NEXTera ENERGY
DUANE ARNOLD

August 18, 2010

NG-10-0427
10 CFR 54

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

Duane Arnold Energy Center
Docket 50-331
License No. DPR-49

Supplemental Information Related to the Duane Arnold Energy Center License Renewal Application - Buried Piping and Tanks Inspection Program

References:
1. Letter, Richard L. Anderson (FPL Energy Duane Arnold, LLC) to Document Control Desk (USNRC), "Duane Arnold Energy Center Application for Renewed Operating License (TSCR-109)," dated September 30, 2008, NG-08-0713 (ML082980623)
2. Letter, Richard L. Anderson (FPL Energy Duane Arnold, LLC) to Document Control Desk (USNRC), "License Renewal Application, Supplement 1: Changes Resulting from Issues Raised in the Review Status of the License Renewal Application for the Duane Arnold Energy Center," dated January 23, 2009, NG-09-0059 (ML090280418)
3. Letter, Christopher Costanzo (NextEra Energy Duane Arnold, LLC) to Document Control Desk (USNRC), "Supplemental Information Related to the Duane Arnold Energy Center License Renewal Application – Buried Piping," dated July 29, 2010, NG-10-0383 (ML102140192)

By Reference 1, FPL Energy Duane Arnold, LLC submitted an application for a renewed Operating License (LRA) for the Duane Arnold Energy Center (DAEC). Reference 2 provided Supplement 1 to the application. By Reference 3, additional information was provided to the Staff regarding the Buried Piping and Tanks Inspection Program; and new License Renewal Commitments (Numbers 52 and 53) were made.

Discussions with the Staff have indicated that revisions to these commitments are needed. These revisions are provided in Enclosure 1. The revision to Commitment 53 necessitates changes to LRA Appendix A and Appendix B. These changes are also provided in Enclosure 1.

Enclosure 2 provides a revised LRA Appendix A, Section 18.4, Table A-1, Duane Arnold License Renewal Commitments, updated to reflect the license renewal commitment changes made in DAEC correspondence to date.

If you have any questions or require additional information, please contact Mr. Kenneth Putnam at (319) 851-7238.

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

Executed on August 18, 2010.

Kenneth J. Kleinhing for CC

Christopher R. Costanzo
Vice President, Duane Arnold Energy Center
NextEra Energy Duane Arnold, LLC

Enclosures: 1. LRA Revisions
2. Duane Arnold Energy Center License Renewal Application Updated LRA Section 18.4, Table A-1, Duane Arnold License Renewal Commitments

cc: Senior Resident Inspector, DAEC, USNRC
License Renewal Inspection Team Lead, Region III, USNRC
M. Rasmusson (State of Iowa)

**Enclosure 1 to NG-10-0427**
**LRA Revisions**

In LRA Appendix A, Section 18.4, Duane Arnold License Renewal Commitments, Commitments 52 and 53 are revised to read as follows:

| Item No. | System, Component or Program | Commitment | Section | Schedule |
|---|---|---|---|---|
| 52. | Buried Piping and Tanks Inspection Program | Enhance the Buried Piping and Tanks Inspection Program to include inspection of at least a minimum number of pipe segments in each material group (one stainless steel, two carbon steel, one cast iron, and two ductile iron) prior to entry into the period of extended operation and each ten year period after entry into the period of extended operation. Where torsional guided wave data indicates significant susceptibility, inspections will be performed on associated locations. The sample locations for directed inspections will preferentially select higher risk locations. Piping that normally contains hazardous materials will be prioritized in the inspection location selection process. The diesel fuel oil piping will be inspected prior to entry into the period of extended operation. These directed inspections will be performed with sufficient excavation to expose at least ten linear feet of piping as practicable, including the pipe bottom. Inspections of coated carbon steel piping will include the coating and backfill in the vicinity of the piping for material that could cause coating damage. The uncoated stainless steel, ductile iron and cast iron piping will be externally inspected for corrosion, and the fill in the vicinity of the piping will be inspected for material that could cause external damage to the stainless steel, ductile iron or cast iron pipe. | 18.1.7 | Prior to the period of extended operation |
| 53. | Buried Piping and Tanks Inspection Program | Cathodic protection system availability will be maintained ≥ 90%. If 90% availability is not maintained, the condition will be entered into the corrective action program to evaluate the impact and take corrective actions. Availability will be demonstrated by having no more than six months of rectifier out-of-service time in any sixty month period, as determined on a “per rectifier” basis; or no more than six months of rectifier out-of-service time in any twelve month period, for all rectifiers combined. Annual surveys will continue to be performed in accordance with NACE Standard Practice. | 18.1.7 | Prior to the period of extended operation |

In Appendix A, Section 18.1.7 Buried Piping and Tanks Inspection Program, the last paragraph is revised to read as follows:

> Cathodic protection system availability will be maintained ≥ 90%. If 90% availability is not maintained, the condition will be entered into the corrective action program to evaluate the impact and take corrective actions. Duane Arnold has five rectifiers in the Cathodic Protection System. Each rectifier provides a single field of protection for buried piping and tanks for a total of five fields. Availability will be demonstrated by having no more than six months of rectifier out-of-service time in any sixty month period, as determined on a "per rectifier" basis; or no more than six months of rectifier out-of-service time in any twelve month period, for all rectifiers combined. Annual surveys will continue to be performed in accordance with NACE Standard Practice.

In Appendix B, B.3.7 Buried Piping and Tanks Inspection Program, Section B.3.7.1 Program Description, the last paragraph of the section is revised to read as follows:

> Cathodic protection system availability will be maintained ≥ 90%. If 90% availability is not maintained, the condition will be entered into the corrective action program to evaluate the impact and take corrective actions. Duane Arnold has five rectifiers in the Cathodic Protection System. Each rectifier provides a single field of protection for buried piping and tanks for a total of five fields. Availability will be demonstrated by having no more than six months of rectifier out-of-service time in any sixty month period, as determined on a "per rectifier" basis; or no more than six months of rectifier out-of-service time in any twelve month period, for all rectifiers combined. Annual surveys will continue to be performed in accordance with NACE Standard Practice.

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 1. | Buried Piping and Tanks Inspection Program | Implement Buried Piping and Tank Program<br><br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.7 | Prior to the period of extended operation |
| 2. | BWR Vessel Internals Program | Perform an EVT-1 inspection of 5% of the top guide locations | 18.1.14 | Within six years of entering the period of extended operation |
| 3. | BWR Vessel Internals Program | Perform an EVT-1 inspection of an additional 5% of the top guide locations | 18.1.14 | Within 12 years of entering the period of extended operation |
| 4. | Electrical Cables and Connections Program | Implement an Electrical Cables and Connections Program and complete the first inspection prior to the period of extended operation.<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.17 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 5. | Electrical Cables and Connections Used in Instrumentation Circuits Program | Implement an Electrical Cables and Connections Used in Instrumentation Circuits Program and complete the first inspection prior to the period of extended operation.<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.18 | Prior to the period of extended operation |
| 6. | Electrical Connections Program | Implement an Electrical Connections Program and complete the one time inspection prior to the period of extended operation.<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.19 | Prior to the period of extended operation |
| 7. | Electrical Penetration Assemblies Program | Implement an Electrical Penetration Assemblies Program.<br>[Revised in DAEC letter NG-09-0764 in response to new Program Commitments RAI] | 18.1.20 | Prior to the period of extended operation |
| 8. | External Surfaces Monitoring Program | Revise the inspection program to address inspector qualifications, types of components, degradation mechanisms, aging effects, acceptance criteria, inspection frequency, and periodic reviews to determine program effectiveness. The program will also specifically address inaccessible areas and include inspections of opportunity for possible corrosion under insulation.<br>[Revised in DAEC letter NG-09-0764 in response to RAI B.3.21-2] | 18.1.21 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 9. | Fire Protection Program | The DAEC Fire Barrier Penetration Seal Inspection surveillance procedure will be enhanced to include criteria for visual inspections of fire barrier wall, ceiling and floors to examine for any sign of degradation such as cracking, spalling and loss of material caused by freeze-thaw, chemical attack and reaction with aggregates by fire protection qualified inspectors.<br>[Revised in DAEC letter NG-09-0764 in response to RAI B.3.22-1] | 18.1.22 | Prior to the period of extended operation |
| 10. | Fire Protection Program | Enhance procedures to inspect the entire diesel driven fire pump fuel supply line for age related degradation. | 18.1.22 | Prior to the period of extended operation |
| 11. | Fire Water System Program | Implement maintenance activities to perform volumetric examinations for pipe wall thinning of fire protection piping periodically during the period of extended operation.<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.23 | Prior to the period of extended operation |
| 12. | Fire Water System Program | Enhance procedures to include NFPA 25 criteria for sprinklers regarding replacing or testing | 18.1.23 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 13. | Fire Water System Program | Enhance procedures to perform visual inspection of fire hydrants annually | 18.1.23 | Prior to the period of extended operation |
| 14. | Fuel Oil Chemistry Program | Revise the program to require particulate testing of fuel oil samples from the diesel fire pump day tank | 18.1.25 | Prior to the period of extended operation |
| 15. | Fuel Oil Chemistry Program | Enhance procedures to require sampling and testing of new fuel oil delivered to the diesel fire pump day tank; and to require that purchase orders and sampling procedures for diesel fuel delivered to and stored in the diesel fire pump day tank prohibit the delivery and use of biodiesel fuel.<br>[Revised in letter NG-09-0764 in response to RAI B.3.25-1] | 18.1.25 | Prior to the period of extended operation |
| 16. | Fuel Oil Chemistry Program | Enhance procedures to perform periodic (10 year) draining, cleaning and visual inspection of the diesel fuel oil day tanks, diesel fire pump day tank, and diesel driven air start air compressor fuel oil tanks.<br>[Revised in letter NG-09-0764 in response to RAI B.3.25-4] | 18.1.25 | Prior to the period of extended operation |
| 17. | Fuel Oil Chemistry Program | Implement procedures to require bottom thickness testing of the Standby Diesel Generator Day Tanks and the Diesel Fire Pump Day Tank.<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.25 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 18. | Fuse Holders Program | Implement a Fuse Holders Program and complete the first test prior to the period of extended operation.<br>[Revised in DAEC letter NG-09-0764 in response to RAI B.3.26-1 and New Program Commitments RAI] | 18.1.26 | Prior to the period of extended operation |
| 19. | Inaccessible Medium Voltage Cable Program | Implement an Inaccessible Medium Voltage Cable Program and complete the first inspection or test prior to the period of extended operation.<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.27 | Prior to the period of extended operation |
| 20. | Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components Program | Implement an Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components Program.<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.28 | Prior to the period of extended operation |
| 21. | Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems Program | Enhance procedures to monitor for corrosion and wear of the supporting steel and rails | 18.1.29 | Prior to the period of extended operation |
| 22. | Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems Program | Enhance procedures to record usage of the reactor building and turbine building cranes | 18.1.29 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 23. | Lubricating Oil Analysis Program | Enhance procedures to include diesel fire pump | 18.1.30 | Prior to the period of extended operation |
| 24. | Metal Enclosed Bus Program | Implement a Metal Enclosed Bus Program and complete the first inspection prior to the period of extended operation.<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.31 | Prior to the extended operation |
| 25. | One-Time Inspection Program | Implement a One-Time Inspection Program and complete the one-time inspections prior to the period of extended operation.<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.32 | Prior to the period of extended operation |
| 26. | Reactor Vessel Surveillance Program | Implement a procedure to evaluate the BWRVIP ISP data as it becomes available.<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.35 | Prior to the period of extended operation |
| 27. | Reactor Vessel Surveillance Program<br>BWRVIP-74-A BWR RPV Inspection and Flaw Evaluation Guidelines for License Renewal | Revise the Reactor Vessel Surveillance Program to implement the recommendations of BWRVIP-116 BWR Vessel and Internals Project Integrated Surveillance Program Implementation for License Renewal. | 18.1.35 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 28. | Reactor Vessel Surveillance Program | Implement BWRVIP-116 with the conditions documented in Sections 3 and 4 of the NRC Staff's SE dated March 1, 2006 for BWRVIP-116, including the following:<br>• NRC approval will be obtained for any change in the withdrawal schedules of the DAEC Reactor Vessel surveillance capsules.<br>• If a standby capsule is removed from the DAEC Reactor Vessel without the intent to test it, the capsule will be stored in a manner which maintains it in a condition which would permit its future use, including during the period of extended operation, if necessary.<br>[Revised in DAEC letter NG-09-0663 in response to RAI B.3.35-1] | 18.1.35 | Prior to the period of extended operation |
| 29. | Selective Leaching of Materials Program | Implement and complete a program to include one-time visual inspection and hardness measurement of selected components susceptible to selective leaching<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitments RAI] | 18.1.36 | Prior to the period of extended operation |
| 30. | Structures Monitoring Program | Enhance procedures to include structures and structural components not currently in Maintenance Rule Program | 18.1.37 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 31. | Structures Monitoring Program | Enhance procedures to include periodic sampling of groundwater for pH, chloride and sulfate concentration on a 5 year periodicity.<br>[Revised in letter NG-10-0043 in response to Follow-up RAI B.3.37-2] | 18.1.37 | Prior to the period of extended operation |
| 32. | Structures Monitoring Program | Enhance procedures to include a elastomer inspection to prevent leakage through containment penetration. | 18.1.37 | Prior to the period of extended operation |
| 33. | Structures Monitoring Program | Enhance procedures to include a requirement to contact the proper personnel to allow opportunistic inspection of the buried concrete foundation. | 18.1.37 | Prior to the period of extended operation |
| 34. | Structures Monitoring Program | Enhance procedures to include opportunistic inspections of the buried concrete foundation on a 10 year periodicity. | 18.1.37 | Prior to the period of extended operation |
| 35. | Metal Fatigue of Reactor Vessel Coolant Pressure Boundary Program | Enhance procedures to incorporate the requirements of NUREG/CR-6260 locations into the implementing procedures. | 18.2.2 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 36. | Thermal Aging and Neutron Irradiation Embrittlement of Cast Austenitic Stainless Steel (CASS) Program | Implement a Thermal Aging and Neutron Irradiation Embrittlement of Cast Austenitic Stainless Steel (CASS) Program.<br>[Revised in DAEC letter NG-09-0764 in response to New Program Commitment RAI] | 18.1.38 | Prior to the period of extended operation |
| 37. | Reactor Internals | DAEC will ensure that aging of core plate hold down bolts is appropriately addressed by completing one of the following actions:<br>• Install core plate wedges to eliminate the function of core plate hold down bolts.<br>• Perform analysis of the core plate rim hold down bolts that demonstrates adequacy to perform their intended function including loss of pre-load in the period of extended operation including the effects of projected neutron fluence. Inspection of core plate hold down bolts will be performed in accordance with BWRVIP-25, or a deviation disposition will be developed/submitted in accordance with BWRVIP-94.<br>[Revised in DAEC letter NG-10-0091] | 18.1.14<br>18.3.1.7 | Prior to entering the period of extended operation |
| 38. | Reactor Vessel Circumferential Weld TLAA | Submit a relief request to address the frequency requirements of the inservice inspection of the RPV circumferential welds. (BWRVIP-05). | 18.3.1.4 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 39. | Quality Assurance Program (Corrective Action, Confirmation Process, Administrative Controls) | Expand the scope of its 10 CFR Part 50, Appendix B Quality Assurance program to include non-safety-related structures and components subject to an AMR for license renewal. | UFSAR 17.1.2 | Prior to the period of extended operation |
| 40. | Operating Experience | Perform an operating experience review of extended power uprate and its impact on aging management programs for systems, structures, and components (SSCs) before entering the period of extended operation. | | Prior to the period of extended operation |
| 41. | Bolting Integrity Program | Revise the implementing procedures for the ASME Section XI Inservice Inspection Subsections IWB, IWC, and IWD Program; ASME Section XI Inservice Inspection, Subsection IWF Program; External Surfaces Monitoring Program; Structural Monitoring Program; and Buried Piping and Tanks Program such that they specifically address the inspection of fasteners (bolting, washers, nuts, etc.) for signs of leakage, corrosion/loss of material, cracking, and loss of preload/loss of prestress, as applicable.<br>[Added in letter NG-09-0764 in response to RAI B.3.6-02] | 18.1.6 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 42. | BWR Penetrations Program | The implementing document for the BWR Penetrations Program will be revised to specify that guidance in BWRVIP-14, -59 and -60 will be used, as appropriate, depending on material, in the evaluation of crack growth in stainless steel, nickel alloys and low-alloy steels, respectively, when flaws are identified and evaluation required.<br>[Added in letter NG-09-0764 in response to RAI B.3.10-5]<br>[Revised in letter NG-10-0009] | 18.1.10 | Prior to the period of extended operation |
| 43. | Fire Protection Program | The DAEC Fire Barrier Penetration Seal Inspection surveillance procedure will be enhanced to ensure a approximately 10% of each type of penetration seal is included in the 35 percent selection of fire penetration seals that are visually inspected at an 18 month interval.<br>[Added in letter NG-09-0764 in response to RAI B.3.22-1] | 18.1.22 | Prior to the period of extended operation |
| 44. | Fire Protection Program | The DAEC Surveillance Procedure for the CO2 Cardox System Operability Annual Test will be enhanced to include a step to perform an inspection for corrosion and mechanical damage to system components.<br>[Added in letter NG-09-0764 in response to RAI B.3.22-1] | 18.1.22 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 45. | ASME Class 1 Small-bore Piping Inspection Program | Implement an ASME Code Class 1 Small-bore Piping Inspection Program<br>DAEC will perform volumetric examination of a minimum of ten percent of the ASME Code Class 1 small-bore socket welds each inspection interval.<br>The ASME Code Class 1 Small-bore Piping inspection program will include provisions that a destructive examination may be performed on an opportunistic basis in lieu of the socket weld volumetric examinations.<br>[Added in letter NG-09-0764 in response to RAI B.3.3-2]<br>[Revised in letter NG-10-0258]<br>[Revised in letter NG-10-0309] | 18.1.40 | Prior to the period of extended operation |
| 46. | BWR Vessel Internals Program | The BWR Vessel Internals Program will incorporate the crack growth rate evaluations specified in the BWRVIP-100-A report. Plant-specific inspection intervals will be developed for DAEC core shroud welds that are exposed to a neutron fluence value equal to or greater than 1 X $10^{21}$ n/cm$^2$ (E > 1 MeV), as needed.<br>[Added in letter NG-09-0663 in response to RAI B.3.14-5] | 18.1.14 | Prior to the period of extended operation |
| 47. | | Not Used<br>[Withdrawn in letter NG-10-0091] | | |
| 48. | Boral Surveillance Program | Implement a Boral Surveillance Program and complete the first in-situ neutron attenuation test of the PaR spent fuel racks.<br>[Added in letter NG-10-0009] | 18.1.41 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 49. | Fire Protection Program | Enhance procedures to inspect the 1 hour fire rated gypsum board wall that separates the control room computer room area from the front panel area for aging due to cracking.<br>[Added in letter NG-10-0043] | 18.1.22 | Prior to the period of extended operation |
| 50. | ASME Section XI, Inservice Inspection, Subsection IWE Program | Perform recoating of suppression pool interior surfaces below the water line.<br>[Added in letter NG-10-0091] | 18.1.4 | Complete recoating prior to startup from the first refuel outage during the period of extended operation |
| 51. | Metal Fatigue of Reactor Vessel Coolant Pressure Boundary Program | Future revisions/updates to the environmental fatigue calculations for the Recirculation Inlet Nozzle Safe End, Feedwater Nozzle Safe End, and Core Spray Nozzle Safe End will use $F_{en}$ data for Nickel Alloy from the methodology that is described in NUREG/CR-6909 in the determination of usage factors.<br>[Added in letter NG-10-0258] | 18.2.2 | Upon calculation revision. |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 52. | Buried Piping and Tanks Inspection Program | Enhance the Buried Piping and Tanks Inspection Program to include inspection of at least a minimum number of pipe segments in each material group (one stainless steel, two carbon steel, one cast iron, and two ductile iron) prior to entry into the period of extended operation and each ten year period after entry into the period of extended operation. Where torsional guided wave data indicates significant susceptibility, inspections will be performed on associated locations. The sample locations for directed inspections will preferentially select higher risk locations. Piping that normally contains hazardous materials will be prioritized in the inspection location selection process. The diesel fuel oil piping will be inspected prior to entry into the period of extended operation. These directed inspections will be performed with sufficient excavation to expose at least ten linear feet of piping as practicable, including the pipe bottom. Inspections of coated carbon steel piping will include the coating and backfill in the vicinity of the piping for material that could cause coating damage. The uncoated stainless steel, ductile iron and cast iron piping will be externally inspected for corrosion, and the fill in the vicinity of the piping will be inspected for material that could cause external damage to the stainless steel, ductile iron or cast iron pipe.<br>[Added in letter NG-10-0383]<br>[Revised in letter NG-10-0427] | 18.1.7 | Prior to the period of extended operation |

# TABLE A-1
# DUANE ARNOLD LICENSE RENEWAL COMMITMENTS[1]

| Item No. | System, Component or Program | Commitment[2] | Section | Schedule |
|---|---|---|---|---|
| 53. | Buried Piping and Tanks Inspection Program | Cathodic protection system availability will be maintained ≥ 90%. If 90% availability is not maintained, the condition will be entered into the corrective action program to evaluate the impact and take corrective actions. Availability will be demonstrated by having no more than six months of rectifier out-of-service time in any sixty month period, as determined on a "per rectifier" basis; or no more than six months of rectifier out-of-service time in any twelve month period, for all rectifiers combined. Annual surveys will continue to be performed in accordance with NACE Standard Practice.<br><br>[Added in letter NG-10-0383]<br>[Revised in letter NG-10-0427] | 18.1.7 | Prior to the period of extended operation |

[1]Table is updated to reflect DAEC correspondence through 8/18/2010.
[2]In the table, the term "implement" means that the program is described in an approved procedure or other approved formal document; the test, inspection or monitoring procedure has been developed and approved; and the first test, inspection or monitoring activity has been scheduled.