Entergy

Entergy Operations, Inc.
17265 River Road
Killona, LA 70066
Tel 504 739 6660
Fax 504 739 6678

Charles M. Dugger
Vice President, Operations
Waterford 3

W3F1-2000-0077
A4.05
PR

May 31, 2000

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

Subject: Waterford 3 SES
Docket No. 50-382
License No. NPF-38
Technical Specification Change Request NPF-38-220
Supplemental Information to Emergency Diesel Generator
Allowed Outage Time Increase

Gentlemen:

Per discussions with the NRC Staff, Entergy Operations, Inc. (EOI) is hereby submitting additional information to support the review of Technical Specification Change Request (TSCR) NPF-38-220, Emergency Diesel Generator Allowed Outage Time Increase. The attached information addresses two NRC questions regarding the supplemental information submitted in our letter of May 22, 2000 (W3F1-2000-0065). These questions were identified in a telephone conference on May 25, 2000. The text in question did not clearly convey our intent or the NRC understanding of our previous discussions. The attached pages are intended to replace the affected pages (4 and 7) of Attachment 1 and the Commitment Identification/Voluntary Enhancement Form of Attachment 2 to the May 22, 2000 letter.

EOI is hereby requesting the attached information be incorporated with the original TSCR NPF-38-220 information transmitted by Letter W3F1-99-0022, dated July 29, 1999, our supplemental information provided in Letters W3F1-2000-0006, dated January 27, 2000, and W3F1-2000-0065, dated May 22, 2000. The Information contained in this correspondence does not affect the Significant Hazards Consideration Determination.

A001

The circumstances surrounding this change do not meet the NRC Staff criteria for exigent or emergency review; however, EOI is requesting NRC Staff approval of the TS change prior to July 7, 2000 to allow potential on-line maintenance in support of Refuel 10, which is currently scheduled to begin October 13, 2000. EOI requests the effective date for this TS change to be within 60 days of approval.

This letter contains a revised commitment list documented on the attached commitment identification form. Should you have any questions or comments concerning this request, please contact Ron Williams at (504) 739-6255 or Jerry Burford at (601) 368-5755.

Pursuant to 28 U.S.C.A. Section 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed on May 31, 2000.

Very truly yours,

C.M. Dugger
Vice President, Operations
Waterford 3

CMD/FGB/rtk
Attachments: Attachment 1 - Supplemental Information to TSCR NPF-38-220 Emergency Diesel Generator Allowed Outage Time Increase
Attachment 2 - Commitment Identification/Voluntary Enhancement Form

cc: E.W. Merschoff, NRC Region IV
N. Kalyanam, NRC-NRR
J. Smith
N.S. Reynolds
NRC Resident Inspectors Office
Louisiana DEQ/Surveillance Division
American Nuclear Insurers

ATTACHMENT 1

NPF-38-220

Supplemental Information to TSCR NPF-38-220
Emergency Diesel Generator Allowed Outage Time Increase
Replacement Pages for W3F1-2000-0065, Attachment 1

The compensatory measures included the utilization of a TEDG during the extended AOT time period.

Based on the above assessment, and to maintain a risk sensitive defense-in-depth design approach, EOI commits to utilizing a temporary alternate AC onsite power source whenever an EDG is removed from service for: preplanned maintenance work known to require greater than 72 hours or if deemed necessary for unplanned corrective maintenance work that will exceed the 72 hour AOT. This will involve the installation of a TEDG. The TEDG will be aligned for backup operation to the permanent EDG removed for maintenance.

The proposed compensatory measures, in support of an EDG extended 10 day maintenance outage, is to provide a reliable commercial grade diesel generator, capable of supplying auxiliary power to, at a minimum, required safe shutdown loads on the EDG train removed from service for the maintenance outage. In the event of a loss of offsite power and the failure of the operable EDG, the TEDG would be started and ready for load within 25 minutes. Power would be supplied to deenergized 4.16 kV non-safety bus 2A or 2B, depending on which EDG train was declared inoperable, via a 4.16 kV breaker. Power from the non-safety bus 2A or 2B would be supplied to the associated class 1E 4.16 kV safety bus 3A or 3B through two existing plant cross-tie circuit breakers (2-3 and 3-2) to power the required safe shutdown loads.

Additional design measures were also considered to ensure the adequacy of this proposed TEDG as an alternate power source. The existing plant switchgear, breakers, and protective relaying were evaluated to ensure adequate rating for the anticipated load. The switchgear is adequately rated at 3000 Amps, 350 MVA (symmetrical). The feeder breakers to the 4.16kV safety bus 3A(B) are also adequately rated along with adequate protective relaying coordination. These feeder breakers are used for normal plant operation and safe shutdown. The protective relays associated with the 4.16 kV breaker on non-safety bus 2A(B) may need to be adjusted to coordinate with the TEDG rating. The protective relaying associated with the TEDG will be verified for coordination and adequacy.

Procedure(s) will be developed to implement onsite power system recovery action in conjunction with the present Emergency Operating Procedures (EOP) and appropriate Off Normal Procedures in the event it is necessary to use the alternate AC power source. The procedure(s) will include the following requirements:

- Address the minimum required safe shutdown loads to be supplied from the TEDG and the appropriate loading sequence, accomplished through manual operation or auto-sequencing via the installed sequencer. The final temporary diesel sizing will be optimized based on the required safe shutdown loads and other desirable loads for

surveillance procedures to support the manufacturer's recommended post-maintenance 18-month or five year Emergency Diesel Engine Inspection engine analysis. Proper frequency and voltage response is verified prior to connecting the EDG to the 4.16kV safety buses and again while loading the EDG. Diesel generator operability is satisfactorily assured through performance of TS 4.8.1.1.2.a.4 surveillance tests that demonstrate the EDG is capable of performing its intended safety functions.

The routine inspections (18-month and 5-year inspections) expected to be accomplished during an extended maintenance outage normally do not require a post-maintenance full load rejection test to verify operability, since disassembly is primarily for access and not for overhaul of major components. However, if extensive governor maintenance is performed, the appropriate post-maintenance tests would be evaluated, based on manufacturer's recommendations and maintenance test procedures, to ensure EDG operability. Appropriate post-maintenance tests for major governor work may include a 100% load rejection test to ensure EDG operability.

A full load rejection test at Waterford 3 would require the EDG to be 100% loaded and operating in parallel with offsite power. The EDG output breaker would then be opened, which would strip the EDG of its load and isolate it from the 4.16kV safety bus. The load would then be simultaneously picked up by the offsite power source. To date, Waterford 3 has never performed an EDG full load rejection test with the plant at power. A full-load rejection test is required by TS to be performed every 18 months during shutdown.

In reviewing the Waterford 3 full-load rejection test data from Refueling Outage 9, the results indicated that voltage on the 4.16kV safety buses dropped approximately 2% and stabilized in about 0.5 seconds. This is a relatively minor transient and well within the capability of the loads on the vital (ESF) buses. The design basis for bus voltage transients on the safety buses is based on 4160 volts nominal voltage and consists of the following voltage conditions:

- An instantaneous Loss of Voltage at $\geq$ 3245 volts (TS trip setpoint value).
- Undervoltage protection for degrading voltage values $\leq$ 3675 volts (88.3%) provided by undervoltage relays with inverse time characteristics (i.e. between a high of 9 seconds to a low of 2 seconds).
- Undervoltage protection for sustained degraded voltage values $\leq$ 3875 volts (93.1%) with a time delay of 12.5 seconds.
- Rated maximum voltage for the switchgear of 4760 volts.

EOI will review past surveillance records prior to the first planned use of the TEDG, and in any case, prior to performing any full load rejection test on-line. EOI will ensure the voltage transients experienced on the safety buses during the EDG

ATTACHMENT 2

NPF-38-220

COMMITMENT IDENTIFICATION/VOLUNTARY
ENHANCEMENT FORM
Replacement Page for W3F1-2000-0065, Attachment 2

COMMITMENT IDENTIFICATION/VOLUNTARY ENHANCEMENT FORM

Attachment 2 to W3F1-2000-0077
Technical Specification Change Request NPF-38-220
Additional Supplemental Information to Emergency Diesel Generator
Allowed Outage Time Increase
Corrected page 1 of 1
May 31, 2000

COMMITMENT(S)	ONE-TIME ACTION*	CONTINUING COMPLIANCE *	SCHEDULED COMPLETION DATE (IF REQUIRED)	ASSOCIATED CR OR ER
Procedure(s) will be developed to implement onsite power system recovery action in conjunction with the present Emergency Operating Procedures (EOP) and appropriate Off Normal Procedures in the event it is necessary to use the alternate AC power source (temporary emergency diesel generator). Procedures will be developed to perform the TEDG availability verification and availability status checks.		X	Following Proposed TS change approval by the NRC	
Verify protective relaying associated with 4.16 kV breaker on non-safety bus 2A(B) has been adjusted, if required, to coordinate with the TEDG rating. The protective relaying associated with the TEDG will be verified for co-ordination and adequacy.		X	Following Proposed TS change approval by the NRC	
EOI will review past surveillance records prior to the first planned use of the TEDG, and in any case, prior to performing any full load rejection test on-line. EOI will ensure the voltage transients experienced on the safety buses during the EDG 100% Load Rejection surveillance test were within (±)5% of the initial test voltage and stabilized within 1 second.	X		Following Proposed TS change approval by the NRC	
EOI commits to utilizing an alternate AC onsite power source whenever an EDG is removed from service for preplanned maintenance work known to require greater than 72 hours or if deemed necessary, unplanned corrective maintenance work that will exceed the 72-hour AOT. This will involve the installation of a temporary emergency diesel generator (TEDG). The TEDG will be aligned for backup operation to the permanent EDG removed for maintenance.		X	Following Proposed TS change approval by the NRC	
EOI will proceduralize the CRMP to support Risk-Informed Technical Specification Allowed Outage Time submittals and implementation of 10 CFR 50.65(a)(4), the Maintenance Rule.		X	Following Proposed TS change approval by the NRC	