DESIGN BASES ASSURANCE INSPECTION (PROGRAMS)

Effective Date: January 1, 2017

INSPECTABLE AREA: Design Bases Assurance (DBA) Inspection

CORNERSTONES: Barrier Integrity
Mitigating Systems

INSPECTION BASES: Licensees are required to establish and implement various programs to provide control over activities affecting the quality of the identified structures, systems, and components, to an extent consistent with their importance to safety. This inspection is intended to assess the effectiveness of one of the many licensee programs in the engineering area (e.g., environmental qualification) using the appropriate attachment to this inspection procedure.

LEVEL OF EFFORT: Review one engineering program. Note that IP Attachment 71111.21M provides direction on conducting a 2-week Design Bases Assurance inspection.

71111.21N-01 INSPECTION OBJECTIVE

To gain reasonable assurance that structures, systems, and components (SSCs) can adequately perform their design basis function. This includes reasonable assurance that equipment important-to-safety can perform its safety functions(s) without experiencing common cause failures before, during and after applicable design basis events.

The inspection attachment is intended to assess the effectiveness of one engineering program by sampling a limited number of components. In the course of evaluating specific components, important attributes of the selected program, processes, and procedures are also examined to provide a reasonable level of assurance that SSCs throughout the plant will function as designed during design basis events and that common-mode failures of components are prevented.

71111.21N-02 INSPECTION REQUIREMENTS AND GUIDANCE

See attachment

71111.21N-03 DOCUMENTATION

The results of this inspection may be documented in either the resident inspector's integrated quarterly inspection report or in a stand-alone inspection report. The inspection report shall contain 1) number of samples inspected; 2) criteria to which the samples were inspected against; 3) the results of the inspection (e.g., no inspection findings were identified or describe the finding identified); 4) all corrective action documents (include corrective action document identifier) written to address issues identified during the inspection.

71111.21N-04 RESOURCE ESTIMATE

Completion of this attachment to the DBA inspection procedure is expected to take, on the average, 172 to 212 hours of direct inspection effort at the site, regardless of the number of units, every triennial cycle. This attachment should nominally take three inspectors two weeks to complete and should be performed by engineering specialists trained in the engineering program being inspected.

71111.21N-05 PROCEDURE COMPLETION

Inspection in the sample range specified in the attachment for a license program inspected will constitute completion of this procedure in the RPS.

Satisfactory completion of inspection procedures 71111.21M and 71111.21N satisfy the requirement to complete IP 71111.21 every triennial cycle.

END

Attachment 1 - Environmental Qualification (EQ) under 10 CFR 50.49
Programs, Processes, and Procedures

Background:

It is essential that important-to-safety equipment located in harsh environments be qualified to demonstrate that it can perform its safety function during and after a design basis accident under the environmental service conditions in which it will be required to function for the length of time its function is required. Additionally, non-safety related equipment should be able to withstand environmental stresses under which its failure could prevent the satisfactory function of safety-related equipment.

Formal qualification requirements for electrical equipment located in harsh areas are stated within 10 CFR Part 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants." Furthermore, EQ principles are embodied in General Design Criteria 1, 2, and 4 of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 and in Criterion III, "Design Control," Criterion XI, "Test Control," and Criterion XVII, "Quality Assurance Records," of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50.

Plants are committed to differing NRC EQ requirements based on the date of the plant's construction permit Safety Evaluation Report (SER). Plants are licensed to one of the following requirements:

- Division of Operating Reactor Guidelines for Evaluating Environmental Qualification of Class 1E Electrical Equipment in Operating Reactors (DOR)
- NUREG-0588 Category I Requirements
- NUREG-0588 Category II Requirements
- 10 CFR 50.49 (RG 1.89, Rev. 1) Requirements

This inspection is intended to assess the effectiveness of the licensee's EQ program by sampling a limited number of components. In the course of inspecting specific components, important attributes of the EQ program, processes, and procedures are also examined to provide a reasonable level of assurance that components and systems throughout the plant will function as designed during design basis events and that common-mode failures of components are prevented. This attachment is applicable to equipment located in areas with harsh environments (as defined in 10 CFR 50.49) both inside and outside primary containment.

Licensees are required to maintain a record of qualification in auditable form (10 CFR 50.49(j)) for the entire period during which each covered item installed in the nuclear power plant or is stored for future use.

Additionally, 10 CFR 50.49(e) states that electric equipment qualification programs must include and be based on temperature, pressure, humidity, chemical effects, radiation, aging, submergence, and synergistic effects. The requirements of 10 CFR 50.49(e) also include the application of the margins to account for unquantified uncertainties, including production variations and inaccuracies in test instruments. These margins are in addition to any conservatism applied during the derivation of local environmental conditions of the equipment unless these conservatisms can be quantified and shown to contain the appropriate margins.

Aging provisions contained in10 CFR 50.49(e)(5) require provisions for preconditioning equipment to its end-of-installed life condition that requires, in part, consideration of all significant types of aging degradation (e.g., thermal, radiation, vibration, plant specific operational aging, and cyclic aging) that can affect the function of electrical equipment. For equipment preconditioned to less than an end-of-installed life condition (i.e., designated life) 10 CFR 50.49(e)(5) requires the equipment to be replaced or refurbished at the end of its designated life unless additional life is established through reanalysis or on-going qualification.

The time interval between performance of this attachment and the 2-week team Design Bases Assurance Inspection (IP 71111.21M) should be at least 12 months.

71111.21N-01 INSPECTION OBJECTIVES

The purpose of this inspection procedure is to review the licensee's implementation of the electrical equipment environmental qualification program, as required by their license, to verify that the licensee is maintaining the qualified status of equipment during the life of the plant. Additionally, this inspection procedure will review the equipment qualification documentation files to verify that electric equipment important-to-safety and located in harsh environment meets the requirements of 10 CFR 50.49(j).

71111.21N-02 INSPECTION REQUIREMENTS

02.01 Select Sample Components to Review. Select 6 to 10 components to review and assess regarding the implementation of the licensee's EQ program.

02.02 The team leader (TL) shall make a site visit/bagman trip.

02.03 The onsite inspection will consist of the following tasks:

a. Obtain the EQ file associated with the component selected for inspection and verify that the recommended EQ preventive maintenance is being performed. Preventive maintenance includes replacement of elastomers (e.g., O-rings), inspection as well as replacement of components at a defined periodicity.

b. For plants that are operating in the period of extended operation (40-60 years), based on sampling, the inspectors shall confirm that licensees have updated their EQ analyses and qualification reports to ensure that the sampled EQ components are either qualified for 60 years or replaced prior to qualified life expires (≤ 60 years). Verify that the licensee has technically justified Arrhenius extrapolations for components that are beyond their initially qualified service life.

c. Verify that the licensee's EQ records are auditable.

d. Verify that the correct maximum accident and maximum normal operating temperature values are used to determine the qualified life of EQ components.

e. Verify that the licensee has applied the correct regulatory requirement to components which have been replaced. For example, EQ Category II components should be replaced with EQ Category I component classification.

f. Sample any modifications made to selected components or replacements and verify that the EQML has been appropriately updated (power uprates and alternative source term amendments may require updates to the EQML).

g. Verify that the replaced components meet the EQ specifications described in the EQ file.

h. Verify that the licensee has provided adequate justification for any components removed from the EQ program during the previous 20 years.

i. Perform a general walkdown of the area in which the component is located.

j. Determine if the equipment surrounding the component being inspected may fail in a manner that could prevent the device from performing its safety function. Any condition that could adversely affect the safety function of equipment being inspected shall be noted for discussion with the licensee.

k. Verify that the components are installed in their tested configuration. For example, Rosemount transmitters are not to be installed with plastic shipping plugs and Limitorque valve actuators must be installed in a qualified configuration.

l. Verify that there are no high energy break locations (verify using review of licensing basis) located in areas determined to be a mild environment.

m. Verify that the licensee accounts for warehouse storage time and environmental conditions, where applicable, in the service life of components approved as EQ replacement parts in plant systems.

n. For a sample of selected problems documented in the corrective action program, verify that the corrective actions and resolutions are appropriate and adequate. See Inspection Procedure 71152, “Problem Identification and Resolution,” for additional guidance.

71111.21N-03 Inspection Guidance

General Guidance:

Appendix A, “Checklist for Review of Licensee EQ Documentation Files” is used to verify that these file packages contain the information needed to qualify the component to the requirements of 10 CFR 50.49(j). Appendix B, “Physical Inspection Checklist” contains the checklists which are be used to record the component information in the field.

Specific Guidance:

03.01 Because there may be multiple EQ files associated with one component, review of one EQ file associated with the component selected is sufficient to satisfy the sample requirements. The focus should be equipment that is subjected to the effects of pipe breaks, radiation, high temperatures, or other harsh environments and is required to mitigate the consequences of a design basis accident or bring the plant to safe shutdown. At least one of the components shall be located within primary containment.

The components should be in different plant systems and shall cover a variety of equipment types (e.g., pressure and flow transmitters, solenoid-operated valves (only if energized), air operated valves, motor-operated valves, cables (low and medium voltage and also sensitive instrumentation and control cables), electrical splices, limit switches, motors (only if the motor was replaced), terminal blocks, containment penetrations (only if the penetration was modified or replaced), and post-accident monitoring equipment). No more than one equipment type shall be chosen (i.e., one pressure and flow transmitter; one solenoid-operated valve (only if energized); one MOV; one motor (only if the motor was replaced)). The selection process may consider the safety significance of the equipment items informed by Probabilistic Risk Assessment (PRA) ranking of the licensee's design or component which was modified or component for which there was an NRC Information Notice issued or if is a component which was added to the licensee's EQML.

03.02 Pre-Inspection Tasks Prior to the On-Site Inspection. The following tasks should be completed:

On-site preparation/sample selection (commonly referred to as the "bagman trip")

Schedule permitting, the team leader should make a site visit/bagman about a month before the start of the EQ program inspection. Site visit is beneficial because it allows the team leader to become familiar with the licensee's EQ program and personnel associated with the program. This visit should facilitate a more effective and efficient identification of inspection samples and improved ability to identify appropriate licensee procedures and documents needed during the EQ inspection. During the bagman trip, the team leader (TL) should ensure that the licensee's EQ records are organized in an auditable format (see section 8 of IEEE 323–1974 for the type of information which is needed to audit the licensee's EQ program). The TL shall obtain a listing of components in the licensee's EQ program; obtain copy of test reports for selected samples; expected temperature profile during harsh-environmental conditions for the areas in which the components are located, and list of preventive maintenance schedule (PMS) for components selected. The TL should consider making requests to the licensee on obtaining access to component internals (i.e., for the purpose of inspecting MOV wiring connections) so that the licensee can have adequate time to plan and schedule these inspection activities, or alternately, request to accompany work on EQ components scheduled during the inspection week. Another alternative to obtaining access to component internals is to consider use of plant photographs of selected component, if the photographs captures the component internals in sufficient detail and these photographs were recently taken (i.e., photographs of component internals are no more than several refueling outages old and no major modifications have been performed on the component which could have affected the component internals). The following is a listing of some of the documents or information which could be useful during the EQ inspection:

- Licensee's word-searchable UFSAR. If not available in a single file per unit format, ensure a collective table of contents is provided. Specifically identify which UFSAR sections address environmental (including seismic) qualification.

- NRC's Safety Evaluation Report(s) associated with the licensee's environmental qualification.

- Licensee's commitments to various EQ standards (including year, edition, or revision).

- Identify whether a plant(s) has entered its period of extended operation (i.e., operation past the original 40 year license period).

- Equipment Qualification Master List (EQML).

  Selected (not all) Equipment qualification documentation files for a sample of electrical equipment listed on the EQML (e.g., transmitter, limit switch, motor, MOV actuator, cable, solenoid) (paper copy). Note any deviations/justifications discussed in the qualification report. Confirm that auditable records are available onsite to establish qualification of each EQ component. Identify the most limiting temperature/pressure profile for the design bases accidents applicable to the components selected for inspection.

- Plant drawings which indicate areas affected by high energy line breaks.

- Licensee documents which show the maximum accident and maximum normal operating temperatures expected for areas in which components selected for inspection are located. List or drawings of plant areas that are subjected to EQ, identifying design (limiting) temperature, both normal and accident, high energy line break, radiation levels, etc. that the associated equipment will have to be qualified to meet EQ. If unit has obtained a power uprate (greater than 5 percent) provide same information pre-update (earliest available if multiple uprates).

- Procedures for material storage and shelf life controls.

- List of commercial grade dedication (CGD) evaluations performed, for which the dedicated parts have been issued for installation (approximately previous 5 years) on EQ applications in the plant. Include CGD evaluation number, name of part, component ID number or description of the component the part was issued to repair, work order, and date issued or installed.

- List of corrective action documents related to the EQ program or components (both electrical and mechanical) for previous 5 years.

- List of modifications, repairs, or replacement of EQML components completed for the previous 5 years, including date completed. Also, list of modification, repairs or replacements made to containment penetrations since initial plant operation.

- List of components removed from the EQ program during the previous 20 years.

- Any self-assessments or Quality Assurance (QA) assessments of the EQ program (performed during the previous 5 years).

- List of systems, system numbers/designators and corresponding names.

03.03.a No specific guidance.

03.03.b No specific guidance.

03.03.c No specific guidance.

03.03.d The inspector should verify that qualification of electrical equipment as documented in the qualification report reflects the plant as-built configuration. Any deviation from the qualified configuration must have adequate technical basis. Site (and corporate if applicable) procedures associated with the 10 CFR 50.49 EQ Program for electrical components.

03.03.e No specific guidance.

03.03.f No specific guidance.

03.03.g No specific guidance.

03.03.h No specific guidance.

03.03.i Walkdown of the area for components located in containment is not required while the plant is at power. Field walkdowns shall be coordinated with other EQ inspection activities in order to maximize inspection efficiency. Visually inspect the component selected for inspection and note any material condition deficiencies. If the component selected is not available for inspection internally, note any material condition deficiencies, if any, associated with the component selected and discuss the deficiencies with the licensee. Use the equipment checklists contained in Appendix B to determine if the installed equipment is the same as that described in the licensee's documentation and that the equipment is properly installed. Verify proper mounting, direction, and interfaces for position and limit switches.

03.03.j No specific guidance.

03.03.k No specific guidance.

03.03.l No specific guidance.

03.03.m No specific guidance.

03.03.n No specific guidance.

71111.21N-04 REFERENCES

10 CFR 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants"

Bulletin 78-02, "Terminal Block Qualification," Issued on January 30, 1978

Bulletin 78-04, "Environmental Qualification of Certain Stem Mounted Limit Switches Inside Reactor Containment," Issued on February 21,978

Bulletin 79-01, "Environmental Qualification of Class IE Equipment," issued on 02/08/1979, revision 1 dated 02/27/1979; BL-79-01a dated June 6, 1979; BL-79-01b dated January 14, 1980; Supplement No. 2 to Bulletin 79-01B dated September 30, 1980; and Bulletin No. 79-01B Supplement No. 3 dated October 24, 1980

Division of Operating Guidelines (DOR) (ML032541214)

IE Circular No. 78-08, "Environmental Qualification of Safety-Related Electrical Equipment at Nuclear Power Plants," issued on May 31, 1978

IEEE Std. 323-1974, "IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations

NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Equipment", Revision 1, July 1981

Regulatory Guide 1.89, "Environmental Qualification of Certain Electric Equipment Important to Safety for Nuclear Power Plants", Revision 1, June 1984

Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Revision 3, May 1983.

Regulatory Guide 1.97, "Criteria for Accident Monitoring Instrumentation for Nuclear Power Plants", Revision 4, June 2006

SECY-05-0197, "Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria", dated 10/28/2005

Temporary Instruction 2515/76, "Evaluation of Licensee's Program for Qualification of Electrical Equipment Located in Harsh Environments", issued 03/27/1986" (ML090980422)

Staff Requirements – SECY-14-0016 – Ongoing Staff Activities to Assess Regulatory Considerations for Power Reactor Subsequent License Renewal dated August 29, 2014

Statement of Consideration for 10 CFR 50.49

Appendix A – Checklist for Review of Licensee EQ Documentation Files
Appendix B – Physical Inspection Checklists

END

APPENDIX A

CHECKLIST FOR REVIEW OF LICENSEE EQ DOCUMENTATION FILES

The checklist provided in Appendix B is for use in performing evaluations of the adequacy of a qualification documentation package for a piece of equipment qualified to the requirements of 10 CFR 50.49(j).

Such reviews by the inspector(s) will determine the adequacy of the EQ program for the device and will verify the adequacy of the licensee's review and approval process for the equipment. For other files, items not reviewed should be marked "N/A" in the "Comments Column."

Plant/Docket No.: _____ Reviewer: _____

Component(s): _____

Equipment Documentation File: _____

A general list of attributes to consider in reviewing EQ documentation include:

- Definitive documentation provided by the licensee that the equipment is qualified for its application (summary assessment)
- Technical description and function of the equipment
- If qualification sample is not identical to the installed devices, a documented engineering analysis has been provided
- Required mounting methods and orientations
- Delineated Interfaces – conduit, housing, seal(s), etc.
- A documented qualified life has been established based on accelerated aging – thermal, radiation, vibration, seismic, cyclic, as appropriate
- All type tests performed on the same test specimen for CAT-1
- Performance/acceptance criteria (operating time, transmitter accuracy, etc., as applicable to component)
- Documented test sequence conforms to IEEE 323-1974, or justification for deviation has been provided
- Radiation levels (total dose) and exposure times, cover accident, and normal service
- Design Bases Event (DBE) exposure simulation meets plant requirements:
    - Steam Exposure/chemical spray
    - Temperature
    - Pressure Humidity
    - Seismic
- Chemical or water spray testing performed, when required
- Suggested margins according to IEEE Std. 323 was retained
- Submergence test (If required)
- Test anomalies properly documented and resolved
- Applicable installation issues, etc., resolved
- EQ Maintenance/surveillance requirement and criteria are met and qualified life is defined
- References clearly identified and attached or retrievable (including the component name and designator of the plant equipment)

APPENDIX B

PHYSICAL INSPECTION CHECKLISTS

This Appendix contains checklists for use in physical inspections of environmentally qualified equipment. Prior to the physical inspection, checklists should be prepared for each device that is to be inspected. The blank spaces in the "Documented Information" section of the checklist should be completed from the information in the licensee's documentation files, relating to the device. Alternatively, system component evaluation worksheets (SCEW) may be used in lieu of completing some of the check sheet spaces. During the physical inspection, the "as-installed condition" should be compared with the "as-documented information." Agreement between the "as-installed condition" and "as-documented information" should be marked in the "Yes" column. A disagreement should be marked with a "No", and a description of the nature of the disagreement should be placed in the "Comments" column.

Checklists are provided for the following equipment on the licensee's EQML:

- Pressure transmitters (also to be used for level and flow transmitters)
- Motor Operated Valves
- Limit Switches
- Solenoid Operated Valves
- Electric Motors
- Cables

A general form (EQUIPMENT DESCRIPTION) is provided for other devices such as:

- Switchgear
- Motor Control Centers
- Logic Equipment
- Diesel Generator Control Equipment
- Sensors (pressure, pressure differential, temperature, and neutron)
- Limit Switches
- Heaters
- Fans
- Control Boards
- Instrument Racks and Panels
- Electrical Penetrations
- Connectors
- Terminal Blocks
- EQ Splices: taped and Raychem

PRESSURE TRANSMITTER PHYSICAL INSPECTION CHECKLIST

Component ID No. _____Review:_____

Documented Information	Installed Condition Agrees with Documented Information		
1. Location Bldg._____ Room_____ Elevation _____	Yes	No	Comments
2. Manufacturer Model No. _____ Serial No. _____ Range/Type/Code_____			
3. Mounting Description			
4. Orientation			
5. Process Connection Type			
6. Electrical Connection Type			
7. Housing seal(s) in good condition, covers, in-place			
8. Does the installed device, experience a significant temperature rise from process or accident conditions? (If yes, review documentation to determine whether considered)			
9. Environmental conditions (including temperature, pressure, humidity, and others, as applicable) Ambient normal expected temperature range: _____ (If ambient temperature exceeds normal expected range, verify that licensee has considered the elevated temperature in the qualified life evaluation)			

MOTORIZED VALVE ACTUATOR PHYSICAL INSPECTION CHECKLIST

Component ID: _____Reviewer _____

Documented Information	Installed Condition Agrees with Documented Information		
1. Location Bldg. _____ Room _____ Elevation_____	Yes	No	Comments
2. Manufacturer Model No. _____ Serial No. _____ Range/Type/Code _____			
3. Mounting Description			
4. Orientation			
5. Housing seal(s) in good condition, covers, in-place			
6. Housing and motor drains. MOVs in radiation only fields do not require T-drains			
7. Does the installed device have a brake? (If yes, verify status qualification)			
8. Conduit seal(s)			
9. Environmental conditions (including temperature, pressure, humidity, and others, as applicable) Ambient normal expected temperature range _____ (If ambient temperature exceeds normal expected conditions, verify, that the licensee has considered the elevated temperature in the qualified life evaluation)			

LIMIT SWITCH PHYSICAL INSPECTION CHECKLIST

Component ID: _____Reviewer:_____

Documented Information	Installed Condition Agrees with Documented Information		
1. Location Bldg_____ Room _____ Elevation _____	Yes	No	Comments
2. Manufacturer _____ Model No. _____ Serial No. _____			
3. Mounting Description			
4. Orientation			
5. Electrical Connection Type			
6. Housing seal(s) in good condition			
7. Environmental conditions (including temperature, pressure, humidity, and others, as applicable) Ambient Normal Expected Temperature Range _____ (If ambient temperature exceeds normal expected conditions, verify, that the licensee has considered the elevated temperature in the qualified life evaluation)			

SOLENOID OPERATED VALVE PHYSICAL INSPECTION CHECKLIST

Component ID:_____Reviewer:_____

Documented Information	Installed Condition Agrees with Documented Information		
1. Location Bldg:_____ Room_____ Elevation_____	Yes	No	Comments
2. Manufacturer 3. Model No. _____ Serial No._____ Voltage _____ Configuration _____			
4. Mounting Description			
5. Orientation			
6. Process Connection Type			
7. Electrical Connection Type			
8. Housing seal(s) in good condition			
9. Does installed device, experience a significant temperature rise from process? (If yes, documentation must be reviewed to determine if the temperature was considered.)			
10. Environmental conditions (including temperature, pressure, humidity, and others, as applicable) Ambient normal expected temperature range _____ (If ambient temperature exceeds normal expected conditions, verify that the licensee has considered the elevated temperature in the qualified life evaluation.)			

ELECTRIC MOTOR PHYSICAL INSPECTON CHECKLIST

Component ID No._____Reviewer: _____

Documented Information	Installed Condition Agrees with Documented Information		
	Yes	No	Comments
1. Location Bldg. _____ Room _____ Elevation _____			
2. Manufacturer _____ Model No. _____ Serial No. _____ Batch No. _____			
3. Insulation Type _____ Jacket Type _____ No. of Conductors _____ Conductor Size _____ Shield Configuration _____			
4. Voltage Rating			
5. Environmental conditions (including temperature, pressure, humidity, and others, as applicable) _____ Ambient Normal Expected Temperature Range _____			
6. General Condition of Installed Cable			

CABLE PHYSICAL INSPECTION CHECKLIST

Component ID:_____ Reviewer:_____

Documented Information	Installed Condition Agrees with Documented Information		
	Yes	No	Comments
1. Location Bldg._____ Room_____ Elevation_____			
2. Manufacturer Model No._____ Serial No._____ Batch No._____			
3. Insulation Type			
4. Jacket Type			
5. No. of Conductors			
6. Conductor Size			
2. Shield Configuration			
3. Voltage Rating			
4. Environmental conditions (including temperature, pressure, humidity, and others, as applicable) Ambient Normal Expected Temperature Range _____			
5. General Condition of Installed Cable			

EQUIPMENT DESCRIPTION

Component ID: _____ Reviewer: _____

Documented Information	Installed Condition Agrees with Documented Information		
	Yes	No	Comments
1. Location Bldg._____ Room _____ Elevation_____			
2. Manufacturer Model No. _____ Serial No. _____			
3. Mounting Description			
4. Orientation			
5. Process Connection Type			
6. Electrical Connection Type			
7. Housing seal(s) in good condition, Covers in-place			
8. Does the installed device experience a significant temperature rise _____? (If yes, documentation must be reviewed to determine if the temperature rise was considered)			
9. Environmental conditions (including temperature, pressure, humidity, and others, as applicable) Ambient normal expected temperature range _____ (If ambient temperature exceeds normal expected conditions, verify that the licensee has considered the elevated temperature in the qualified life evaluation)			
10. Does the licensee account for warehouse storage time, where applicable, in the service life of components approved as replacement parts in plant systems (e.g. elastomer compounds such as O-rings, air-operated valve diaphragms, etc.)			

Attachment 2
Revision History for IP 71111.21N

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment and Feedback Resolution Accession Number (Pre-Decisional, Non-Public)
N/A	ML15302A009 02/17/16 CN 16-006	Initial Issuance of the pilot inspection procedure. Researched commitments for four years and found none.	Oct and Dec 2015	ML15197A214
N/A	ML16237A126 DRAFT CN 16-XXX	Revised inspection procedure to include lessons learned from the pilot EQ inspections and FF -1965-2120 Made draft version public prior to final version being issued to allow viewing of potential inspections starting CY 2017.	No	ML16239A104 71111.21-1965 71111.21-2120