ATTACHMENT 65001.08

INSPECTION OF ITAAC-RELATED INSTALLATION
OF ELECTRIC COMPONENTS AND SYSTEMS

PROGRAM APPLICABILITY: 2503

65000.08-01 INSPECTION OBJECTIVES

01.01 To determine whether the installations of electrical components and systems (ECS) are being performed in accordance with specifications, drawings, and approved procedures.

01.02 To determine whether the records of installations, inspections, tests, and analyses of safety-related ECS accurately reflect the completed work.

01.03 To evaluate the adequacy of the implementation of the specific quality assurance (QA) program requirements related to ECS installation activities and to assure that problems are identified and entered into the corrective action process.

65000.08-02 INSPECTION REQUIREMENTS AND GUIDANCE

For purposes of this procedure, ECS consist of those items of the facility that are designed to supply, use, control, transform, condition, or interrupt electric power, except for the electric cables. It does not cover instrumentation and controls or valves, although electrical input to valves is included. Cables and raceways are treated separately in Inspection Procedure (IP) 65001.09. For instrumentation and controls and valves, see IP 65001.10 and IP 65001.7, respectively. For the ECS listed in this inspection procedure, periodic inspections shall be performed on a frequency sufficient to provide an independent verification of work activities that support an ITAAC determination as defined in IMC 2503.

General Guidance. Select a sufficient number of ECS from the applicable categories below to include all targeted ITAAC associated with the review of ECS.

a. Onsite AC Power Systems and Supporting Systems (diesel generators and the safety-related medium and low voltage distribution systems)

b. DC Systems (this includes batteries, racks, battery chargers, and inverter/UPS)

c. Distribution, Control, and Protective Apparatus (include but are not limited to, transformers, switchgear, large motors, motor generator sets, motor control centers, and heaters.)

d. Emergency Lighting System (Main Control Room and Remote Shutdown

Workstation)

e. Grounding and Surge Protection System (including lightning protection)

f. Electrical Components as listed in the following paragraphs

This construction IP applies, but is not limited, to the following additional safety-related electrical equipment and associated items: electrical penetration assemblies, electrical inputs only to valves, local cabinets, protective devices, interlocks, circuit breakers, contacts, relays, motor starters, fuses, and electrical control panels.

By utilizing the applicable sections below, the inspectors will assess whether in-process and/or completed work activities relative to the installation of ECS are performed in accordance with approved work procedures, specifications, and drawings.

The inspector should review the plant design and determine which of the above categories of ECS are applicable. The inspector should then review the ITAAC Matrix for the facility to determine the ITAAC residing in "families" along Row (08) for "ECS." Utilizing the results of the above reviews, the inspectors will select a sample of ECS for inspection based on the construction and ITAAC completion schedules. The sample selection should be based on importance to operational safety and should include redundant components and a diversity of components and locations. Prior to inspecting selected items, the inspector(s) should review the specifications, drawings, work procedures, QA procedures, and work schedules (construction, testing, acceptance) appropriate to the ECS selected for inspection.

Inspection of selected ECS shall be accomplished by observation and evaluations of both in-process and completed work at the appropriate stage of completion for the activity to be inspected. The early inspections will focus on in-process activities to verify that the licensee's construction procedures and processes are being properly implemented. The later inspections will focus on completed work and the as-built verification of ECS.

Because of the importance and extent of ECS, inspection activities are to be conducted periodically. The inspection for in-process installations should be performed as often as significant component installation activities are taking place but no less than every 6 months during the component installation construction period, which is expected to be about 36 - 39 months. In-process installation inspections should be scheduled to match appropriate installation activities. The inspections for completed work and testing should be performed at a minimum of every six months.

02.01 Inspection Sample Selection Sample selection shall be based on importance to operational safety and shall include redundant components and diversity of components and locations. Listed below are typical ECS that might be selected for inspection.

a. Standby onsite AC power supply and supporting subsystems

1. Diesel Generators
2. Diesel support systems
3. Electrical distribution

b. Safety-related Batteries. Verify adequate

1. Handling of individual battery cells;
2. Installation of battery racks;
3. Installation of battery cells;
4. Electrical connections;
5. Maintenance of battery room ventilation;
6. Maintenance of battery charger;
7. Periodic battery inspection or monitoring during pre-operational period.

c. Distribution, Control, and Protective Apparatus

1. Medium voltage (MV) switchgear;
2. Low voltage (LV) switchgear;
3. Motor Control Center (MCC);
4. Power Panels
5. Motors
6. Motor generator sets
7. Circuit breakers
8. Fuses and fuse panels

d. Power Transformers

1. LC transformers
2. Distribution transformers

e. Electrical Duct Installation

1. Bus Duct
2. Isophase Bus
3. Non-segregated Bus

f. Containment Penetrations

02.02 In-Process Installation. As appropriate observe and evaluate in-process installations pertaining to the ECS selected in Section 02.01 above. Through direct inspection, confirm the following, as applicable, have been met:

a. Perform a review of site procedures as described in IP 65001, Step 02.02.

b. Factory testing has been successfully completed and accepted by the licensee or their agents.

Guidance. The inspector should verify that the licensee's records indicate the duration, date, time, type, and location of the tests performed. The records should also contain the basis for that type of test and what the results indicate.

c. Required handling and storage has been maintained.

Guidance. The inspector should verify that the vendor's handling and storage requirements in accordance with a vendor manual or equivalent document are being followed.

d. The latest approved revision of applicable construction specifications, drawings, and/or construction procedures are available and used by the installers.

Guidance. The inspectors should periodically check that the most recent approved revisions of the construction documents are used and that there are no missing or inappropriate approvals. The installation records should indicate the actual revision of the documents used during the installation.

e. The components are installed in the proper location and orientation by qualified craft personnel using suitable equipment and tools.

Guidance. "Qualified craft personnel" means those employees who achieved suitable proficiency to do their assigned tasks by training and/or previous experience, and who understand the installation procedures, drawings, and specifications necessary for their work. The installation records should indicate the craft personnel who performed the work and the independent reviewer who verified the work, and they should contain signoff blocks to indicate who performed or verified a particular step in the work procedures. The installation records should also indicate that the ECS were mounted at the correct locations.

f. Associated mounting hardware, supports, and anchors are of the type (i.e., welded, bolted, etc.) and materials specified and are properly located.

Guidance. For some of the supports and anchors, the inspector should directly measure or otherwise, independently verify that the requirements pertaining to certain items, such as equipment and support locations and bolt sizes, are as specified. The installation records should indicate that the proper supports were installed and located per the drawings, and they should describe any discrepancies.

1. During installation of equipment, anchor holes are sometimes drilled in concrete structures. Indiscriminate cutting of reinforcing steel should not be allowed.

2. The inspector should ensure that proper welding requirements are specified and controlled. AWS D1.1, Structural Welding Code, is usually specified for welding of supports. Construction specifications and drawings should specify the welding requirements to be used.

g. The required component identification is properly established or maintained.

Guidance. For field-mounted ECS, their identification should be attached to them. Panel-mounted ECS and the panel should be correctly identified. The installation records should indicate that the ECS were identified in accordance with the construction drawings and specifications.

h. Installed components are adequately protected from damage by adjacent construction activities.

Guidance. It is important to ascertain whether installed ECS or conditions exist where prohibited. For example, ECS must be located so they are not exposed to potential hazards, such as, high pressure piping or flammable material. The installation records should identify the potential hazards to the ECS being installed, and they should indicate how the licensee protected and/or reported which ECS are in need of protection.

i. Licensee and contractor inspections are performed or scheduled to be performed before "covering up" the work to be inspected; QA hold points are observed.

Guidance. This is applicable to the supports for field-mounted components, like panels, in floors and walls. The installation records should indicate that each step of the installation was inspected by QA before proceeding to subsequent steps that could cover up the work just performed.

j. Non-conformances are identified and handled in accordance with established procedures.

Guidance. The non-conformances in regards to evaluation and reporting should not only meet the licensee's procedural requirements but also the regulations 10 CFR 21,10 CFR 50.55(e), and/or 10 CFR 50, Appendix B, Criterion XV. The records should identify any non-conformances, and they should indicate that they were processed and evaluated per established channels.

k. Deviations from installation drawings and instructions are approved prior to implementation, and all deviations are recorded on as-built documents.

Guidance. The inspector should verify that field and design changes are approved in the manner and to the same degree as the original design for the ECS and in accordance with the licensee's procedures. The installation records should identify all field and design changes used for the installation.

l. Review applicable electrical design calculations (e.g., voltage drop calculations, diesel loading, ac and/or dc load studies, short circuit calculations, etc.).

Guidance. That information should be correctly translated into specifications, construction procedures, and drawings for ITAAC-related ECS. For example, the

voltage drop calculation should show that the minimum voltage expected at the terminals of a device is greater than or equal to the manufacturer's minimum specified voltage. The licensee should have calculations demonstrating that the batteries, chargers, regulating transformers, DC distribution panels, motor control centers, and invertors, and their circuit breakers and fuses are sized to meet the expected load requirements without exceeding nameplate ratings.

m. Verify that the electrical components are rated (e.g., voltage, current, interrupting, current withstand, type, size, material, etc.) consistent with the results of the analysis and calculations reviewed in the previous step of this IP.

Guidance. The inspector should verify that the ratings on the ECS agree with the construction specifications, vendor manuals, vendor test records, and certificates of compliance. The ECS should be qualified for their environments per environmentally qualified (EQ) and seismically qualified (SQ) reports. Even ECS in a non-harsh environment must be rated to function in that environment. Review the seismic test reports and/or analyses for selected Seismic Category 1 equipment and verify that the information demonstrates that the equipment is capable of performing its function during and after the time it is subjected to the forces resulting from one safe shutdown earthquake (SSE). In addition, the equipment should be required to withstand the effects of a number of operating basis earthquakes (OBEs) prior to the application of an SSE. Verify that the licensee has environmental qualification (EQ) data demonstrating that Class 1E ECS subject to a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function. The licensee should have a test report to demonstrate that safety-related isolation devices (e.g., battery chargers, regulating transformers, isolation fuses, etc.) are qualified for the specific application and that their rated over voltage and over current conditions meet or exceed assumptions used in design basis analyses. The installation records should indicate that the proper ECS for the particular environment were installed, and they should identify any discrepancies.

n. The corrective actions undertaken for problems identified during the installations are effective.

Guidance. The inspector should select 1 - 2 problems that are more significant than a missing screw or an improperly labeled component. The effectiveness of any corrective actions is determined by whether the problems are recurring or not. The licensee should determine the root causes of the problems, and the corrective actions should address the root causes, not the problems themselves. When the corrective actions are not effective, the inspector informs both the licensee and NRC management. The installation records should indicate what corrective actions were required for problems encountered during the installation of the ECS.

o. The records of the in-process activities are in accordance with licensee procedures and NRC regulations.

Guidance. The records should be all the installation records including those suggested in the guidance for the proceeding steps of the in-process work activities.

02.03 Completed Work. As appropriate, observe, inspect, and evaluate the completed installation of electrical components and associated items selected in Section 02 above. Determine whether:

a. The activities, reviewed in the following sub-steps, should be controlled, inspected, and accomplished in accordance with the requirements of the procedures reviewed in IP 65001, Step 02.02.

b. Components are installed in accordance with design, construction specifications, and work procedures; components are at the correct location, configuration, and orientation.

Guidance. For the inspection sample, the inspector can check if the installations agree with the referenced design documents. The installation records should indicate any discrepancies.

c. Components conform to type specified; e.g. function, range, qualification, material.

Guidance. The ECS should be exactly the ones specified by the construction drawings and specifications. This is a follow up to the inspection performed during the in-process installation, and the IC&S usually will be the same unless changed out due to a design or field change. The installation records should indicate any ECS replaced and specify the reasons.

d. Equipment and item identifications have been maintained.

Guidance. The identification of an ECS should be in agreement with the construction drawings and specifications and should be appropriate for its location. The same identification should be on the ECS, installation records, calibration records, and inspection records. Panels should be uniquely identified. For a variety of reasons, the identification of ECS may have been disturbed. This is a final verification that the identification is still correct, and the installation records should indicate that and identify any changes.

e. ECS are protected from hostile environments, such as high-pressure pipe, rotating equipment, and non-seismically supported equipment.

Guidance. This confirms that ECS are not installed in hazardous locations or environments which could damage them. All ECS should be designed for the environment and the location at which they are installed. The installation records should indicate any design changes required in order to achieve the desired protection.

f. Electrical components, such as conduit, tray, motors, and power distribution centers maintain specified physical and electrical separation and independence

between redundant components.

Guidance. 10 CFR 50.55a(h) requires protection and safety systems to meet the Institute of Electrical and Electronic Engineers (IEEE) standard 603-1991 for combined operating license (COL) applications after May 13, 1999. This is achieved by maintaining physical separation and electrical independence between the ECS utilized in the trains of those systems. Identical ECS, but not the same ECS, are allowed to be used in the redundant trains of a safety system if the vendor has analyzed for all potential common-mode failures. Electrical independence also includes being powered by the right power source. The means by which the desired separation is achieved should not be compromised by the installation. The installation records should indicate any deviation between the design basis and the as-built installation.

g. Adequate actions or provisions have been taken and/or maintained (as needed) to ensure that the validation of the environmental qualification of components is maintained.

Guidance. This check determines if changes, such as the location of ECS, caused the EQ of that ECS to be affected. The inspector should review a sample of the environmental qualification data packages for different equipment and verify the methods used for demonstrating qualification of the electrical equipment. The inspector should review the EQ test report and ensure that it states positively that the equipment is qualified for its application and meets its specified performance requirements (voltage, current, frequency, accuracy, etc.) when subjected to the conditions predicted to be present and when it must perform its safety function, up to the end of its qualified life. The inspector should also review the interface requirements to maintain qualification (i.e., conduit seals, drip loops, T-drains, etc.). The inspector should also verify that the equipment has been installed in a configuration that is similar to the tested configuration. The inspector should review drawings and test reports showing the configuration in which the electrical equipment was tested and should perform field inspections as needed to verify that the as-built configuration is similar to the as-tested configuration shown on drawings contained in the EQ data packages. The installation records should indicate any deviations from the design basis that could possibly invalidate the EQ of the affected ECS.

h. Seismic requirements are met for the selected ECS.

Guidance. This is especially important for ECS that are sensitive to movement and vibration, such as, digital relays and panels. ECS with seismic requirements should be exactly located and orientated per the construction drawings. The methods typically used for seismic qualification of equipment are grouped into three general categories: (1) predict the equipment performance by analysis, (2) test the equipment under simulated seismic conditions, and (3) qualify by combined tests and analysis. Any of the above methods may be adequate to verify the ability of the equipment to meet the seismic qualification requirements. The inspector should review installation detail drawings, test reports, and conduct field inspections to ensure that the as-built Class 1E equipment is acceptable based on mounting configuration and applicable floor response

spectra.

i. Compare the actual installations with the drawings, specifications, and other installation documents.

Determine whether the ECS and associated items are correctly installed in accordance with approved drawings, construction documentation, and changes, such as design and field changes. As this inspection requirement is to verify "as built" systems, a new sample should be selected if it is found that extensive rework is in progress for the ECS of the original sample. All design changes should be properly verified and approved in accordance with 10 CFR 50, Appendix B, Criterion III. For all design changes, the inspector should determine if the licensee followed procedures and whether the changes met their intended purpose. Field changes that impact the as-built installation should be adequately controlled and available for future evaluation.

j. Status of completion, maintenance, and readiness for construction and operational testing is indicated on equipment or otherwise documented.

Guidance. The installation records should indicate the justification for proceeding to construction and operational testing, and they should state if any maintenance is required.

k. The records of the completed work activities should be in accordance with licensee procedures and NRC regulations.

Guidance. The records should be all the installation records, including those suggested in the guidance for the proceeding steps, of the completed work activities.

02.04 Inspection of Containment Electrical Penetration Assemblies (EPAs). Select a minimum of six EPAs for review. Determine through field observations and record review that these meet field installation requirements and design specifications.

Guidance. Primary containment electrical penetrations require special attention because a fault inside containment could result in a penetration seal failure and breach of the containment. The inspector should review calculations prepared for determining the rated continuous current (ac or dc); rated short time overload current and its duration; and rated short circuit current and its duration available at the EPAs. The inspector should review both the licensee's design specifications prepared for procurement of containment EPAs and the original equipment manufacturer design documents and verify that the equipment is adequately rated for its application based on the results of the circuit analyses.

Review the licensee's analysis of the as-built containment EPAs to identify those penetration circuits that require redundant protection devices.

Verify that the maximum available continuous and short-time overload currents do not exceed the continuous and the short-time overload ratings, respectively, of the containment

EPA. In addition, verify that the circuits have redundant protection devices in series and that the redundant current protection devices will trip or open prior to the EPA's rated short circuit thermal capacity being exceeded.

The inspector should verify that the rated short circuit current for DC circuits is based on having a constant DC voltage value applied unless otherwise specified. The inspector should verify that electrical penetrations, which could fail in a manner to breach containment, are provided with dual primary protection operating separate interrupting devices, or primary and backup protection operating separate interrupting devices. The inspector should review the analysis for the as built containment penetration assemblies and verify that the time current curves of the dual primary protection, or the primary and backup protection, coordinate with the time current capability curve of the electrical penetration they are protecting.

02.05 Inspection of Station Grounding and Surge Protection. To verify that the electrical grounding system (EGS) is configured in accordance with design drawings and specifications, the inspector should confirm the following, as applicable.

a. Verify a single point insulated conductor connection exists between the instrument/computer grounding system and the station grounding grid.

b. Verify the required connections exist between the electrical system grounding system and the station grounding grid.

c. Verify the required connections exist between the equipment grounding system and the station grounding grid.

d. Verify the required connections exist between the lightning protection system connection and the station grounding grid.

Guidance. The plant EGS functions as a system that protects plant personnel from dangerous electrical potentials such as transferred, step, and touch potentials during both normal operating and maximum ground fault conditions, provides connection to ground for power equipment neutrals, facilitates relaying in clearing ground faults, dissipates static charges and/or induced current from current carrying lines that need to be worked on, and dissipates lightning charges.

The EGS provides connections to the station grounding grid for the following: (1) instrument/computer grounding system; (2) electrical system grounds from the neutral points of the main generator, main step-up transformers, auxiliary transformers, load center transformers, and onsite standby diesel generators; (3) equipment grounds for equipment enclosures, metal structures, metallic tanks, ground bus of switchgear assemblies, load centers, motor control centers, control cabinets, building structural steel, and piping and electrical raceways, and (4) lightning arresters provided for lightning protection for exposed structures and buildings housing safety-related and fire protection equipment.

The licensee should prepare station grounding grid drawings showing the station grounding mat, ground cable, and taps or connections to each grounding sub-system as well as the lightning protection sub-system that is grounded to the station grounding grid. The inspector should perform field inspections using the station grounding grid drawings to verify (on a sampled basis), that the number and type of connections used in the installation of the grounding sub-systems for the above equipment is consistent with design requirements delineated in approved design documents. The types of connections used in the installation of the grounding sub-systems should be verified by reviewing work documents for different types of grounding conductor connection hardware (installed using different installation techniques). The inspector should verify that the licensee's work controls, used for installing the different types of grounding conductor connection hardware, were correctly implemented in accordance with the approved QA requirements.

02.06 Testing and Verification. Select a sufficient number of testing activities, including all targeted ITAAC, to assure that testing is conducted in accordance with established procedures and test acceptance criteria have been met. Besides the ITAAC related testing criteria, the inspectors should verify that the following attributes have been met by the licensee's test program:

Guidance. By direct observation of testing activities or review of test records, confirm that ITAAC related testing activities are being conducted in accordance with established procedures and test acceptance criteria have been met. The inspector should determine what specific acceptance criteria are established and select those for observation that are best confirmed through direct observation. Others should be confirmed through record/data review, although direct observation is the preferred method of inspection for most.

The inspections of testing should be coordinated with IP 65001.C, Construction Testing; IP 65001.D, Operational Testing; and MC 2504 guidance, as applicable. Sample size will be dependant on guidance from these procedures and the targeted ITAAC.

a. The test activities, reviewed in the following sub-steps, should be controlled, inspected, and accomplished in accordance with the requirements of the procedures reviewed in IP 65001, Step 02.02.

b. The latest revision of applicable test procedures and/or specifications is available at the work location and used by personnel performing the testing.

Guidance. The inspector should periodically check that the latest test procedure is being used during the test. The inspector should review the specified calibration requirements and procedures before observing these activities. The inspector should determine whether any special calibration requirements are met. All testing should be in accordance with licensee commitments and manufacturer's recommendations.

c. Properly identified, traceable, and calibrated measuring and test equipment are used.

Guidance. If calibration activities are in progress, determine whether the most recently approved calibration information is being used, and whether there is compliance with the required procedures. The inspector should assure himself (by selective sampling) that current data is used for checking and calibrating ECS, and that these changes are within the limits of the ECS involved.

d. Equipment or components are able to obtain the degree of accuracy and tolerance specified or otherwise meet specified requirements.

Guidance. As these inspection requirements cannot be done until testing and calibration activities are in progress, inspection in this area should be scheduled accordingly.

e. Required testing results are recorded during the activity; not after the testing has been completed. (Where test results are immediately available to the inspector, note whether they are within specified limits.)

Guidance. Final calibration and trip settings should be done during the final testing of the system or component.

f. Components that have been tested are adequately identified as to their status; that is, specified requirements have been met or deficiencies noted.

Guidance. It is necessary to know all the ECS that have been tested to avoid needless duplication, but to also know the ECS that have not been tested so that they can be scheduled for testing.

g. Personnel performing the testing are properly qualified.

Guidance. "Qualified test personnel" means those employees who have achieved suitable proficiency to do their assigned tasks by appropriate training and/or previous experience and who understand the test procedures, drawings, and specifications necessary for the testing to be conducted.

h. Test personnel adhere to any special handling or removal requirements.

Guidance. Test and calibration personnel should be knowledgeable in the special care and handling that should be exercised when readying sensitive ECS for testing. The inspector should be especially mindful of those injudicious actions that could cause the ECS to operate in a manner uncharacteristic to their test specifications or design basis.

i. Test discrepancies or unexpected events are properly identified for resolution.

Guidance. Any test discrepancies or unexpected events should be taken into account as to the impact on the test results. This is also necessary when future tests are run so that the previous test results can be properly assessed.

j. Test procedure changes are reviewed and approved by the appropriate organizations (e.g., design engineering).

Guidance. This is necessary so that during the evaluation of test results, an explanation can be made as to why the test results deviated from what was expected.

65001.08.03 RESOURCE ESTIMATE

The average resource expenditure for this inspection procedure is estimated to be 1240 direct inspection hours per Unit.

65001.08.04 REFERENCES

Regulatory Guide 1.6 - Independence Between Redundant (Onsite) Power Sources and Between their Distribution Systems.

Regulatory Guide 1.28 - Quality Assurance Program Requirements (Design and Construction) (ANSI N45.2)

Regulatory Guide 1.30 - Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment (ANSI N45.2.4/IEEE 308)

Regulatory Guide 1.32 - Criteria for Safety-Related Electric Power Systems for Nuclear Power Plants (IEEE 308)

Regulatory Guide 1.38 - Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants (ANSI N45.2.2)

Regulatory Guide 1.41 - Preoperational Testing of Redundant On-Site Electric Power System to Verify Proper Load Group Assignments (ML0037400090) (IEEE415)

Regulatory Guide 1.53 - Application of the Single-Failure Criterion to Nuclear Power Plant Protection Systems (IEEE 279 and IEEE 379)

Regulatory Guide 1.63 - Electric Penetration Assemblies in Containment Structures for Light-Water-Cooled Nuclear Power Plants (IEEE 317)

Regulatory Guide 1.75 - Physical Independence of Electric Systems (IEEE 384)

Regulatory Guide 1.81 - Shared Emergency and Shutdown Electric Systems for Multi-Unit Nuclear Power Plants

Regulatory Guide 1.89 - Qualification of Class 1E Equipment for Nuclear Power Plants

(IEEE 323)

Regulatory Guide 1.100 - Seismic Qualification of Electric Equipment for Nuclear Power Plants (IEEE 344)

Regulatory Guide 1.106 - Thermal Overload Protection for Electric Motors on Motor Operated Valves

Regulatory Guide 1.128 - Installation Design and Installation of Large Lead Storage Batteries for Nuclear Power Plants (IEEE 484)

IEEE 80 - Guide for Safety in AC Substation Grounding

IEEE 81 - Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

IEEE 665 - Guide for Generation Station Grounding

NFPA 78 - National Fire Protection Association's Lightning Protection Code

END

Attachment 1:Revision History for IP 65001.08

Revision History For 65001.08

Commitment Tracking Number	Issue Date	Description of Change	Training Needed	Training Completion Date	Comment Resolution Accession Number
N/A	08/19/08 CN 08-024	1. Initial issuance to support ITAAC related inspections under 10CFR52. 2. Researched commitments for 4 years and found none.	None	N/A	N/A