A-40
11/17/83

Compliance exh. 40

FORM A-10 REVISION 0

PROCEDURE M-41	PAGE CS- 1	REVISION 4

ELECTRICAL EQUIPMENT INSTALLATION INSPECTION

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
QUALITY ASSURANCE PROGRAM
COVER SHEET

CONSTRUCTION APPROVAL BY	DATE	QUALITY ASSURANCE APPROVAL BY	DATE
	5-10-77		5-10-77

LIST OF PAGES, FORMS, & ATTACHMENTS VALID FOR THIS REVISION:

	Revisions
*Page CS-1	4
*Page 1	4
Page 2	3
Form M-41A	2
*Form M-41B	1

NUCLEAR SAFETY RELATED

*Changes included in this revision

Note: Form M-41B, Revision 1 shall be used for all Supplemental Inspection Instructions originated or revised after implementation of this procedure revision.

1. PURPOSE
The purpose of this procedure is to establish the requirements for inspection and documentation for electrical equipment installation.

2. SCOPE
This procedure covers the inspection and documentation for the installation of all nuclear safety related electrical equipment. Any other electrical equipment, as deemed necessary by Duke Power Compnay Management may be included to effect a quality installation. Receiving inspection shall be covered under Procedure P-1. Storage inspection shall be covered under Procedure P-3.

3. RESPONSIBILITY
The Senior Quality Control Engineer shall be responsible for carrying out the inspection requirements of this procedure and for documenting these inspections. He shall also be responsible to initiate corrective action forms when found necessary during the course of inspection.

The Project Senior Quality Assurance Engineer shall be responsible for initiating nuclear safety related Supplemental Inspection Instructions (Form M-41B) and approving all Form M-41B's and for reviewing and approving all inspection documentation.

The Project Engineer shall be responsible for initiating non-nuclear safety related M-41B's and for approving safety related M-41B's. 4

4. INSPECTION
Quality Control Inspectors certified in accordance with Construction Quality Assurance Procedures shall verify that the installation of electrical equipment is in accordance with approved Design Engineering and Construction installation information. Supplemental information may be obtained from approved manufacturer's drawings.

Detailed inspection instructions for each type of electrical equipment shall be provided by Supplemental inspection Instructions (Form M-41B). Nuclear safety related M-41B's shall be prepared by Project Quality Assurance Staff, non-nuclear safety related M-41B's shall be prepared by the Project Engineer's Staff, and all M-41B's shall be approved by the Project Senior Quality Assurance Engineer and Project Engineer. Nuclear safety related M-41B's may be used as instructions for the inspection of non-nuclear safety related electrical equipment if designated by the Project Engi[illegible]al inspection forms may be included as part of the M-41B. Nuclear safe[illegible]elated M-41B's shall be controlled in accordance with Procedure [illegible] 4

Installation inspection shall be

documented on Form M-41A and any supplemental forms required by M-41B's. Calibrated equipment specified by M-41B's shall be calibrated in accordance with Procedure O-1 for nuclear safety related inspections.

5. CORRECTIVE ACTION

The following action is mandatory for nuclear safety related inspections.

Discrepancies, deviations, irregularities, and nonconforming items shall be reported and documented on either a Random Inspection Worksheet (Form M-40C) or a Nonconforming Item Report (Form Q-1A).

The Project Quality Assurance Staff shall review each Random Inspection Worksheet. Items which may be easily corrected during the construction phase and which need not be brought to the attention of higher management may be documented on a Random Inspection Worksheet. Random Inspection Worksheets shall be consecutively numbered by the Project Quality Assurance Staff. A copy shall be maintained by the Quality Assurance Staff until the original is returned completed. A copy shall be maintained by the Quality Control Staff to be used as a "tickler" file until the original is returned for inspection.

Significant items that the Project Quality Assurance Staff deems necessary to be brought to the attention of higher management shall be transferred to Nonconforming Item Report and resolved according to Procedure Q-1, Control of Nonconforming Items. Items requiring changes to design drawing or specification shall be resolved according to Procedure R-3, Design Drawing and Specification Variation.

6. REPORTING

Form M-41A - Equipment Installation Inspection.
Form M-41B - Supplemental Inspection Instructions.
Form M-40C - Random Inspection Worksheet.

ENTIRE PAGE REVISED

FORM M-41A	REVISION 2

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT McGUIRE UNIT 1

ELECTRICAL EQUIPMENT INSTALLATION INSPECTION

THE FOLLOWING ELECTRICAL EQUIPMENT HAS BEEN INSPECTED AND FOUND TO BE INSTALLED IN ACCORDANCE WITH THE INDICATED DRAWINGS AND INSTRUCTIONS

EXAMPLE

EQUIPMENT DESCRIPTION ESSENTIAL MOTOR CONTROL CENTER 1EMXA

SERIAL NUMBER N/A

LOCATION EL 750 COL FF-54

DRAWING NUMBER(S) MC 1887-01 R-14, MC 1903-01 R-20, MC 1908-01 R-11

REFERENCE INSTRUCTIONS M-46 R-2, CP 308 R-4

REMARKS BASE ANCHORS TORQUED WITH SN 3226

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SUPERSEDED

Q. C. INSPECTOR / NDE QC Ende DATE 3/26/76

Q. C. INSPECTOR/ELEC. JT Sgood DATE 3/26/76

Q. A. APPROVAL QA Elec DATE 3/26/76

FORM M-41B REVISION 1

Sheet 1 of 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT McGuire

Serial no. 7
Revision no. 0

SUPPLEMENTAL INSPECTION INSTRUCTIONS

EQUIPMENT DESCRIPTION Electrical Cable Tray and Conduit

TYPE OF INSPECTION Installation

DOCUMENTATION REQUIRED M-41A

INSPECTION INSTRUCTIONS:

1. Verify, on a sampling basis, that conduit which have been cut are free of burrs.

2. Verify that conduit supports are correctly fabricated and anchored.

3. Verify that cable tray is the correct size, at the correct elevation, in the correct location, with the correct spacing. Generally, an eyeball measurement is adequate although a ruler may be required in some questionable areas. The most critical location dimension is minimum horizontal and vertical spacing between trays.

4. Verify that cable tray hangers are constructed from the correct materials, dimensionally correct (the most critical dimension is spacing between rungs), and assembled correctly (bolted or welded).

5. Verify that the cable tray hangers are anchored correctly (welding to embedded plate is acceptable in lieu of bolted concrete anchors) in the correct location along the tray within tolerances specified on the design drawings. If not specified this tolerance shall be ± 6 inches.

6. Verify that splice plates and tray clamps are correctly installed.

7. Verify that there is no apparent physical damage.

8. Verify, on a sampling basis, that torque requirements specified for [illegible] area of cable tray and conduit are met. The type torque de[illegible] and serial number shall be entered under remarks.

9. Inspect welds and perform NDE as specified on drawings.

☒ NUCLEAR SAFETY RELATED ☐ NON SAFETY RELATED

PREPARED C S Kennedy DATE 5/2/77

CONST. APPROVAL K D Parker DATE 5/2/77

Q. A. APPROVAL H M Hamilton DATE 5/2/77

NUCLEAR REGULATORY COMMISSION

Docket No. 50-413 Office Exhibit No. 40

In the matter of Catawba

Staff

Applicant ✓ IDENTIFIED ✓

Intervenor RECEIVED ✓

Cont'r Off't REJECTED

Contractor

Other DATE 11/17/83

WITNESS

Reporter Ron Graham