

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-410/85-12

Docket No. 50-410

License No. CPPR-112

Priority --

Category B

Licensee: Niagara Mohawk Power Corporation

300 Erie Boulevard, West

Syracuse, New York 13202

Facility Name: Nine Mile Point, Unit 2

Inspection At: Scriba, New York

Inspection Conducted: May 6-10, 1985

Inspectors: *A. Finkel*  
A. Finkel, Lead Reactor Engineer

*May 22, 1985*  
date

Approved by: *C. J. Anderson*  
C. J. Anderson, Chief, Plant Systems  
Section, EB, DRS

*5/30/85*  
date

Inspection Summary: Inspection on May 6-10, 1985 (IE Report No. 50-410/85-12).

Areas Inspected: Routine, unannounced inspection by one region-based inspector of status of previous inspection findings and the site calculations for installation of cables. The inspection involved 28 inspector hours onsite by one region-based inspector.

Results: No violations were identified.

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## DETAILS

### 1.0 Persons Contacted

#### 1.1 Niagara Mohawk Power Corporation

- \*Mr. W. Baker, Manager Special Projects
- \*Mr. R. Kumar, Engineering
- \*Mr. T. Lee, Special Projects
- \*Mr. B. Morrison, Manager Quality Engineering
- \*Mr. M. Ray, Manager of Projects
- \*Mr. I. Weakley, Special Projects
- \*Mr. J. White, Special Projects

#### 1.2 Stone and Webster Engineering Company

- \*Mr. T. Arrington, Resident Manager of Field Quality Control
- \*Mr. J. Gallagher, Licensing Engineer
- \*Mr. E. Hubner, Assistant Superintendent of Engineering
- \*Mr. R. Hyslop, Licensing Engineer
- \*Mr. C. Terry, Project Quality Assurance Manager

#### 1.3 U.S. Nuclear Regulatory Commission

- \*Mr. R. Wheeler, Resident Inspector

\*Denotes those personnel present at exit interview. Other managers, supervisors, craftsmen and technicians were contacted during the course of the inspection as activities interfaced with their areas.

### 2.0 Facility Tour

The inspector observed work activities in progress, completed work and construction status in the control building cable trays, control room, diesel generator rooms and the 480 volt motor control centers.

No violations were identified.

### 3.0 Licensee Actions on Previous Inspection Findings

(Closed) Construction Deficiency Report 84-00-19 Twelve reels of Rockbestos class IE multi-conductor cable with insulation damage were shipped to the licensee.

Of the twelve reels shipped to the Nine Mile Point Unit 2 site, eight reels were in storage and no cables were pulled from these reels. All eight reels were returned to Rockbestos for replacement. The return cable reels were documented on Returned Material Report Form No. 84-1162.



The cables that were used from the four remaining reels were identified and re-pulled from the plant. This task is identified in N&D report No. A069. The following inspection reports were used in the reinstallation and acceptance per N&D No. A069.

<u>Inspection No's.</u>	<u>Cable No's.</u>
-- E4078453	-- 2FWSAGC003
-- E4009181	-- 2HVPBYC001
-- E4077483	-- 2RHSAGC043
-- E5A40503	

The defective parts of the cables were removed from four (4) reels remaining at the site and the rest of the cable reels were used in safety-related installations.

The Rockbestos Company letter of May 25, 1984 stated that in each case, the cable reels had received final electrical tests and were acceptable for use. The test data to support Rockbestos statement is on file in the licensee's data system at this site.

This item is closed.

(Closed) Construction Deficiency Report 82-00-09 An audit by the licensee's quality assurance organization of the General Electric (GE) documentation files could not produce data that demonstrated that the High Pressure Core Spray Diesel Generator complied with the requirements of IEEE 323-1971 and the environmental envelope for the Nine Mile Point, Unit 2 site.

A justification data package on this diesel generator is being prepared by the licensee in accordance with the criteria of IE Bulletin 79-01B and 10 CFR 50.49. Supporting test data from the General Electric phase III test program and engineering analysis of similar type of data are presently being prepared in support of their equipment qualification program.

The NRC is presently reviewing the licensee's test data and analysis as part of the near term operating licensee (NTOL) program.

This item is closed.

(Closed) Inspector Followup Item 83-18-12 - Cable 2RHSBY C027 not installed in conduit 2CC098YA as indicated in inspection report E3007337.

The personnel who performed the work disregarded the requirement that FQC must witness all category 1 cable pulls, which also



includes removal of cable from raceways, to facilitate installation of other cables.

The original inspection report (IR) No. 3007337 identified the cable as installed and IR No. 3008542 was generated for the removal of this cable without FQC presence. Inspection of quality records indicate that this was an isolated case since no other areas were identified with this similar condition.

The electrical craft personnel were retrained using course No. NMC-DI-EG0440. Training records were reviewed to determine that electrical craft personnel requiring training did receive and complete the course. This was verified by the inspector using computerized training record sort CTR SR 05B dated May 7, 1985 and discussions with electrical craft personnel.

This item is closed.

(Closed) Unresolved Item 83-18-01 & 83-18-02 Electrical raceway inspections have been signed off as acceptable when the attribute for separation barriers has not been met (barriers have not been installed). Specific attributes for separation barriers for raceway are not included in the inspection procedures.

The licensee's approach was to have quality control acceptance of raceways contingent upon the installation of approved barriers at a later date. The NRC inspector observed that although barriers were shown on the design drawings, there were no procedures available for installation or inspection of these barriers.

Stone and Webster Engineering Company (SWEC) Field Quality Control (FQC) has revised the quality control inspection plan N20E061AFA002 on January 15, 1984 to add an attribute for separation barriers and to document an "L" (meaning later) when the separation barriers are not installed.

The licensee's quality assurance organization verified on June 13, 1984 that the following events had occurred:

- Inspection plan N20 E 061A FA002 was revised with the required "L" attribute.
- SWEC FQC has retrofitted the "L" status on those raceway tickets that had been previously accepted without the separation barrier inspection being performed, and
- Performed inspection of, raceways to assure that raceway tickets reflect the status of the installed field condition pertaining to separation barrier installations.





A computer program has been established which lists items that have been classified with an "L". In addition to the "L" listing, the attribute that the "L" represents is also listed as W06. On a random basis the inspector selected 25 items from the April 12, 1985 computer run for verification. The computer run and the selected items were verified to be correct by the inspector during an inspection of the pull cards and cable locations at the site.

This item is considered closed.

- (Closed) Unresolved Item 81-13-05 10 CFR 50, Appendix A, Criterion 30 requires that means be provided for detecting reactor coolant leakage. Regulatory Guide 1.45 provides the minimum acceptable method for detecting reactor coolant leakage. The Regulatory Guide states that one of two required methods shall be by Radiation Monitor of a sample. No such provisions have been made in the licensee's design.

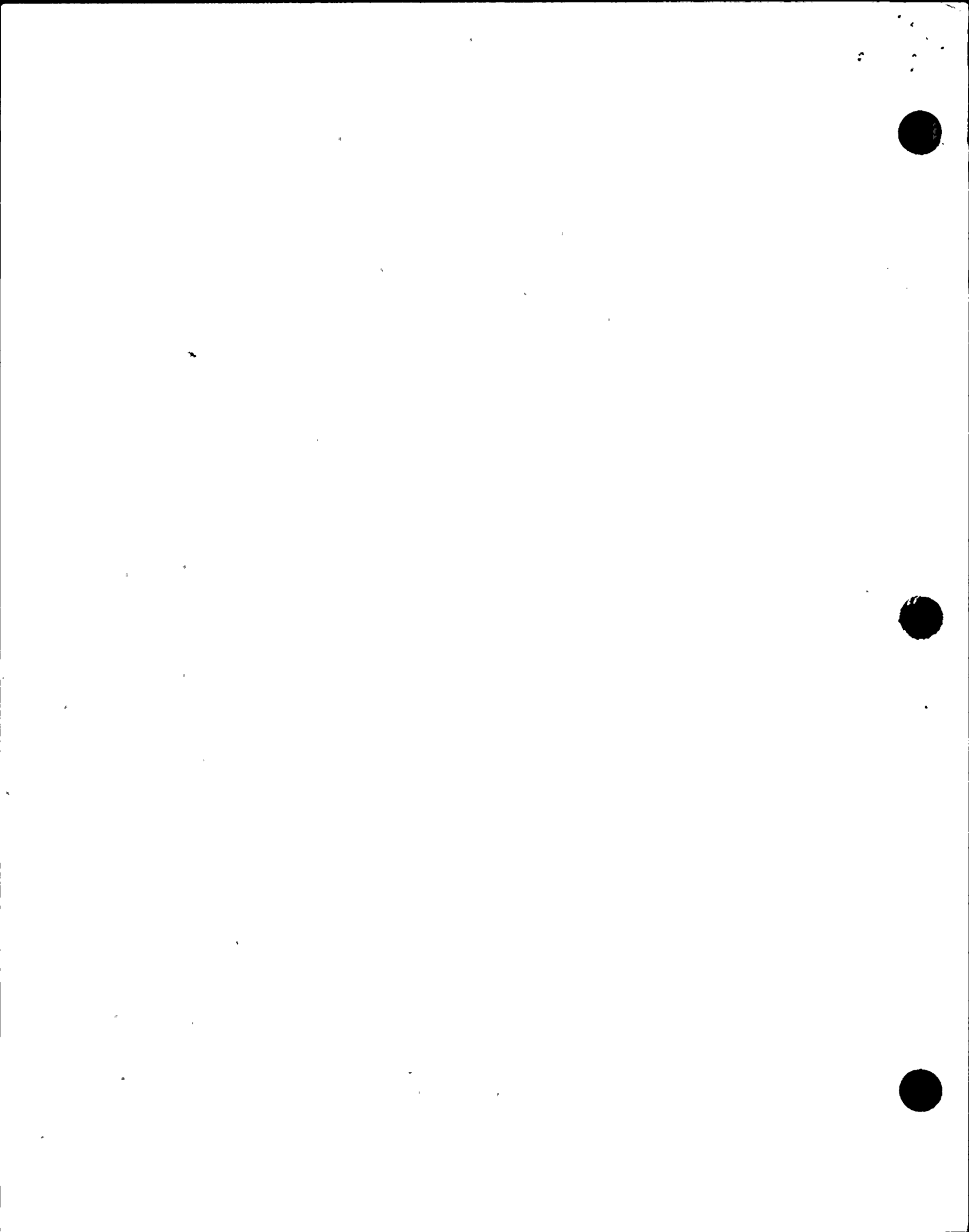
The licensee submitted their response to the Reactor Coolant Pressure Boundary Leakage Detection Systems concern in their Final Safety Analysis Report (FSAR) submitted for sections 5.2.5.1, 5.2.5.9 and 11.5 in October, 1983 amendment 5. Section 5.2.5.9 Regulatory Guide (RG) Compliance describes the licensee compliance with RG 1.45 position CI through C9.

This item is closed.

- (Closed) Unresolved Items 83-18-13, 83-18-14, 83-18-84, 83-18-73, 83-18-90 and 83-18-93 - Separation requirements relative to the Power Generation and Control Complex (PGCC) cable installations had not been properly inspected. In addition inspection of some raceway installations, in the PGCC, relative to the requirements for physical separation had not been accomplished in accordance with the criteria established in the applicable procedures.

Specification E061A issued January 16, 1984, prescribed separation criteria including the use of dust covers and floor plates as qualified separation barriers in the PGCC and permits cable installation and acceptance as an independent program from barrier installation and acceptance. An additional specification change to E061A was issued to provide a criteria for a formal program for the installation and acceptance of barriers.

General Electric (GE) and Stone and Webster Engineering Corporation (SWEC) personnel performed an inspection of the category 1 divisional panel and termination cabinets. Wire



identification, tagging and inspection for subdivisional separation has been completed with areas that are to be corrected, identified. The inspector randomly selected 15 separation problems. In each case the engineering disposition was completed, but only 10 of the selected 15 items have been corrected. The other 5 are scheduled to be completed within the next month.

This item is closed.

#### 4.0 Cable Pull Tension Calculation Limitations

The Stone and Webster Engineering Corporation (SWEC) program for establishing cable pulling limitations are identified in calculation programs Nos. EC-112 titled "EC-0 Cable Pulling Tensions" and EC-101 "Bundle Cable Pulling."

The values for maximum pull tension (lbs.) listed in appendix J of the cable pulling specifications are derived from the Tensile Strength and Maximum Sidewall Tension values listed in EC-0 calculation sheets (EC-112).

The numbers are derived from using the following base calculations.

- Maximum Pull Tension - Limitation as a function of conductor tensile strength for copper conductors.

$$T \text{ max} = .008 \times N \times \text{CMA}$$

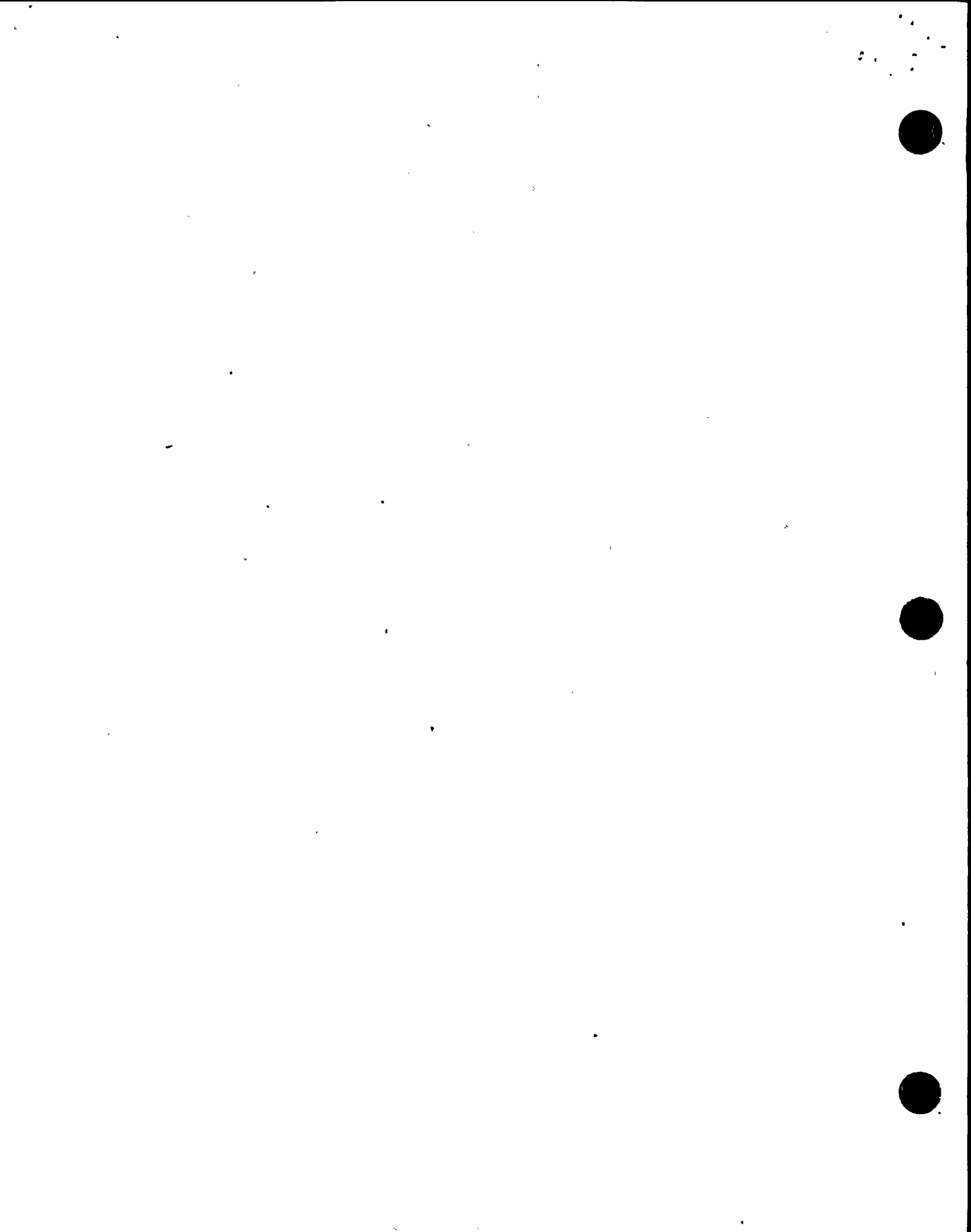
where T max = maximum tension in pounds  
 N = number of conductors in cable  
 CMA = circular mil. area of one conductor

- Maximum Pull Tension Limitations As a Function of Sidewall Pressure

The maximum sidewall pressure values varies with the cable manufacturer, however, the data used in establishing the appendix J cable values for maximum pull tension (lbs.) were derived for this site from Okonite, Kerite and Rockbestos data.

SWEC has assigned "Mark Numbers" for various cable configurations. The pull tension (lbs.) is then calculated for each "Mark Number" configuration using the maximum pull tension formula and the maximum pull tension limitation values. The lowest number derived from the two methods is used as the cable "Mark Number" maximum pull tension value.

Using the SWEC calculation methods for calculating maximum cable pull tension values for the various "Mark Numbers", the inspector selected 10 "Mark Numbers" for verification. The inspector verified by calculation that the selected "Mark Numbers" were the lowest values of the two referenced calculation methods.



No violations were identified.

5.0 Exit Meeting

The inspector met with licensee and contractor representatives (denoted in paragraph 1) at the conclusion of the inspection on May 10, 1985. The inspector summarized the scope and findings of the inspection as described in this report.

At no time during the inspection was written material provided to the licensee by the inspector.

