UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report No.: 50-400/86-25

Licensee: Carolina Power and Light Company
P. O. Box 1551
Raleigh, NC 27602

Docket No.: 50-400 License No.: CPPR-158

Facility Name: Harris 1

Inspection Conducted: April 7-11, 1986

Inspectors: R. W. Wright 5/6/86
R. W. Wright Date Signed

L. H. Jackson May 6, 1986
L. H. Jackson Date Signed

Accompanying Personnel: R. D. Gibbs

Approved by: G A Belisle 5/6/86
G. A. Belisle, Acting Section Chief Date Signed
Quality Assurance Section
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection was conducted on site in the areas of in-depth quality assurance (QA) inspection of performance.

Results: One violation was identified - Failure to provide adequate acceptance criteria to initiate penetration sealing inspections.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

H. Balkcum, Construction Inspector (CI) - Protective Coatings
D. Black, Lead CI - Penetration Seals
H. Blair, CI - Protective Coatings
*H. Bowles, Director - Onsite Nuclear Safety
G. Dolderer, Construction Engineer - Protective Coatings
*G. Forehand, Director - Quality Assurance/Quality Control (QA/QC)
*L. Garner, Civil/Mechanical Unit Supervisor - CI
*S. Hardy, Fire Protection Specialist - Harris Plant Engineering Section (HPES)
*K. Hate', Principal - Quality Assurance (QA) Engineer
*J. Lawrence, Technical Assistant - HPES
*L. Loflin, Manager - HPES
J. Lyon, CI - Electrical
*D. McGaw, Superientendent - QA
R. Michael, Construction Engineer - Mechnaical
R. Moya, Lead CI - Protective Coatings
*L. Olliver, Techanical Assistant - HPES
T. Osborne, CI - Penetration Seals
*C. Phillips, Penetration Supervisor - Construction Engineering
R. Pullen, CI - Hangers
*R. Somers, CI - Superintendent
L. Stennett, CI - Electrical
*F. Strehle, Project QA Engineer - Operations QA/QC
L. Trotter, CI - Electrical
*M. Wallace, Specialist - Regulatory Compliance
*D. Whitehead, QA Supervisor

Other licensee employees contacted included construction craftsmen, engineers, technicians, and office personnel.

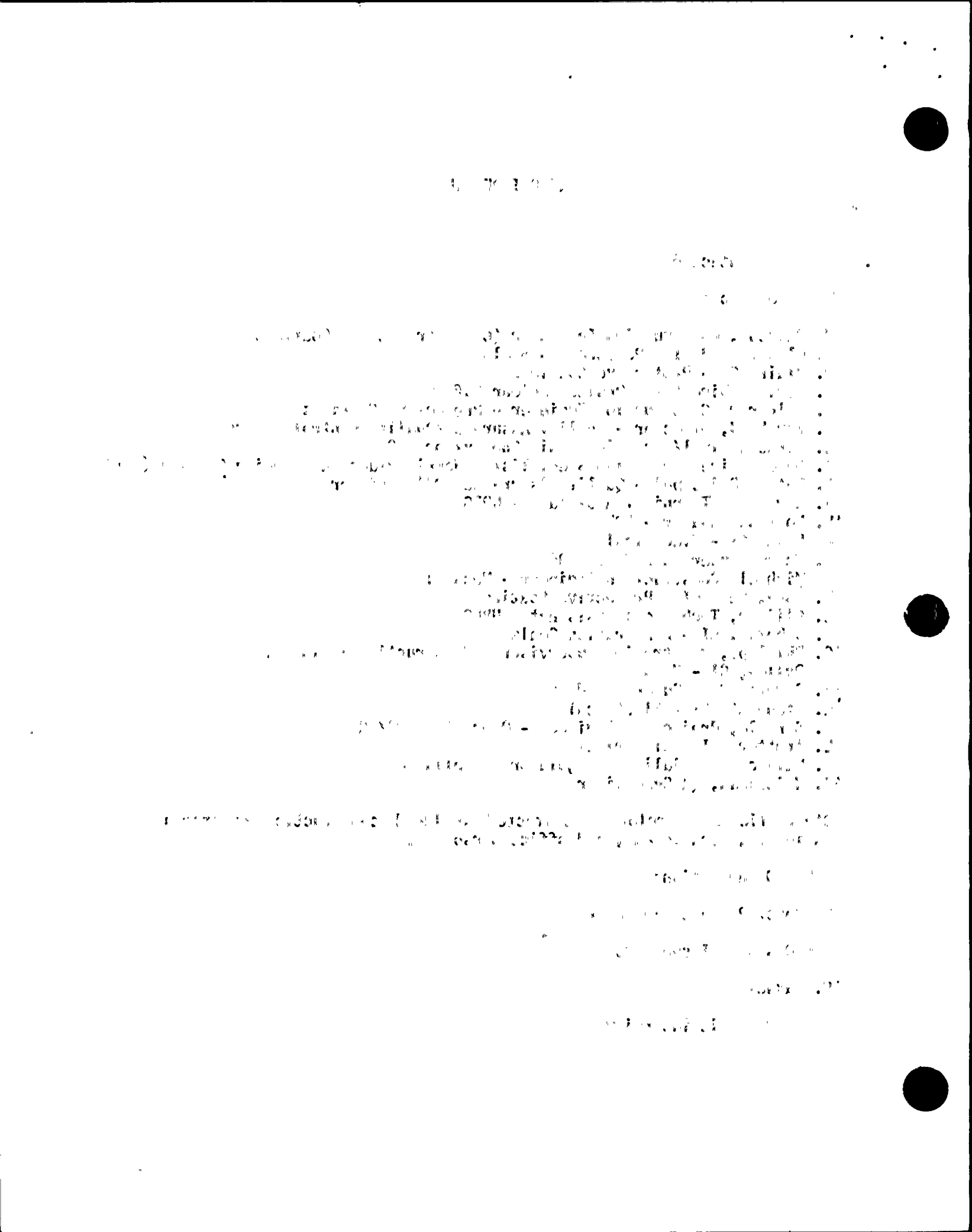
Other Organizations

S. Goss, Promatec Engineer

NRC Resident Inspectors

*G. Maxwell

*Attended exit interview



2. Exit Interview

The inspection scope and findings were summarized on April 11, 1986, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings listed below. Additional information concerning the violation was discussed with the site's principle QA engineer during a telephone conversation on April 16, 1986.

Violation, Failure to provide adequate acceptance criteria to initiate penetration sealing inspections, paragraph 4.b.(5).

The licensee did not identify as proprietary any of the material provided to or reviewed by the inspector during this inspection.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

4. In-Depth QA Inspection of Performance (35061)

This inspection was performed to determine whether site work was being accomplished in accordance with NRC requirements and SAR commitments, that the QA/QC program was functioning in a manner to assure that requirements and commitments are met, and that prompt and effective action was taken to achieve permanent corrective action on significant discrepancies. Selected safety-related ongoing installation and work activities concerning protective coatings, penetration seals, pipe hangers, cable pulling and terminations were examined in the following areas to verify the inspection objectives.

a. Work Procedures

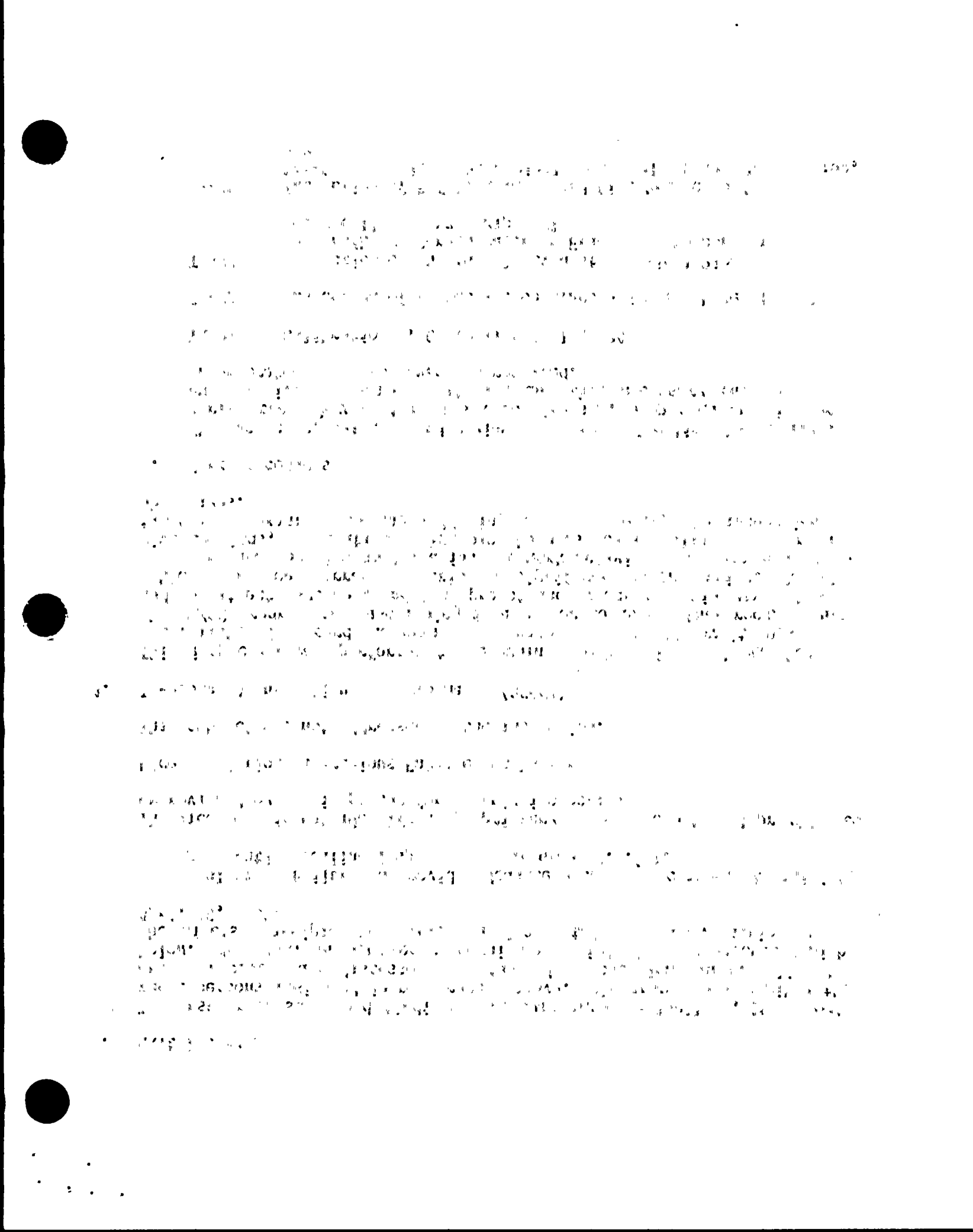
The inspectors selected and reviewed the following listed procedures to verify that they contained SAR commitments, proper qualitative or quantitative acceptance criteria, and that necessary changes are incorporated into procedures as required.

TR-04 Calibration of Controlled Tools, R24

TR-29 Inspection of Protective Coatings - Service Level 1, R13

TR-34 Inspection of the Installation of Seismic 1 Pipe Hangers/Large Bergen-Paterson Frames and Supports for Seismically Analyzed Pipe, R18

TR-38 Inspection of Safety Related and Fire Protection/Detection Non-Safety Related Electrical Cable Pulling and Termination, R13



TR-40 Training and Qualification of Construction Inspection Personnel, R12

TR-69 Inspection of Penetration Seals, R2

WP-24 Service Level 1 Protective Coatings - Concrete, R14

WP-44 Painter Certification, R4

WP-53 Protective Coatings Application Equipment, R3

WP-108 Protective Coatings - For Level 1, Embedded Steel Plate, R9

WP-110 Installation of Q and Non-Q Pipe Hanger and Supports, R16

WP-148 Penetration Seals and Installation, R4

WP-206 Documentation and Control of the Installation and Termination of Electrical Cable, R9

WP-210 Installation and Termination of Safety Related Wire and Cable, R15

Corporate Procedure for Evaluating and Reporting of Defects and Noncompliance in Accordance with 10 CFR 21, R10

b. Field Inspection

The inspectors selected work activities associated with protective coatings, penetration seals, pipe hangers, cable pulling, and terminations to determine whether the equipment or systems were installed and erected in accordance with work procedures listed in paragraph a. Detailed inspections were performed to confirm quantitative and qualitative acceptance objectives. The following component, parts, appurtenants, cable pulls, cable terminations, coatings, and penetration seals, were inspected:

(1) Cable Pulls

Cable	From	To
10789M-SB R13	RA1CZ-3505B2-SB	RE1CZ-3505B2-SB
10789B-SB R13	RA1CZ-3505B2-SB	RE1CZ-3505B2-SB
10789Q-SB R13	RM1CZ-3505B2-SB	RE1CZ-3505B2-SB
10789P-SB R10	RM1CZ-3505B2-SB	RE1CZ-3505B2-SB
10789L-SB	RM1CZ-3505B2-SB	RE1CZ-3505B2-SB
10789K-SB	RM1CZ-3505B2-SB	RE1CZ-3505B2-SB
10789N-SB	RM1CZ-3505B2-SB	RE1CZ-3505B2-SB

The above cables were confirmed to be pulled in accordance with approved cable pull cards.

(2) Cable Terminations

Cable	Terminal Strip	Termination Point	Color
10762F-SB	1	5	B
	1	6	W
	1	7	R
	2	15	G
	2	3	O
	2	14	B
		Remainder Spares	
10795C-SA	1	3	B
	1	2	W
		Shielded 1	1

The above cables were terminated in accordance with the approved controlled wiring diagram.

(3) Hangers

A-4-236-1-CC-H-2227 Sheet 1 of 1 Rev SO
A-4-236-1-CC-H-2228 Sheet 1 of 1 Rev SO
A-4-236-1-CC-H-2149A Snubber S/N 33432
A-4-236-1-CC-H-2149B Snubber S/N 15195

The inspector verified acceptability of dimension, materials, marking, torque wrench calibration, and torque seal for these hangers.

(4) Protective Coating

Service Level 1 coating activities of embedded steel, miscellaneous hangers, pipes, handrails, and penetrations located in the reactor building were inspected at the following locations:

Elevation	Azimuth
El 259-261	AZ 172° - 188°
El 261-278	AZ 228° - 244°
El 273-282	AZ 165° - 200°

(5) Penetration Seals

Work activities associated with identification, location, cleanliness, density, and placing of seal materials in penetrations P2175 and P2177 were witnessed by the inspectors on April 10, 1986 to confirm program implementation.

Although no problems were identified with the actual hardware aspects of penetration closures, a programatic violation 50-400/86-25-01 was identified concerning "Inadequate Acceptance Criteria to Initiate Penetration Sealing Inspections". NRC observation of licensee inspection activities concerning the sealing of penetrations P2175 and P2177, and discussions with responsible licensee personnel, identified that applicable acceptance criteria (i.e., generic FCRs relative to inspection activities) were not documented on the inspection record until after the inspector had initiated his inspection and determined that the installed penetration closure did not agree with the engineering acceptance criteria provided. At this point in his inspection, the inspector consulted with construction engineering personnel who informed the inspector which generic FCR affected the penetration installation. The missing applicable generic FCR number was added to the inspection acceptance criteria record and the installation was now accepted or rejected based on this belated additional acceptance criteria. This program implementation which permits retrofitting of known acceptance criteria by construction engineering does not meet the intent of 10 CFR 50, Appendix B, Criterion V.

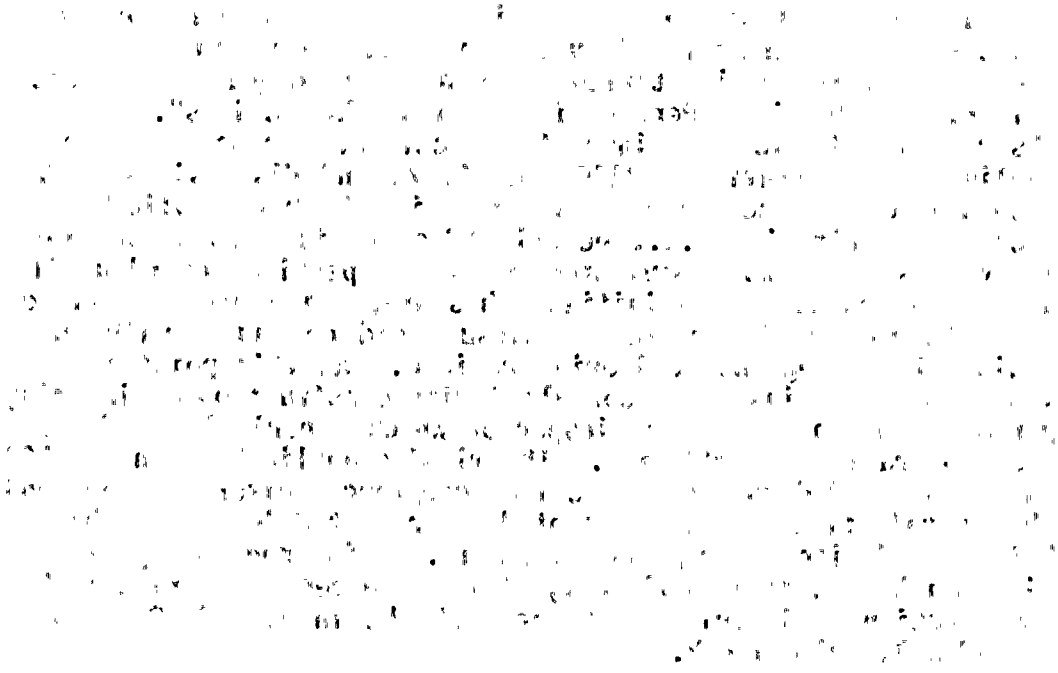
During a tour of the auxiliary building the inspectors witnessed placement of High Density Silicon Elastimer (HDSE) from buckets by hand. This method of placement was not described in procedure WP-148. The inspectors contacted the representative for the manufacturer and confirmed that placement from buckets by hand was an acceptable work practice for HDSE material. The licensee has clarified this position to allow pouring of HDSE material by revising WP-148 R4, Penetration Seals and Installation, in procedural change number 3 which was written prior to the inspectors exit interview.

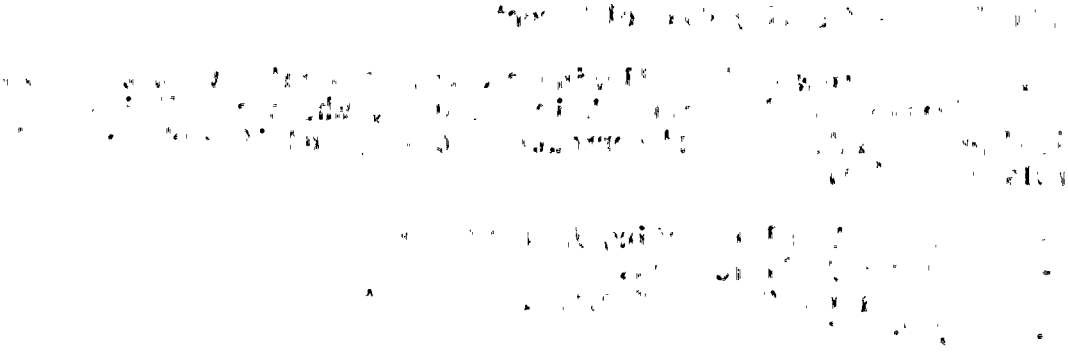
The inspectors interviewed and observed craftsmen and foreman associated with the construction activities being inspected and determined that their level of knowledge and training were adequate to provide a quality product.

c. Field Engineering/Quality Control Reports

The inspectors reviewed the following records associated with the above listed activities to determine their adequacy, whether deficiencies received proper attention and corrective action, and if work and work controls were adequate:

- Service Level I Coatings/Daily Reports
- Painter Qualifications
- Penetration Closure Verification Sheets
- FCR-FP-65





- Hanger Check Sheets
- Cable Termination Records
- Cable Pull Slips

The number of CI inspectors provided for the coverage of these work activities was considered satisfactory. Discussions conducted with CI inspectors and engineering personnel determined that their knowledge of work activities was adequate. The inspectors selected qualification records for eight CI inspectors associated with the acceptance of work activities witnessed by the inspectors. These records confirmed that yearly eye examinations had been conducted, training had been updated as necessary, and recertifications and yearly evaluations of inspectors qualification had been performed.

d. Nonconformance Reports

The inspector reviewed the below listed construction nonconformance reports for protective coating activities to verify that the corrective action accomplished the following:

Corrected the items,
Determined the cause of the deficiency as required,
Considered reportability to NRC, and
Instituted effective action to prevent recurrence.

Nonconformance reports reviewed included the following:

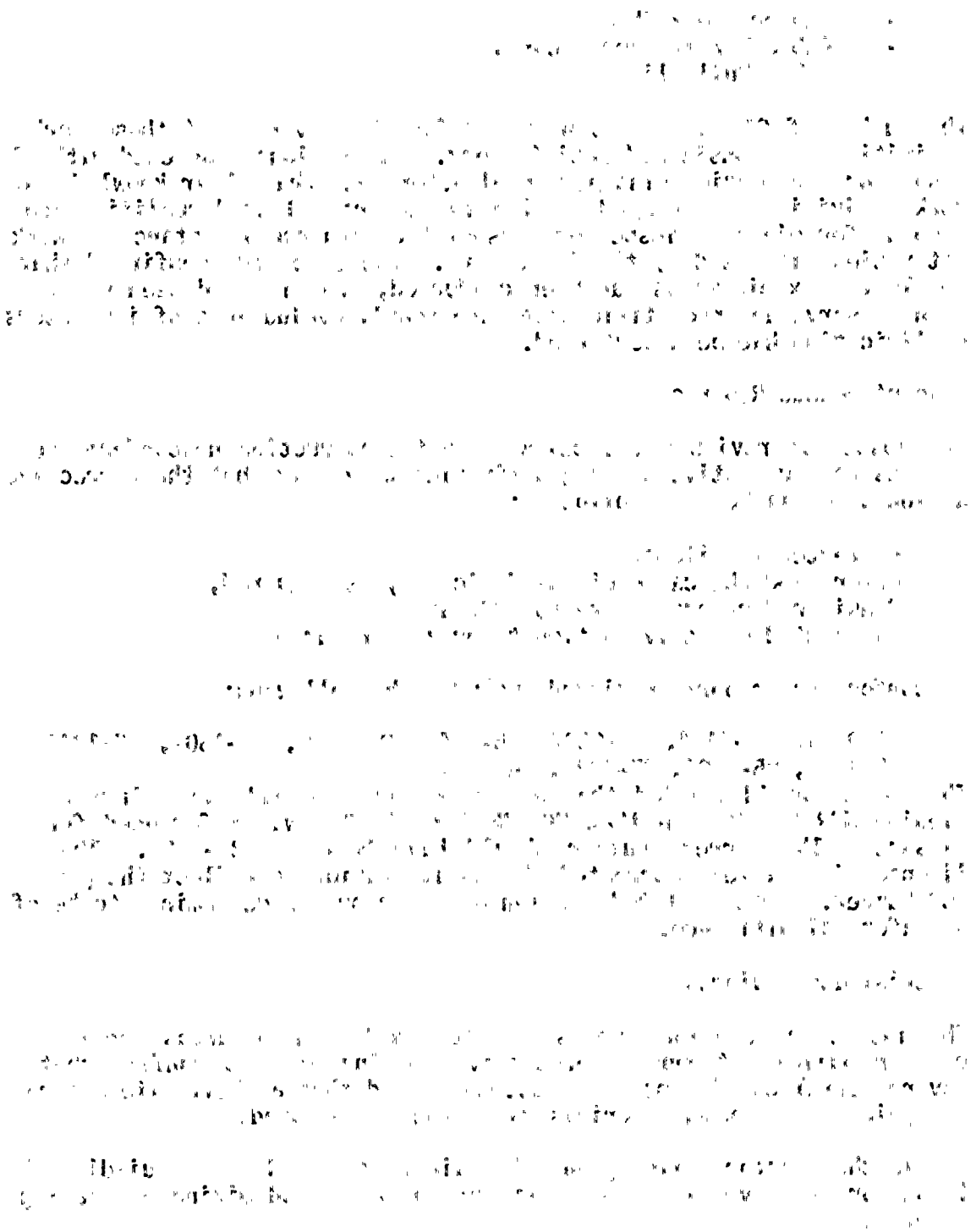
85-0045, 85-0154, 85-0327, 85-0449, 85-1079, 85-1801, 85-1843, 85-1870, 85-1895, 85-1996, and 86-0026

The inspector identified that an error had been made when dispositioning NCR 85-0045 in that NCR Number 85-0326 was referenced for closure. The correct number should have been NCR 85-0327. The licensee immediately corrected the documentation to reflect the proper NCR Number. This isolated documentation error was determined to be of no safety significance.

e. Material and Equipment

The inspectors examined two satellite paint storage areas and one reactor building temporary protective coating area to confirm that environmental conditions were acceptable and that a shelf life program for paint and coating materials was being implemented.

Within the reactor building and the painting/sand blasting building the inspectors observed the use of proper equipment and mixing of coating materials.



f. Audits and QA Surveillance Reports

The inspectors reviewed the following QA site surveillance and corporate audit reports to determine if they were meaningful, effective, and reflected quality performance.

Corporate QA Audits:

QAA/XX81-85-04, QAA/81-34, QAA/81-85-02, QAA/XX81-85-05, QAA/81-31

QA Site Surveillances:

QASC Nos.: 85-574, 85-579, 85-655, 85-742, 85-858, 85-892, 85-1022, 85-1079, 85-1117, 85-1213, 85-1359, 85-1511, 85-1522, 85-1681, 85-1698, 85-1886, 85-1959, 85-2097, 85-2146, 85-2173, 85-2189, 85-2192, 85-2252, 85-2269, 85-2286, 85-2288, 85-2318, 85-2341, 85-2397, 85-2270, 86-0043, 86-0058, 86-0148, 86-0231, 86-0456, and 86-0497.

g. 10 CFR Part 21 Requirements

The inspector reviewed the corporate procedure 10 CFR 21, R10 for evaluating and reporting deficiencies to assure that it contained satisfactory controls for posting requirements and that applicable safety-related procurement documents specified that the provisions of 10 CFR Part 21 apply. This procedure was also reviewed to verify that the licensee had established a system for identifying, documenting, evaluating, recording, and reporting deficiencies to the NRC as required by 10 CFR 21.

The inspectors examined the main administration building and construction administration building posting areas and verified that requirements specified by the previously mentioned corporate procedure and 10 CFR 21.6 had been fulfilled.

Within the areas inspected, one violation was identified as discussed in paragraph 4.b.(5).