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Docket Nos.: 50-348

NL-12-1567

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

Joseph M. Farley Nuclear Plant Unit 1
Emergency Technical Specification Revision Request for 3.8.1
AC Sources - Operating

Ladies and Gentlemen:

By letter dated July 23, 2012, Southern Nuclear Operating Company (SNC) requested an emergency amendment to the Farley Nuclear Plant (FNP) Unit 1 Technical Specifications (TS), Appendix A to Operating License No. NPF-2. In that letter, SNC proposed a one-time change to TS 3.8.1, "AC Sources – Operating" Required Action B.4 Completion Time, to add a note allowing an extended Completion Time of "15 days AND 18 days from discovery of failure to meet LCO," to support repair and restoration of the 1B DG.

Subsequent discussion with the Nuclear Regulatory Commission (NRC), on July 24, 2012, resulted in NRC requests for additional information. The previously requested one-time Completion Time extension is being reduced, from "15 days AND 18 days" to "14 days AND 17 days." This allowance will expire at 21:52 on July 30, 2012. This request is to amend the SNC July 23, 2012 submittal.

Enclosure 1 of this letter provides a response to the requests for additional information. To reflect the reduced Completion Time extension, Enclosure 2 is a new marked-up proposed TS page and Enclosure 3 is a new clean-typed proposed TS page. Enclosure 2 and Enclosure 3 of this letter supersede Enclosure 2 and Enclosure 3 of the July 23, 2012 SNC letter. Enclosure 4 is the 1B DG Repair Schedule.

The conclusions of the Regulatory Evaluation (section 4) and the Environmental Evaluation (section 5) of the July 23, 2012 SNC letter are not changed and remain valid.

This request is being made because damage to the 1B Diesel Generator (DG) occurred during a maintenance run. The proposed change is required to complete the replacement of the damaged components and return the 1B DG to operable status without requiring a plant shutdown.

SNC requests approval of the proposed License Amendment prior to 21:52 on July 26, 2012 to avoid a unit shutdown. The amendment will be implemented immediately. SNC has determined that the conclusions of the previous 10 CFR 50.92(c) remains unchanged.

This letter contains no Nuclear Regulatory Commission commitments. Should you have any questions concerning this submittal, please contact Doug McKinney at (205) 992-5982.

Mr. M. J. Ajluni states he is the Nuclear Licensing Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company, and to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

M. J. Ajluni
Nuclear Licensing Director

Sworn to and subscribed before me this 25th *day of* July, *2012.*

Notary Public

My commission expires: 11-2-2013

MJA/JLS/lac

Enclosures:
1. Response to Requests for Additional Information
2. Proposed Changes to the Current TS on Marked-up Page
3. Proposed TS Changes on Clean-typed Page
4. 1B DG Repair Schedule

cc: Southern Nuclear Operating Company
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Dr. D. E. Williamson, State Health Officer

Joseph M. Farley Nuclear Plant Unit 1
Emergency Technical Specification Revision Request for TS 3.8.1
AC Sources - Operating

Enclosure 1

Response to Requests for Additional Information (RAIs)

RAI 1

Page E1-1 – The statement "Metallic debris believed to be from the piston was found in the lube oil strainer" leads one to conclude that the licensee has not identified the root cause of the event, only "likely causes." Please provide the formal "likely" cause analysis to show what "likely" causes have been positively ruled out and what "likely" causes remain as possibilities. Discuss the entire population of causes considered during the "likely" cause analysis.

SNC Response to RAI 1

The following components/causes have been investigated and eliminated:

Intercooler shaft driven pump, Fuel Rack linkages, Fuel Racks, Fuel Injector Nozzles, Fuel Injector Pumps, Lube Oil, Turbocharger, Grid Disturbance, Jacket Water Cooling, and Fuel Oil.

One thermo assembly installed within the intercooler thermostatic valve failed to actuate during testing following valve disassembly. The valve manufacturer, Robertshaw, and the DG vendor, Fairbanks Morse, have verified that failure of one thermo assembly to actuate will cause a 30% to 35% loss of flow through the valve, which will cause surging through the turbocharger at 100% load on the diesel.

RAI 2

Page E1-3 – In the fourth paragraph the acronym "ACC," is used. Should that be "AAC" or is a new term being introduced and not defined here?

SNC Response to RAI 2

"ACC" was a typographical error; the acronym "AAC" (for Alternate AC) was intended.

RAI 3

On Page E1-3 it says the 2C emergency diesel generator (EDG) is allowed up to 300 hours per year at 3250 kilowatts (kW). How many of these hours are currently available (i.e., have not been used during the previous 12 months) to run 2C EDG at 3250 kW during the time of the proposed extended AOT?

SNC Response to RAI 3

This limit is only reached for a 2-hour period each time SNC performs the 24-hour load run. The last 24-hour load run (FNP-0-STP-80.19) was performed on August 20, 2011. Therefore, 2 of the 300 hours have been used in the past 12 months.

RAI 4

On Page E1-9 "protected equipment" is listed. Is this equipment going to be in-service during the entire time of the proposed extended AOT? For example, are the Unit 1 A train Service Water pump, RHR pump, charging pump, and CCW pump going to be in-service until the 1B EDG is declared operable? If a protected A train component needs to be shifted to a B train component prior to declaration of EDG 1B operable, will "protected status" also be shifted to the B train component?

SNC Response to RAI 4

The equipment listed on page E1-9 as "protected equipment" will be OPERABLE during the proposed extended Completion Time. Depending on plant operation, some of this equipment may not be running and in service. For example, the Unit 1 A-train Residual Heat Removal Pump would not be normally running and in service but would be fully OPERABLE and available to respond to a design basis accident. Other "protected equipment" such as the Unit 1 A-train Service Water Pumps would be running to support normal plant operation. A-train equipment function will not be shifted to B-train equipment during the 1B extended Completion Time period.

RAI 5

On page E1-10, items 10 says "...DG 2C to power Bus 1G through Bus 1J." This may be interpreted to mean Buses 1G, 1H and 1J, and it does not appear that DG 2C can power bus 1H. A sirnilar observation is made for item 11. Please verify the technical accuracy of these statements.

SNC Response to RAI 5

The statements are accurate; use of the word "through" created unintentional ambiguity. The intended meaning of item 10 was that DG 2C will be aligned to power Bus 1G by means of Bus 1J (i.e., DG 2C will power Bus 1J, which in turn will feed Bus 1G). Similarly for item 11, DG 1C will be connected to Bus 1F by means of Bus 1H (i.e. DG 1C will power Bus 1H, which in turn will feed Bus 1F). This arrangement is depicted on the Emergency Distribution diagram included in Enclosure 4 of the July 23, 2012 SNC letter.

RAI 6

On page E1-4 it says "Grid reliability is improved with Unit 1 online, reducing the chance DG power will be needed. Shutting down FNP Unit 1 would . . . reduce the available margin for grid electrical reserve during the current high demand summer period . . ." Does this mean that upon loss of Unit 1, off-site power will be inoperable for Unit 2 because grid voltage would not be adequate to support safety-related equipment operation for Unit 2? Also, please explain the basis for your answer.

SNC Response to RAI 6

No, sufficient margin exists on the grid such that loss of FNP Unit 1 electric output will not result in Unit 2 having inadequate voltage. As shown in Enclosure 4 of the July 23, 2012 SNC letter, Unit 2 feeds the 500 kV switchyard and Unit 1 feeds the 230 kV switchyard. The switchyards are connected through auto transformers and each switchyard is connected to multiple power lines. The 230 kV switchyard supplies startup transformers for both Units. Operation of the Southern electric transmission grid system is guided by real-time N-1 contingency analysis to maintain the grid voltage within the normal expected range, thus minimizing challenges to degraded grid voltage limits. The system is designed to accommodate loss of generating units. Maintaining Unit 1 on line improves the overall available margin to control grid voltages. Removing Unit 1 from service will not impact Unit 2 voltages but it will reduce available margins since additional generation will have to be brought on line to offset the loss of Unit 1.

RAI 7

The LAR does not identify the root cause of the DG 1B failure, only the "most likely cause." What other potential causes have been investigated and eliminated such as improper or contaminated fuel or lube oil?

SNC Response to RAI 7

The following components/causes have been investigated and eliminated:

Intercooler shaft driven pump, Fuel Rack linkages, Fuel Racks, Fuel Injector Nozzles, Fuel Injector Pumps, Lube Oil, Turbocharger, Grid Disturbance, Jacket Water Cooling, and Fuel Oil.

One thermo assembly installed within the intercooler thermostatic valve failed to actuate during testing following valve disassembly. The valve manufacturer, Robertshaw, and the DG vendor, Fairbanks Morse, have verified that failure of one thermo assembly to actuate will cause a 30% to 35% loss of flow through the valve, which will cause surging through the turbocharger at 100% load on the diesel.

RAI 8

The LAR states that Surveillance Requirement (SR) 3.8.1.6 was performed to address common cause. This is incorrect. Required Action B.3.1 Or B.3.2 can be performed to satisfy the minimum TS Required Action for the Condition (One DG set inoperable). Successful performance of SR 3.8.1.6 verifies Operability of the Operable DG (1A) but does not satisfy TS 3.8.1, Required Action B.3.1, "Determine Operable DG set is not inoperable due to a common cause failure."

SNC Response to RAI 8

SNC agrees. The LAR reference to SR 3.8.1.6 was intended to imply the end condition that was chosen to address B.3.2.

RAI 9

When will the stated causal analysis be performed and when will the extent of condition be known?

SNC Response to RAI 9

Formal causal analysis will begin immediately upon conclusion of the 1B DG Outage and will be completed within sixty-days. Extent of condition has been reviewed and only the 1-2A, 1B, and 2B DGs have the Robsertshaw thermostatic valves. The history of these valves has been reviewed and there have been no failures since 1999. Preventive maintenance tasks are currently in place to rebuild these valves every six years on all three DGs. These preventive maintenance tasks were established following the failure in 1999.

RAI 10

What other DG components were, or could have been, adversely affected by the engine overheating (e.g., carbon build-up in ring grooves of other pistons)? What was the extent of the overheating and how was this determined?

SNC Response to RAI 10

Damage due to overheating was only observed in the #12 cylinder and the exhaust manifold. This was found once the cylinder was disassembled. All 12 pistons and liners have been inspected by either boroscope or by disassembly. The turbocharger fan was also inspected and found to be free spinning and not affected by this event.

RAI 11

When was the 1A DG last 24 hour SR test successfully performed?

SNC Response to RAI 11

The last 1-2A DG 24-hour SR test was successfully performed starting at 01:14 on July 08, 2012 and ending at 03:49 on July 09, 2012.

RAI 12

What structures, systems and components (SSC) in the 1A train are currently monitored in accordance with 10 CFR 50.65, a(1)?

SNC Response to RAI 12

Unit 1 steam generator blowdown AOV's (currently in monitoring with all corrective actions completed) until April, 2013.

1C Service Air Compressor (currently in monitoring with all corrective actions completed) until September, 2012.

No other Unit 1 A Train SCC's are in a(1) status.

RAI 13

Was there a high temperature condition (alarm) on the DG prior to the high crankcase pressure engine trip? If not, why?

SNC Response to RAI 13

Per operator statements, no alarms were in until immediately after the trip of the diesel. The "Jacket Water Temp Hi" alarm came in following the diesel trip. There is not a High Intercooler Temperature alarm. The available temperature alarms are: Lube Oil Temperature High, Jacket Water Temp High, Generator Winding Temp High, and Generator Bearings Temp High. The Jacket Water Temp Hi alarm was caused by engine seizure and loss of flow.

RAI 14

The LAR uses the phrase "heat exchanger bypass valve" and "thermostatic bypass valve." Are these referencing the same DG component?

SNC Response to RAI 14

Yes, the terms "heat exchanger bypass valve" and "thermostatic bypass valve" refer to the same component. The LAR also uses the combined term "thermostatic heat exchanger bypass valve" in reference to this component. The "heat exchanger bypass valve" terminology refers to the position of the valve in the heat exchanger flow path, while the "thermostatic bypass valve" terminology refers to the valve's control parameter.

RAI 15

The LAR states that the 2B DG thermostatic bypass valve will not be inspected at this time. What is the basis for this and when was the 1B DG thermostatic valve last replaced? What is the vendor recommended repair/replace interval?

SNC Response to RAI 15

The 2B Diesel Intercooler Heat Exchanger Thermostatic Bypass Valve was rebuilt, per a preventive maintenance task on June 06, 2009. The 1B DG Intercooler Heat Exchanger Thermostatic Bypass Valve was replaced on February 06, 2008. The recommended rebuild frequency is 8-10 years per the vendor. The SNC preventive maintenance task for this item has been in place since 1999 and is on a six-year frequency.

RAI 16

The LAR states that a plant shutdown (Farley Unit 1) would reduce electrical grid reserve [capacity] during current high demand period. Does the system have sufficient reserve to assure offsite power capability under all analyzed design basis accidents (DBA) (i.e. loss of offsite power/loss of coolant accident (LOOP/LOCA)) and how is this determined?

SNC Response to RAI 16

The Southern electric transrnission system has established operating protocols that provide for operating voltages to be maintained at Farley Nuclear Plant at sufficient levels that all equipment credited in analyzed design basis accidents has sufficient voltage to perform its safety function. Maintaining these voltages is considered a top priority by the transmission operators who operate the Southern electric transmission system. Calculations that show required in-plant bus voltage have been performed. Once required voltages were established the required grid voltages were determined. (See also response to RAI 6.)

RAI 17

The compensatory measures described in the amendment are typical for a plant to implement when removing a train of SSC from service. What compensatory measures, in addition to the normal compensatory measures, are being implemented?

SNC Response to RAI 17

The following items are additional to what is normally protected when 1B D/G is OOS:

- 2C DG, B Train 4 kV Switchgear, Diesel Driven Fire Pump (DDFP)
- Unit 1 Main Transformers and Unit 1 Start-up Transformers
- Item 2 through item 11 of section 3.4 of the July 23, 2012 SNC letter

RAI 18

The LAR fails to describe what the scope of the DG repairs will be performed in order to restore DG to Operable. Does the requested Completion Time include inspect/investigate cause(s) of failure?

SNC Response to RAI 18

As described in the July 23, 2012 SNC cover letter, the intercooler heat exchanger thermostatic bypass valve will be repaired and in addition, one piston and one cylinder will be replaced. The requested Completion Time extension includes troubleshooting, visual inspections, repair, reassembly, lube oil system flushing, oil replacement, and testing. Because a new piston and cylinder was installed, the vendor recommends an extended DG run prior to returning the DG to OPERABLE status.

RAI 19

What additional resources have been assigned to the minimum shift staffing to address implementation of the compensatory measures (identify if resource is "dedicated")

SNC Response to RAI 19

The fire watches are provided by non-operations personnel therefore sufficient resources are available. Normal crew complement includes four Reactor Operators. SNC will supplement normal shift staffing with a dedicated fifth Operator to assist the control room staff with implementation of the compensatory measures outlined in item 10 and item 11 of section 3.4 of the July 23, 2012 SNC letter.

RAI 20

What additional training has been provided to the operators to address a potential SBO, such as:

1. Offsite power restoration during an SBO.
2. Establishing and maintaining RCS natural circulation
3. Local operation of the DG, including reset of trips and lockouts
4. Manual loading of SBO DG with ECCS loads (as described in the amendment)

SNC Response to RAI 20

The Licensed Operator Continuing Training Program includes loss of power events in conjunction with design basis accidents. To supplement Operator training, relevant required reading will be provided to licensed Operators prior to taking the shift. Operators are trained to perform local operation of DGs. In addition to the required reading, briefings will be conducted for each oncoming shift.

RAI 21

Has the fire probabilistic risk assessment (PRA) for Farley been completed, i.e., have all fire areas been evaluated? If so, has the fire PRA been Peer Reviewed according to Appendix D of RG 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," Revision 2, March 2009?

SNC Response to RAI 21

The Farley Fire PRA has been completed and undergone a RG 1.200, Revision 2, Peer Review against the ASME PRA Supporting Requirements (SRs). The review was conducted by the Westinghouse Owners Group in October 2011 under LTR-RAM-II-12-007, "Fire PRA Peer Review Against the Fire PRA Standard Supporting Requirements from section 4 of the ASME/ANS PRA Standard for the Farley Nuclear Plant Fire Probabilistic Risk Assessment" in accordance with NEI 07-12 as endorsed by RG 1.200 Rev 2. The conclusion of the review was that the Farley methodologies being used were appropriate and sufficient to satisfy the ASME/ANS PRA Standard RA-Sa-2009. The review team also noted that the RIE staff appeared to be applying the NUREG/CR-6850 methodologies correctly.

For the Farley Fire PRA, 88% of the SRs were assessed at Capability Category II or higher, including 8% of the SRs being assessed at Capability Category III. The Farley FPRA had an additional 5% of the applicable SRs assessed at the Capability Category I (CC-1) level. The FPRA was found to not meet 7% of the applicable SRs. A detailed assessment of each of the findings identified by the Peer Review team has been performed and the findings have been dispositioned.

As stated in SNC letter NL-12-1552, dated July 23, 2012, Enclosure 1, section 3.4, the Farley Fire PRA (FPRA) model has been developed to support Plant Farley's transition to NFPA-805 and includes certain future plant modifications (e.g. incipient detection). These modifications are credited in the FPRA model, but the modifications are not yet installed in the plant.

The effort required to "remove" these modifications from the peer-reviewed FPRA model was the primary reason SNC chose not to develop a risk-based Technical Specifications submittal for this one-time proposed change. However, the FPRA model is a quality fire model and the model was exercised to develop risk insights.

RAI 22

On page E1-4, Section 3.3, it says there are two milestones, "Commence performance of maintenance runs" and "Complete maintenance runs." Do the maintenance runs consist of more than the 30 hour break in run? If so, please specify what else is included in this activity.

SNC Response to RAI 22

Yes, the maintenance runs do consist of more than a 30-hour break-in run. The 1B DG repair schedule is provided in Enclosure 4. The DG runs consist of a 5-minute run, a 10-minute run, a 30-minute run, a 6-hour run with the special fuel additive, a 20-hour run without the fuel additive, a 5-hour DG load run, and a 4-hour post maintenance run. In addition, a contingency of a 14-hour run is provided.

RAI 23

The Standard Review Plan (SRP) Branch Technical Position (BTP) 8-8 addresses onsite EDG and offsite power sources allowed outage time (AOT) extensions. Address the following:

a. Section B of SRP BTP 8-8 discusses having a supplemental power sources available as a backup to the inoperable EDG. Provide justification for not addressing a supplemental power source in the LAR as discussed in the BTP.

b. Section B of SRP BTP 8-8 discusses an AOT extension for a maximum of 14 days. Provide justification for the proposed 15 days and 18 days AOT for the 1B EDG in the application as compared to the maximum AOT of 14 days allowed by BTP.

SNC Response to RAI 23(a)

Branch Technical Position (BTP) 8-8 "Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time Extensions" section B states that the NRC staff evaluates the licensee's request for allowed outage time (AOT) extension from a deterministic as well as probabilistic risk assessment (PRA) perspectives. In addition, section B states that the technical specification must contain Required Actions and Completion Times to verify that the supplemental AC source is available before entering the extended AOT. The BTP also lists several actions that would be implemented during the extended AOT.

SNC is using risk insights but is not using a quantified PRA position for the requested one-time emergency technical specification change. The supplemental AC source as described in the BTP is the 2C DG since it is not dedicated for use during design basis events. As described in section 3.1 of the July 23, 2012 SNC letter, the 2C DG is dedicated as the Alternate AC power source for station blackouts events and can be manually operated by operator actions in the control room. The 2C DG will supply the B-train loss of site power loads for Unit 1. Therefore, it is a supplemental source of power during the extended Completion Time for the 1B DG.

The 1B DG extended Completion Time is only being requested for a one-time basis and severe weather is not anticipated during the period of applicability. The system load dispatcher will be contacted daily to ensure no significant grid perturbations are expected. In addition, a list of equipment to be considered protected, including the Unit 1 steam-driven emergency feed water pump, was listed in section 3.4 Compensatory Measures, of the July 23, 2012 SNC letter. The remaining systems, subsystems, trains, and components that

depend on the remaining power sources will be verified to be OPERABLE and positive measures will be provided to preclude subsequent testing or maintenance activities on these systems, subsystems, trains, and devices as described in section 3.4 Compensatory Measures.

SNC Response to RAI 23(b)

Branch Technical Position (BTP) 8-8 "Onsite Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time Extensions" section B discusses an allowed outage time (AOT) extension for a maximum of 14 days. SNC is revising the proposed 15 days and 18 days AOT for the 1B DG to 14 days and 17 days. This proposed revision meets the BTP criterion of 14 days.

RAI 24

Section 3.1 of the LAR states the 2C EDG does not have the capacity to load all the required equipment in the event of a loss of offsite power (LOSP) and loss of coolant accident (LOCA). Provide a detailed justification for using 2C EDG as a replacement of 1B EDG.

SNC Response to RAI 24

SNC is not proposing to replace the 1B DG with the 2C DG. The 1-2A DG is the A-train DG that will provide the electrical power in the event of a Unit 1 design basis accident. The 2C DG would be a defense in depth electrical power source during the period of the 1B DG extension. Also see response to RAI 28. The following is a list of B-train LOCA loads that the 2C DG can power:

- Service Water Pump (974 kW)
- Charging Pump (709 kW)
- Motor Driven Auxiliary Feedwater Pump (361 kW)
- Containment Spray Pump (359 kW)
- Residual Heat Removal Pump (324 kW)
- Component Cooling Water Pump (282 kW)
- Containment Cooling Fans (202 kW)

Total Loads = 3211 kW, which is below the 300 hour load rating of 3250 kW

Loading guidance is provided by plant emergency procedures. The Operator selects the appropriate loads for the event.

RAI 25

Section 3.4 of the LAR discusses compensatory measures. Describe how the control room will interact with the grid operation during the proposed extended period.

SNC Response to RAI 25

Communication between transmission operators and the control room is accomplished through multiple means of communication such as company phone lines, dedicated computer systems (GEMCOM), and regular land lines as necessary. Communication occurs several times per day as VAR loading or grid conditions are discussed. Also see response to RAI 23(a).

RAI 26

Discuss the need for a operator dedicated solely to the operation of DG 2C during the period of the extension.

SNC Response to RAI 26

A dedicated fifth Operator will be added during the extended period while 1B DG is inoperable. Also see response to RAI 19.

RAI 27

On pages E1-1 and E1-4 the licensee stated the following:

> In addition, to address extent of condition, the 1-2A DG has a scheduled outage later in 2012 in which the thermostatic bypass valve will be inspected and replaced. The 2B DG thermostatic bypass valve was replaced in 2009 and will not be inspected at this time. The results of the causal analysis for 1B DG will be provided

Provide the technical basis for not replacing the thermostatic bypass valves now to prevent a similar failure on the other emergency diesel generators (EDGs). Also explain why these valves were not replaced when the potential issue with these valves appeared to be understood several years ago.

SNC Response to RAI 27

Our immediate focus and concern is restoration of the 1B DG which will restore two trains of emergency backup power and improve Nuclear safety at the plant. Failure of the thermostatic temperature control valve for the 1B DG was the first failure in the last 13 years, there have been only three instances of corrective maintenance related to these valves for the 1-2A DG, 1B DG, and the 2B DG. Two of those instances occurred on the 1-2A DG, with the last one in 1999. The 1B DG is the third event. Overall failure of this valve is infrequent and therefore immediate change out is not warranted. Scheduling the 1-2A valve replacement and inspection for later this year (October) allows for proper scheduling planning to assure a successful outage. The 2B DG is not near the SNC's change-out frequency of six years.

RAI 28

Explain the actions that need to be taken to align the 2C EDG as a "replacement" for EDG 1B. How much time is needed to align and load EDG 2C during LOSP or SBO event? When EDG 2C is aligned as a replacement for EDG 1B, how long will it take to align it to support a station blackout (SBO) event on the other unit?

SNC Response to RAI 28

To align the 2C DG as described in the question above is about the same amount of effort for each alignment. This is because the controls and features allow for complete operation from the main control room. STP 80.15 requires testing of the 2C DG every 18 months. This includes starting, loading, and securing the DG. A 10-minute acceptance limit is provided in the procedure and is easily met. The following are specific steps to connect the 2C DG to the Unit 1 B train 4 kV Switchgear:

- Verify 2C Diesel Mode Selector switch in Mode 1
- Place 2C Diesel Unit Selector Switch to Unit 1
- Press the 2C Diesel start pushbutton
- Verify the 2C Diesel output breaker to Unit 1 closes (DJ06-1)
- Breakers DG02 and DG13 should remain closed and the LOSP sequencer will run itself.

RAI 29

On page E1-3 the licensee stated the following:

> A monitoring program is being developed which will be implemented following engine repair and during DG testing.

Explain the purpose of the monitoring program and describe how it will be used.

SNC Response to RAI 29

The purpose of the monitoring program is to provide monitoring that will confirm proper operation of the 1B DG. The nature of the failure resulted in a major teardown and inspection of the diesel. Monitoring helps ensure that it was assembled correctly and allows for trending. In addition proper operation of the electric governor must also be checked.

RAI 30

On page E1-4 the licensee stated the following:

> A long range weather forecast has been reviewed and no indication of tropical storm exists, only typical afternoon thunderstorms are predicted.

Explain what a typical afternoon thunderstorm is and describe the potential impact it may have to the site. Also provide a list of loss of offsite power events that have occurred at the site.

SNC Response to RAI 30

A typical Dothan, Alabama afternoon thunderstorm during the 1B DG extended Completion Time period is forecasted to consist of 91-92 F temperature, six to eight miles per hour wind, 30-40% chance of rain, and no significant impact to the site. A search of the Farley Licensee Event Report database resulted in no instances of a complete loss of all off-site power events affecting both trains.

RAI 31

The repair details that the licensee provided on page E1-4 appear to show a need for only 3 additional days to repair EDG 1B and return it to service. Justify the request for an additional 2 days.

SNC Response to RAI 31

At the time of the July 23, 2012 SNC submittal, the trouble shooting process of discovery was in progress and not all of the DG cylinder inspections had been completed to determine if additional damage was present. Since the July 23, 2012 submittal, all of the DG cylinders and liners have been inspected and the requested Completion Time extension has been revised to four days for a total of 14 days and 17 days. In section 3.3 of the July 23, 2012 submittal, the date for the LCO exit was July 29 at 05:00. The difference in the LCO exit schedule and the requested time for the Completion Time extension is due the number of planned maintenance runs needed prior to returning the 1B DG to OPERABLE status. The schedule that was used to develop the first submittal has continued to evolve as maintenance personnel have improved their productivity rate but has also been adjusted for new items. A more detailed schedule is provided in Enclosure 4. This schedule incorporates contingencies for certain aspects of the work that have higher potential for rework and discovery of new items. This schedule reflects our best estimate schedule with contingency allowances.

Joseph M. Farley Nuclear Plant Unit 1
Emergency Technical Specification Revision Request for TS 3.8.1
AC Sources - Operating

Enclosure 2

Proposed Changes to the Current TS on Marked up Pages

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. (continued)	B.3.2	Perform SR 3.8.1.6 for OPERABLE DG set.	24 hours
	AND		
	B.4	Restore DG set to OPERABLE status.	10 days AND 13 days from discovery of failure to meet LCO *
C. Two required offsite circuits inoperable.	C.1	Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.	12 hours from discovery of Condition C concurrent with inoperability of redundant required features
	AND		
	C.2	Restore one required offsite circuit to OPERABLE status.	24 hours

* For the 1B Diesel Generator only, the Completion Time that the DG can be inoperable as specified by Required Action B.4 may be extended beyond the "10 days AND 13 days from discovery of failure to meet LCO" up to "14 days AND 17 days from discovery of failure to meet LCO," to support repair and restoration of the 1B DG. Upon completion of the repair and restoration, this footnote is no longer applicable and otherwise will expire at 21:52 on July 30, 2012.

Joseph M. Farley Nuclear Plant Unit 1
Emergency Technical Specification Revision Request for TS 3.8.1
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Enclosure 3

Proposed TS Changes in Final Typed Format

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. (continued)	B.3.2	Perform SR 3.8.1.6 for OPERABLE DG set.	24 hours
	AND		
	B.4	Restore DG set to OPERABLE status.	10 days AND 13 days from discovery of failure to meet LCO *
C. Two required offsite circuits inoperable.	C.1	Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.	12 hours from discovery of Condition C concurrent with inoperability of redundant required features
	AND		
	C.2	Restore one required offsite circuit to OPERABLE status.	24 hours

* For the 1B Diesel Generator only, the Completion Time that the DG can be inoperable as specified by Required Action B.4 may be extended beyond the "10 days AND 13 days from discovery of failure to meet LCO" up to "14 days AND 17 days from discovery of failure to meet LCO," to support repair and restoration of the 1B DG. Upon completion of the repair and restoration, this footnote is no longer applicable and otherwise will expire at 21:52 on July 30, 2012.

Joseph M. Farley Nuclear Plant Unit 1
Emergency Technical Specification Revision Request for TS 3.8.1
AC Sources - Operating

Enclosure 4

1B DG Repair Schedule

Activity ID	MX WO Number	PV Team	Resource IDs	PV Work Description	Original Duration	Total Float	Start	Finish
1BDG000		OSCH		1B DG: OUTAGE DURATION HAMMOCK	210.0h	0.0h	21-Jul-12 20:00 A	27-Jul-12 23:30
1BDG015K		MECH1		1B DG: INSTALL LUBE OIL FLUSH EQUIPMENT	4.0h	0.0h	24-Jul-12 13:00 A	24-Jul-12 21:00
CYL12-020	SNC420294	MECH1		PERFORM INJECTOR POP TEST ON #12 CYLINDER INJECTOR	1.0h	15.0h	24-Jul-12 14:00 A	24-Jul-12 18:00
CYL8-014	SNC419843	MECH1		PRE AND FINAL TORQUE HEAD NUTS	4.0h	9.0h	24-Jul-12 17:00	24-Jul-12 21:00
CYL12-015	SNC419843	MECH1		REASSEMBLE AIR START PIPING, PILOT LINE, UPPER JW HEADER, ROCKER ARM HOUSING, ROCKER ARM LUBE OIL PIPING, JW TO HEAD	4.0h	9.0h	24-Jul-12 17:00 A	24-Jul-12 21:00
CYL6-014	SNC419843	MECH1		PRE AND FINAL TORQUE HEAD NUTS	4.0h	9.0h	24-Jul-12 17:00	24-Jul-12 21:00
CYL1-015	SNC419843	MECH1		REASSEMBLE AIR START PIPING, PILOT LINE, UPPER JW HEADER, ROCKER ARM HOUSING, ROCKER ARM LUBE OIL PIPING, JW TO HEAD	2.0h	12.0h	24-Jul-12 17:00 A	24-Jul-12 18:00
CYL5-002	SNC419843	MECH1		REMOVE AIR MANIFOLD AND EXHAUST HEADER TO CYLINDER CAP SCREWS	2.0h	5.0h	24-Jul-12 17:00	24-Jul-12 19:00
CYL9-019	SNC420043	MECH1		INSTALL INJECTOR ON CYL09	1.0h	25.0h	24-Jul-12 17:00	24-Jul-12 18:00
1BDG015D		MECH1		1B DG: VERIFY ALL LOWER END WORK IS COMPLETE	1.0h	25.0h	24-Jul-12 17:00	24-Jul-12 18:00
1BDG015E		MECH1		1B DG: PERFORM A SUMP CLOSEOUT INSPECTION	1.0h	3.0h	24-Jul-12 17:00	24-Jul-12 18:00
1BDG015L		OPS		1B DG: TAG TO PERFORM FLUSH LINEUP	2.0h	144.5h	24-Jul-12 17:00	24-Jul-12 19:00
1BDGFO-1		MECH1		1B DG: ACQUIRE BREAK-IN FUEL OIL	6.0h	14.0h	24-Jul-12 17:00*	24-Jul-12 23:00
1BDG020	SNC420292	MECH1		1B DG:ADJUST FUEL RACK STOP TO NORMAL AFTER MAINTENANCE RUN	1.0h	71.5h	24-Jul-12 17:00	24-Jul-12 18:00
1BDG021		OPS		1B DG:TAG DG FOR FUEL RACK ADJUSTMENT	2.0h	144.5h	24-Jul-12 17:00	24-Jul-12 19:00

TASK filter: DRA -act not complete.

Activity ID	MX WO Number	PV Team	Resource IDs	PV Work Description	Original Duration	Total Float	Start	Finish
CYL12-021	SNC420577	MECH1		INSPECT EXHAUST MANIFOLD GASKET AND BELLOWS FOR #12 CYLINDER	4.0h	12.0h	24-Jul-12 17:00	24-Jul-12 21:00
CYL1-016	SNC419843	MECH1		PERFORM CLOSE OUT INSPECTION IN LINER AND INSTALL FUEL INJECTOR	1.0h	16.0h	24-Jul-12 18:00	24-Jul-12 19:00
1BDG022		OPS		1B DG:CLEAR TAG OUT AFTER FUEL RACK ADJUSTMENT	2.0h	71.5h	24-Jul-12 18:00	24-Jul-12 20:00
CYL5-003	SNC419843	MECH1	FNP.DG HOIST	INSTALL RIGGING, REMOVE BOLTING, LIFT HEAD SET ON FLOOR & CLEAN	4.0h	5.0h	24-Jul-12 19:00	24-Jul-12 23:00
SNC419846	SNC419846	MECH1		1B DG: JACKET COOLANT SYSTEM THERMOSTATIC BYPASS VALVE INSPECTION	8.0h	13.0h	24-Jul-12 20:00*	25-Jul-12 04:00
SNC419847	SNC419847	MECH1		1B DG: INTERCOOLER WATER HEAT EXCHANGER THERMOSTATIC BYPASS VALVE INSPECTION	8.0h	13.0h	24-Jul-12 20:00	25-Jul-12 04:00
CYL8-015	SNC419843	MECH1		REASSEMBLE AIR START PIPING, PILOT LINE, UPPER JW HEADER, ROCKER ARM HOUSING,	2.0h	9.0h	24-Jul-12 21:00	24-Jul-12 23:00
CYL12-016	SNC419843	MECH1		PERFORM CLOSE OUT INSPECTION IN LINER AND INSTALL FUEL INJECTOR	2.0h	12.0h	24-Jul-12 21:00	24-Jul-12 23:00
CYL6-015	SNC419843	MECH1		REASSEMBLE AIR START PIPING, PILOT LINE, UPPER JW HEADER, ROCKER ARM HOUSING,	2.0h	9.0h	24-Jul-12 21:00	24-Jul-12 23:00
1BDG015J		OPS		1B DG: FILL DG WITH OIL USING VENDOR EQUIPMENT	4.0h	0.0h	24-Jul-12 21:00	25-Jul-12 01:00
1BDGFO-5		MECH1		1B DG: RECEIVE B.P. FUEL ADDITIVE - READY FOR USE	0.0h	15.0h	24-Jul-12 21:00*	24-Jul-12 21:00
CYL6-017	SNC420577	MECH1		INSPECT EXHAUST MANIFOLD GASKET AND BELLOWS FOR #6 CYLINDER	4.0h	9.0h	24-Jul-12 21:00	25-Jul-12 01:00
CYL8-016	SNC419843	MECH1		PERFORM CLOSE OUT INSPECTION IN LINER AND INSTALL FUEL INJECTOR	1.0h	11.0h	24-Jul-12 23:00	25-Jul-12 00:00
CYL5-013	SNC419843	MECH1	FNP.DG HOIST	SET HEAD ON CYLINDER WITH NUTS HAND TIGHT	2.0h	5.0h	24-Jul-12 23:00	25-Jul-12 01:00

TASK filter: DRA -act not complete.

Activity ID	MX WO Number	PV Team	Resource IDs	PV Work Description	Original Duration	Total Float	Start	Finish
CYL6-016	SNC419843	MECH1		PERFORM CLOSE OUT INSPECTION IN LINER AND INSTALL FUEL INJECTOR	1.0h	9.0h	25-Jul-12 01:00	25-Jul-12 02:00
CYL2-014	SNC419843	MECH1		PRE AND FINAL TORQUE HEAD NUTS	2.0h	5.0h	25-Jul-12 01:00	25-Jul-12 03:00
CYL5-014	SNC419843	MECH1		PRE AND FINAL TORQUE HEAD NUTS	2.0h	5.0h	25-Jul-12 01:00	25-Jul-12 03:00
CYL5-015	SNC419843	MECH1		REASSEMBLE AIR START PIPING, PILOT LINE, UPPER JW HEADER, ROCKER ARM HOUSING,	2.0h	7.0h	25-Jul-12 01:00	25-Jul-12 03:00
1BDG015A	SNC420287	MECH1		1B DG: HI VELOCITY LUBE OIL FLUSH - 4 HRS at 100 DEGREES	6.0h	0.0h	25-Jul-12 01:00	25-Jul-12 07:00
CYL2-015	SNC419843	MECH1		REASSEMBLE AIR START PIPING, PILOT LINE, UPPER JW HEADER, ROCKER ARM HOUSING,	2.0h	5.0h	25-Jul-12 03:00	25-Jul-12 05:00
CYL5-016	SNC419843	MECH1		PERFORM CLOSE OUT INSPECTION IN LINER AND INSTALL FUEL INJECTOR	1.0h	7.0h	25-Jul-12 03:00	25-Jul-12 04:00
1BDG016	SNC420278	ELEC1		1B DG: PERFORM A MEGGER AND TROUBLESHOOTING PLAN ON 1B DG	0.0h	15.0h	25-Jul-12 04:00	25-Jul-12 04:00
1BDGFO-2		MECH1		1B DG: ADD B.P. FUEL ADDITIVE TO BREAK-IN FUEL	1.0h	8.0h	25-Jul-12 04:00*	25-Jul-12 05:00
CYL2-016	SNC419843	MECH1		PERFORM CLOSE OUT INSPECTION IN LINER AND INSTALL FUEL INJECTOR	1.0h	5.0h	25-Jul-12 05:00	25-Jul-12 06:00
1BDGFO-3		MECH1		1B DG: RECIRCULATE BREAK-IN FUEL TO MIX ADDITIVE	4.0h	7.5h	25-Jul-12 05:30*	25-Jul-12 09:30
1BDG006A		OPS		1B DG JACKET WATER- FILL AND HYDRO SYSTEM	6.0h	5.0h	25-Jul-12 06:00	25-Jul-12 12:00
1BDG015C	SNC420287	OPS		1B DG: TAG LUBE OIL AFTER FLUSH FOR FLUSH EQUIPMENT REMOVAL	2.0h	0.0h	25-Jul-12 07:00	25-Jul-12 09:00
1BDG015	SNC420287	MECH1		1B DG: DISCONNECT LUBE OIL FLUSH EQUIPMENT	4.0h	0.0h	25-Jul-12 09:00	25-Jul-12 13:00

TASK filter: DRA -act not complete.

Activity ID	MX WO Number	PV Team	Resource IDs	PV Work Description	Original Duration	Total Float	Start	Finish
1BDG024	SNC420287	OPS		1B DG: INSTALL BASKETS IN OIL STRAINERS	3.0h	1.0h	25-Jul-12 09:00	25-Jul-12 12:00
1BDGFO-6		MECH1		1B DG: DELIVER FUEL OIL TO DG BUILDING AND STAGE FOR BREAK-IN RUN	2.0h	7.5h	25-Jul-12 09:30*	25-Jul-12 11:30
1BDG006		OPS		1B DG JACKET WATER- 1-DT-12-R43-00593 - CLEAR TAG OUT	2.0h	5.0h	25-Jul-12 12:00	25-Jul-12 14:00
1BDG-001		OSCH		1B DG JACKET WATER HYDRO CONTINGENCY (28 HOURS)	0.0h	5.0h	25-Jul-12 12:00	25-Jul-12 12:00
1BDG015I		OPS		1B DG AND LUBE OIL - 1-DT-12-R43-00592 - CLEAR TAG OUT AND S/U LO	2.0h	0.0h	25-Jul-12 13:00	25-Jul-12 15:00
1BDG009	SNC419844	MECH1		1B DG: REMOVE SCAFFOLDING	12.0h	40.5h	25-Jul-12 15:00	26-Jul-12 03:00
1BDG010		OPS		1B DG: TAG IN CO2 SYSTEM	2.0h	54.5h	25-Jul-12 15:00	25-Jul-12 17:00
1BDG015F	SNC420287	MECH1		1B DG: USING INSTALLED PUMP FLUSH SYSTEM FOR UP TO 24 HOURS AND OIL HEATUP	4.0h	0.0h	25-Jul-12 15:00	25-Jul-12 19:00
1BDG012	SNC420292	MECH1		1B DG: INITIAL POST MAINTENANCE RUN IN SETUP - INCLUDE FUEL RACK STOP	1.0h	0.0h	25-Jul-12 19:00	25-Jul-12 20:00
1BDG015G		OPS		1B DG: CHANGE LUBE OIL STRAINERS (CONTINGENCY BASED ON DP)	0.0h	0.0h	25-Jul-12 19:00	25-Jul-12 19:00
1BDG015M		MECH1		1B DG: CHANGE LUBE OIL FILTER (CONTINGINCY BASED ON DP)	0.0h	0.0h	25-Jul-12 19:00	25-Jul-12 19:00
1BDG015N		OPS		1B DG: TAGOUT TO SUPPORT OIL FILTER CHANGE (CONTINGENCY ONLY IF DP IS OOS)	0.0h	0.0h	25-Jul-12 19:00	25-Jul-12 19:00
1BDG015O		OPS		1B DG: TAG IN FOLLOWING OIL FILTER CHANGE	0.0h	0.0h	25-Jul-12 19:00	25-Jul-12 19:00
1BDG012A		OPS		1B DG: Perform 5-min run	0.5h	0.0h	25-Jul-12 20:00	25-Jul-12 20:30

TASK filter: DRA -act not complete.

Activity ID	MX WO Number	PV Team	Resource IDs	PV Work Description	Original Duration	Total Float	Start	Finish
1BDG012B		OPS		1B DG: 5-min run - Tagout for inspection	0.5h	0.0h	25-Jul-12 20:30	25-Jul-12 21:00
1BDG012C		MECH1		1B DG: 5-min run - Remove Inspection Covers, Perform Inspection & Re-install	1.0h	0.0h	25-Jul-12 21:00	25-Jul-12 22:00
1BDG012D		OPS		1B DG: 5-min run - Tagin after inspection	0.5h	0.0h	25-Jul-12 22:00	25-Jul-12 22:30
1BDG012E		OPS		1B DG: Perform 10-min run	0.5h	0.0h	25-Jul-12 22:30	25-Jul-12 23:00
1BDG012F		OPS		1B DG: 10-min run - Tagout for inspection	0.5h	0.0h	25-Jul-12 23:00	25-Jul-12 23:30
1BDG012G		MECH1		1B DG: 10-min run - Remove Inspection Covers, Perform Inspection & Re-install	1.0h	0.0h	25-Jul-12 23:30	26-Jul-12 00:30
1BDG012H		OPS		1B DG: 10-min run - Tagin after inspection	0.5h	0.0h	26-Jul-12 00:30	26-Jul-12 01:00
1BDG012I		OPS		1B DG: Perform 30-min run	0.5h	0.0h	26-Jul-12 01:00	26-Jul-12 01:30
1BDG012J		OPS		1B DG: 30-min run - Tagout for inspection	0.5h	0.0h	26-Jul-12 01:30	26-Jul-12 02:00
1BDG012K		MECH1		1B DG: 30-min run - Remove Inspection Covers, Perform Inspection & Re-install	1.0h	0.0h	26-Jul-12 02:00	26-Jul-12 03:00
1BDG012L		OPS		1B DG: 30-min run - Tagin after inspection	0.5h	0.0h	26-Jul-12 03:00	26-Jul-12 03:30
1BDG012M		OPS		1B DG: Perform 6-Hr Run per MP-14.8 Table 2	7.0h	0.0h	26-Jul-12 03:30	26-Jul-12 10:30
1BDG-002		OSCH		1B DG BREAK & RUN LEAK REPAIR CONTINGENCY (14 HOURS)	0.0h	40.0h	26-Jul-12 03:30	26-Jul-12 03:30
1BDG008		MECH1		1B DG: POST MAINTENANCE RUN IN FOR 20 HRs PER MP-14.8	20.0h	0.0h	26-Jul-12 10:30	27-Jul-12 06:30
1BDG008A		MECH1		1B DG: Raise DG Load to 100%	5.0h	0.0h	27-Jul-12 06:30	27-Jul-12 11:30
1BDG008B		MECH1		1B DG: POST MAINTENANCE RUN IN TAKE DATA AND S/D OF DG	4.0h	0.0h	27-Jul-12 11:30	27-Jul-12 15:30

TASK filter: DRA -act not complete.

Activity ID	MX WO Number	PV Team	Resource IDs	PV Work Description	Original Duration	Total Float	Start	Finish
1BDG011-1		OPS		1B DG: DIESEL COOLDOWN BEFORE RTS SURVEILLANCE	4.0h	0.0h	27-Jul-12 15:30	27-Jul-12 19:30
1BDG-003		OSCH		1B DG POST MAINTENANCE RUN CONTINGENCY (26 HOURS)	0.0h	4.0h	27-Jul-12 15:30	27-Jul-12 15:30
1BDG011		OPS		1B DG: PERFORM RTS SURVEILLANCE	4.0h	0.0h	27-Jul-12 19:30	27-Jul-12 23:30
1BDG019		MECH1		1B DG:AGGREGATE CONTINGENCY TIME	68.0h	0.0h	27-Jul-12 23:30	30-Jul-12 19:30
60925				1B DG: CLEAR LCO ON DG	0.0h	0.0h		30-Jul-12 19:30

TASK filter: DRA -act not complete.