-significant fire areas and the establishment of management actions to minimize and control the fire risks during an extended EDG AOT, rather than the quantitative fire analysis results.

The quantitative results of the licensee's evaluation of the events not modeled in the ANO-2 PSA is presented in the table below. For comparison, the ANO-2 PSA modeled events has a total nominal CDF value of 8.326E-6/reactor-year and an EDG OOS CDF value of 1.020E-5/reactor-year. Using the information in this table, the licensee estimated ICCDP and annual average ΔCDF values associated with the EDG AOT extension for the non-modeled risk contributors of 2.1E-7 and 2.8E-7/reactor-year, respectively. When combined with the modeled internal events contributions, the calculated total value for ΔCDF would remain well within the RG 1.174 acceptance guideline and the ICCDP would be within the RG 1.177 acceptance guideline when considering PM and slightly above the RG 1.177 acceptance guideline for CM. As previously stated, the incremental risk contribution of an extended EDG AOT for PM is more representative of the risks associated with the EDG extended AOT since the licensee will perform a common cause failure evaluation of the operable EDG under the proposed TSs and will implement T&M limitations per the Maintenance Rule, which will greatly reduce the contributions due to CCF and nominal T&M that are included in the CM risk calculations. Thus, the staff finds that if the licensee's actions to address CCF potential and limit T&M during CM were quantitatively considered, the total calculated ICCDP value would be within the RG 1.177 acceptance guidelines.

NON-MODELED EVENTS CONTRIBUTIONS		
Event	**Nominal CDF Value (/reactor-year)**	**EDG OOS CDF (/reactor-year)**
ATWS	1.590E-6	1.948E-6
ISLOCA	3.270E-7	4.006E-7
Seismic	4.093E-7	1.324E-6
Internal Fires[1]	1.000E-6	1.225E-6
Internal Floods	1.000E-6	1.225E-6
High Winds	1.000E-6	1.225E-6

[1] The staff does not agree with the licensee's assumed nominal CDF value for internal fires. The impact of internal fires was addressed by using risk insights to identify risk-sensitive fire areas and establish appropriate management actions to minimize and control the risks in these fire areas.

Considering the information provided in the licensee's submittal and the staff's previous review as part of the ANO-2 EPU license amendment, the staff finds that there is reasonable confidence that the total CDF is not greater than 1E-4/reactor-year. Thus, the risks associated with the events not modeled in the ANO-2 PSA are not expected to impact the staff's conclusion regarding the acceptability of the EDG AOT extension, especially in light of the management actions committed to by the licensee to address the risk-sensitive fire areas.

4.2.2 Tier 2: Avoidance of Risk-Signficant Plant Configurations

The avoidance of risk-significant plant configurations identifies the potentially high risk configurations that could exist if equipment, in addition to that associated with the proposed TS change, is concurrently removed from service or other risk-significant operational factors such

as concurrent system or equipment testing are involved. The licensee states that this will ensure that appropriate restrictions are placed on dominant risk-significant configurations that would be relevant to the proposed TS change, and can be accomplished through use of the licensee's CRMP and administrative controls.

A CRMP is in place at ANO-2 to comply with 10 CFR 50.65(a)(4). The program provides assurance, according to the licensee, that risk-significant plant equipment configurations are precluded or minimized when plant equipment is removed from service. When an EDG is removed from service, increases in risk posed by potential combinations of equipment OOS will be managed by the CRMP. Additional contingencies, which the licensee will administratively control and complete either prior to declaring the EDG inoperable during planned maintenance activities or within the first 72 hours after declaring the EDG inoperable for an unplanned entry into the AOT, are identified in Section 5.0 of this SE as regulatory commitments. These actions include: evaluating offsite power supply conditions, evaluating weather conditions, not performing discretionary maintenance in the switchyard, verifying the availability of the AACDG, controlling welding and transient combustibles in several risk-sensitive fire areas, and establishing continuous fire watches in the vicinity of the Turbine Building switchgear area (2A1/2A2/2A9). The licensee emphasized that ANO-2 already has procedures and the capability to align the AACDG to either ANO-2 4160 V vital bus.

4.2.3 Tier 3: Risk-Informed Configuration Risk Management

To ensure that the proposed EDG AOT extension does not degrade operational safety over time, should equipment not meet its performance criteria, a risk assessment is required by the Maintenance Rule, 10 CFR 50.65.

The reliability and availability of the affected EDGs at ANO-2 are monitored under the Maintenance Rule Program (10 CFR 50.65). If pre-established reliability or availability performance criteria are exceeded for the EDGs, consideration would be given to 10 CFR 50.65(a)(1) actions, including increased management attention and goal setting in order to restore EDG performance (i.e., reliability and availability) to an acceptable level. The performance criterion is risk-informed and, therefore, is a means to manage the overall risk profile of the plant. An accumulation of large core damage probabilities over time should be precluded by the performance criteria.

In practice, the actual OOS time for the EDGs is minimized to ensure that Maintenance Rule reliability and availability performance criteria for these components are not exceeded. It should be noted that the EDG availability used in the licensee's PSA to calculate the ΔCDF value for a 14-day AOT is conservative compared to the EDG system Maintenance Rule goals, actual past performance of the EDGs at the plant, and expected availability following implementation of the proposed increased EDG AOT. The latter is true because the licensee does not anticipate using a full 14 days of EDG unavailability per cycle. The staff agrees, since very rarely is a full AOT utilized.

The ANO-2 EDGs and the AACDG are currently in the 10 CFR 50.65(a)(2) Maintenance Rule categories (i.e., the EDGs and AACDG are meeting established performance criteria). Performance of the EDG on-line maintenance is not anticipated to result in exceeding the current established Maintenance Rule criteria for the EDGs.

Pursuant to 10 CFR 50.65, the licensee's EDG reliability is monitored and periodically evaluated in relation to the Maintenance Rule goals. The ANO-2 EDG unavailability goal is < 2.28% (300 hours) per rolling 18 months. The AACDG unavailability goal is < 3.5616% (468 hours) per rolling 18 months. The Maintenance Rule performance criterion for reliability is < 3 functional failures (FF) per EDG train per rolling 18 months. The performance criterion for the AACDG is < 3 train-level FF per rolling 18 months.

The Maintenance Rule program provides a process to identify and correct adverse trends to ensure that the TS AOT does not degrade operational safety over time. Compliance with the Maintenance Rule should not only optimize reliability and availability of important equipment, it should also result in risk management when equipment is taken OOS for testing or maintenance per 10 CFR 50.65(a)(4).

Consistent with 10 CFR 50.65(a)(4), and as indicated in the prior subsection, the licensee has developed a CRMP for ANO-2. This program is a proceduralized risk-informed assessment process to manage the risk associated with planned and unplanned plant maintenance activities. The program ensures that the risk impact of OOS equipment is appropriately evaluated prior to performing a planned maintenance activity and soon after entering into an emergent maintenance condition. Procedures and guidelines have been developed by the licensee that govern this process. These documents require an integrated (both quantitative and qualitative) review of maintenance activities to identify risk-significant plant equipment outage configurations. This review is required both during the work management process and for emergent conditions during normal plant operation. Appropriate consideration is given to equipment unavailability; operational activities, such as testing or load dispatching; and weather conditions. The program includes provisions for performing a configuration-dependent assessment of the overall impact on risk of proposed plant configurations prior to, and during, the performance of maintenance activities that remove equipment from service. The licensee re-assesses risk if an equipment failure/malfunction or emergent condition produces a plant configuration that has not been previously assessed.

The assessment is performed to ensure that the activity does not pose any unacceptable risks. This evaluation is performed using the ANO-2 Equipment Out of Service (EOOS) model, which is used to calculate CDF for actual plant conditions. The licensee classifies EOOS results by a color code based on the increased risk of the activity, as described in the following table.

EOOS COLOR CODE CLASSIFICATION SCHEME	
Color	**Risk**
Green	Minimal Risk - Normal work controls are sufficient.
Yellow	Acceptable Risk - Plant management approval is required. Measures are taken to quickly restore the components to service. Steps are taken to ensure subsequent maintenance activities do not raise risk.
Orange	High Risk - Plant manager approval is required for voluntary entry or notification required if this risk category is entered due to emergent activities. Written guidance and/or contingency plans are required prior to voluntarily entering this condition. Equipment maintenance activities should be worked around the clock until completion.
Red	Unacceptably High Risk - Voluntary entry into this condition is NOT allowed. Plant Manager notification is required upon entering this condition from emergent activities. Immediate steps are taken to restore any equipment impacting plant safety.

The qualitative assessment addresses a broad range of areas, including: trip or transient potential, reactivity mismanagement potential, redundant equipment availability, containment integrity, cross-unit impact, red train-green train separation, fire, flooding, and severe weather contingencies.

For planned activities, an assessment of the risk of the activities on plant safety is performed prior to the scheduled work. The licensee's assessment includes the following considerations:

- Maintenance activities that affect redundant SSCs that provide backup for the same function are minimized.

- The potential for planned activities to cause a plant transient are reviewed and work on SSCs that would be necessary to mitigate the transient are avoided.

- For Maintenance Rule Program High Risk Significant SSCs, the impact of the planned activity on the unavailability performance criteria is evaluated.

Emergent work is reviewed by the licensee's Planning and Scheduling and Operations organizations to ensure that it does not invalidate the assumptions made during the schedule

development process. Prior to starting any work, the work scope and schedule are critically reviewed to assure that nuclear safety and plant operations are consistent with the expectations of licensee management.

The probability of plant fire events is not assessed for distinct plant activities, such as EDG maintenance. However, the licensee states that following the current ANO-2 Fire Hazards Analysis provisions and procedures provides sufficient assurance that the risk associated with removing equipment, such as the EDGs, is minimized.

The Fire Protection Program uses a three-tiered approach:

- Preventing fires from starting.
- Detecting fires promptly, suppressing them quickly, and therefore limiting fire damage.
- Designing plant safety systems so that a fire which does start will not ultimately prevent essential plant safety functions from being accomplished.

Fire prevention is accomplished through various procedures and training programs. As with current maintenance practices, any fire protection preventive measures that are necessary during EDG maintenance activities will be established by the licensee. A number of fire-related regulatory commitments are identified in Section 5.0 of this SE to address the risk-sensitive fire areas.

4.3 Comparison Against Regulatory Guidelines

The staff has determined that the licensee's evaluation of the impacts of the six F&Os identified from the CEOG peer review are adequate and that these F&Os do not change the risk results in any substantial manner. Thus, the staff concludes that the ANO-2 PSA, as supplemented to address the events that are not modeled in it, is acceptable for this application.

The ANO-2 PSA risk evaluation results are consistent with the RG 1.177 and 1.174 acceptance guidelines, indicating an expected small increase in risk due to the extension of the EDG AOT from 72 hours to 14 days. This conclusion is supported, even when considering the risks associated with the events not modeled in the ANO-2 PSA, especially in light of the management actions committed to by the licensee to address the risk-sensitive fire areas.

4.4 PRA Findings

Based on the staff's review as discussed in this SE, the staff finds that the proposed extension of the EDG AOT at ANO-2 is acceptable based upon the licensee's risk-informed assessment. This assessment concludes that the increase in plant risk is small and consistent with the acceptance guidelines of RG 1.177 and RG 1.174.

5.0 REGULATORY COMMITMENTS

Attachment 4 to the licensee's application dated September 19, 2002, contains a list of eleven regulatory commitments. Attachment 2 to the licensee's supplemental letter dated May 22, 2003, contains the original eleven regulatory commitments, with some clarifications made to

commitments 2 and 4, plus an additional four regulatory commitments that are to be performed during or prior to an EDG outage to address fire-related issues. The licensee stated that the commitments identified in Attachment 2 of the May 22, 2003, supplemental letter supercedes those presented in the original submittal. The commitments identified by the licensee are as follows:

1. Weather conditions will be evaluated prior to entering the extended EDG AOT for voluntary planned maintenance. An extended EDG AOT will not be entered for voluntary planned maintenance purposes if official weather forecasts are predicting severe conditions (tornado or thunderstorm warnings).

2. The condition of the offsite power supply and switchyard will be evaluated prior to entering the extended AOT.

3. No discretionary switchyard maintenance will be allowed. In addition, no discretionary maintenance will be allowed on the main, auxiliary, or startup transformers associated with the unit.

4. No maintenance or testing that affects the reliability of the ANO-2 train associated with the OPERABLE EDG will be scheduled during the extended AOT. If any testing and maintenance activities must be performed while the extended AOT is in effect, a 10 CFR 50.65(a)(4) evaluation will be performed.

5. The AACDG will be available as a backup to the inoperable EDG and will not be used for non-safety functions such as power peaking to the grid. After entering the extended AOT, the AACDG will be verified available every 8 hours and treated as protected equipment.

6. ANO-1 personnel will be notified to ensure no elective maintenance activities will be scheduled on the ANO-1 EDGs and will be made aware of the dedication of the AACDG to ANO-2.

7. The steam driven EFW pump will not be taken OOS for planned maintenance activities and will be treated as protected equipment.

8. The system dispatcher will be contacted once per day and informed of the EDG status, along with the power needs of the facility.

9. Should a tornado or thunderstorm warning be issued for the local area, an operator will be available should local operation of the AACDG be required as a result of on-site weather-related damage.

10. ANO-2 on-shift Operations crews will discuss and review appropriate normal and emergency operating procedures upon or prior to assuming the watch for the first time after having scheduled days off while the AOT is in effect.

11. ANO-2 Operating crews will be briefed concerning the ANO-2 EDG activities, including compensatory measures established and the importance of promptly starting and aligning the AACDG following instruction of the ANO-2 Shift Manager upon the loss of

power event. This briefing will be performed upon or prior to assuming the watch for the first time after having scheduled days off while the AOT is in effect.

12. During the EDG outage, ANO commits to control welding and transient combustibles and to establish continuous fire watches in the vicinity of the Turbine Building Switchgear (2A1/2A2/2A9).

13. During the EDG outage, ANO commits to control welding and transient combustibles in the following areas: the transformer yard; the south switchgear room (SS/2100-Z); the cable spreading room (G/2098-L); intake structure (OO/IS); diesel corridor (JJ/2109-U); lower south electrical/piping penetration room (EE/2055SC); and Electrical Equipment Room (TT/2108-S).

14. Prior to the EDG outage, ANO commits to provide in a crew brief to ANO-2 Operations personnel and ANO-1 fire brigade personnel refresher information related to fighting electrical fires and fires that may occur in the transformer yard. The crew brief will include relevant industry operating experience related to fires in these areas and will also include a discussion of equipment restoration.

15. Prior to an EDG outage, the operability of the fire suppression in the transformer yard will be confirmed. This will be accomplished by verifying that surveillances are current and the system is not isolated. If the system is isolated, then fire hoses will be staged to the transformer yard area during the EDG maintenance outage.

The above commitments (1-15) will be reflected in the TS Bases. Inasmuch as changes to the TS Bases are governed by the TS Bases Control Program in TS 6.5.14, this is acceptable.

6.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Arkansas State official was notified of the proposed issuance of the amendment. The State official had no comments.

7.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (67 FR 68733, dated November 12, 2002). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

8.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Date: August 8, 2003

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