

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

REACTOR FACILITIES BRANCH

FILE COPY

NOV 5 1975

Niagara Mohawk Power Corporation
Attention: Mr. R. R. Schneider
Vice President
Electric Operations
300 Erie Boulevard, West
Syracuse, New York 13202

License No. CPPR-112
Inspection No. 75-04
Docket No. 50-410

Gentlemen:

This refers to the inspection conducted by Mr. A. Toth of this office on October 21-22, 1975 at the Nine Mile Point Nuclear Station Unit 2 of activities authorized by NRC License No. CPPR-112 and to the discussions of our findings held by Mr. Toth with Messrs. Sanford and Terry of your staff at the conclusion of the inspection.

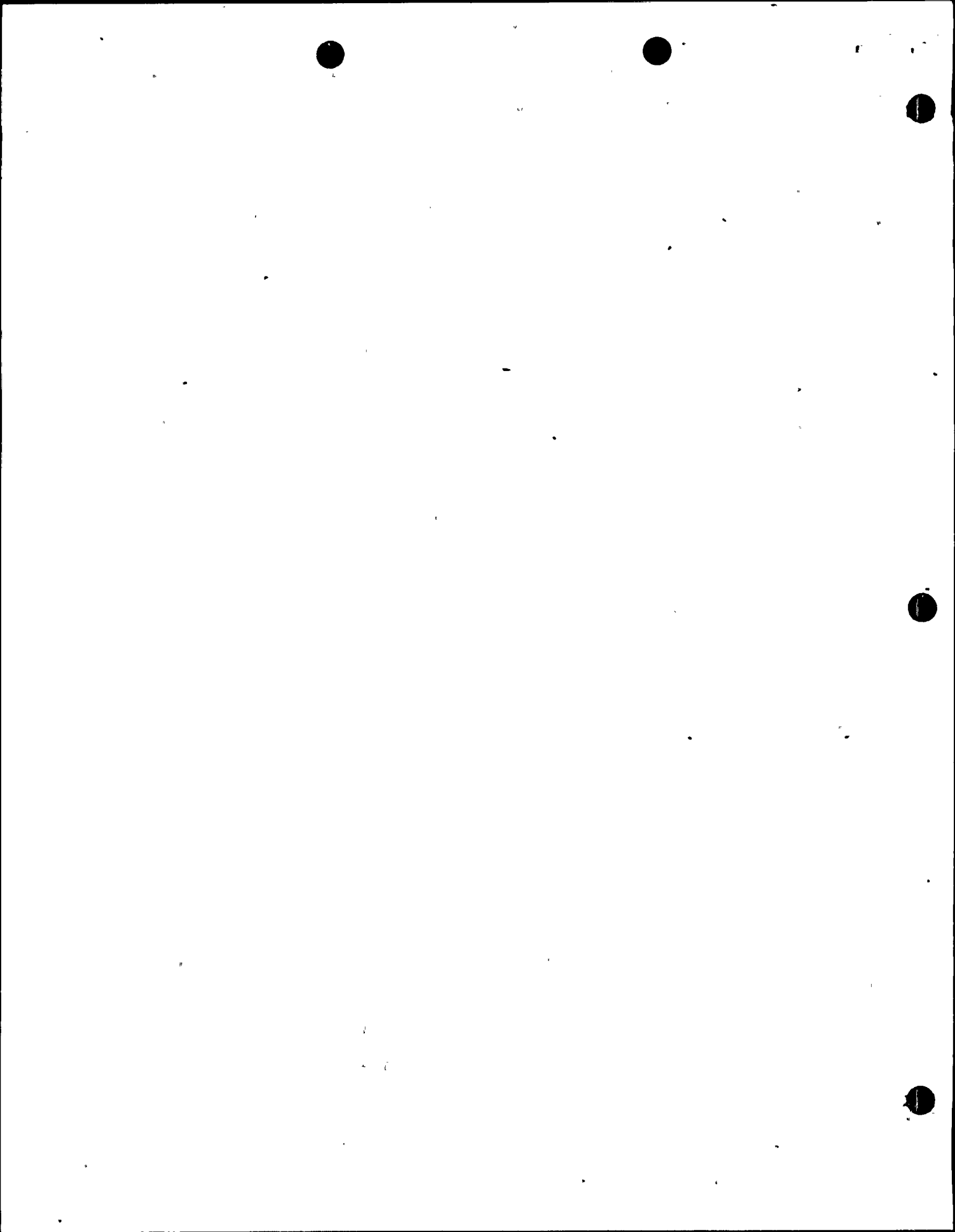
Areas examined during this inspection are described in the Office of Inspection and Enforcement Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

Within the scope of this inspection, no items of noncompliance were observed.

In accordance with Section 2.790 of the NRC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must include a full statement of the reasons on the basis of which it is claimed that the information is proprietary, and should be prepared so that proprietary information identified in the application is contained in a separate part of the document. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

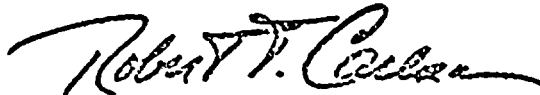
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No reply to this letter is required; however, should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,



Robert T. Carlson, Chief
Facility Construction and Engineering
Support Branch

Enclosure:

IE:I Inspection Report No. 50-410/75-04

cc: Eugene B. Thomas, Jr., Esquire

bcc: (w/encls)

IE Mail & Files (For Appropriate Distribution)

PDR

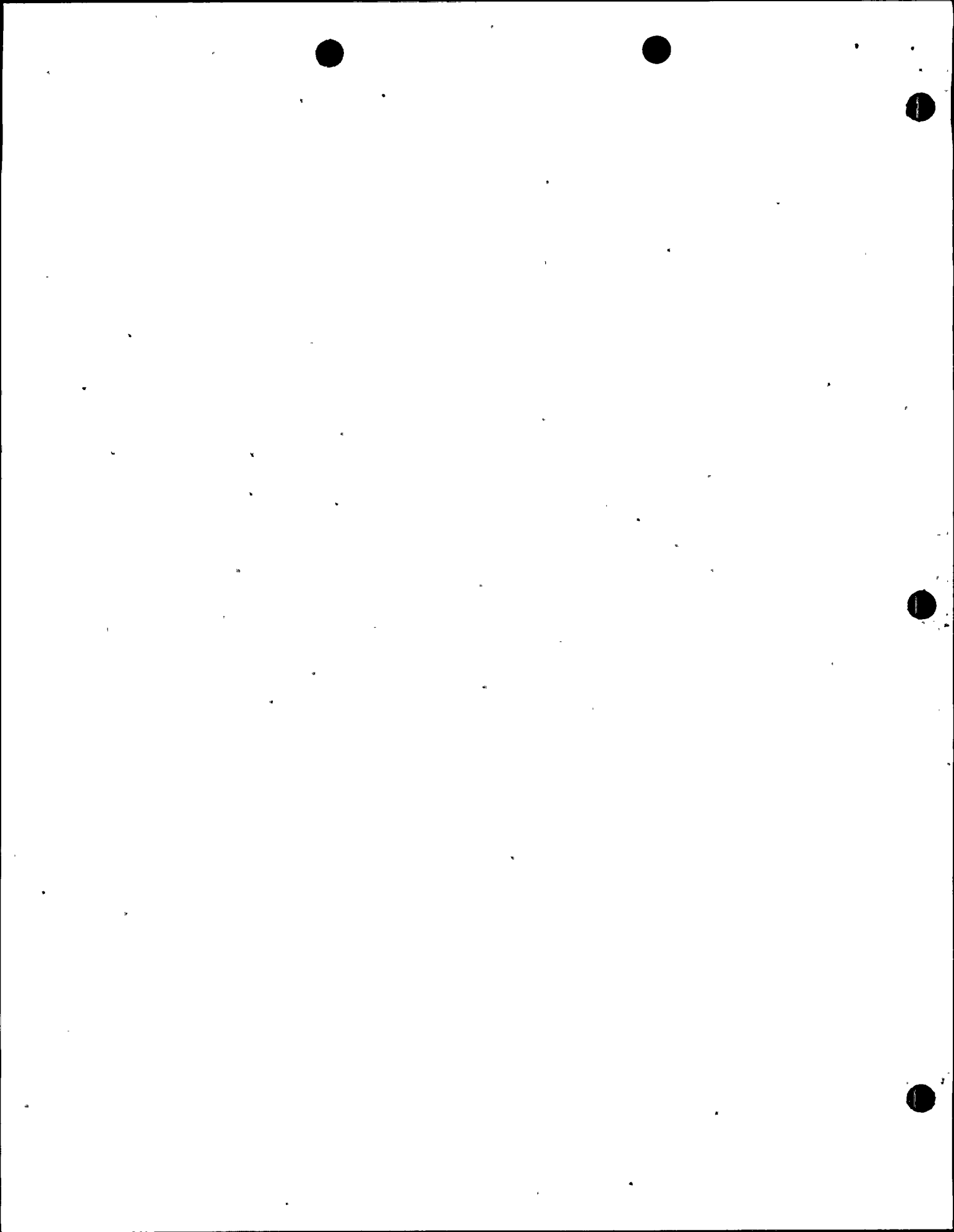
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State of New York



U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION I

IE Inspection Report No: 50-410/75-04

Docket No: 50-410

Licensee: Niagara Mohawk Power Corporation

License No: CPPR-112

300 Erie Boulevard - West

Priority: _____

Syracuse, New York 13202

Category: A

Location: Nine Mile Point, Unit No. 2
Scriba, New York

Safeguards
Group: _____

Type of Licensee: BWR, 1100 MWe (GE)

Type of Inspection: Routine, Unannounced

Dates of Inspection: October 21-22, 1975

Dates of Previous Inspection: July 29 - August 1, 1975

Reporting Inspector: *A. D. Toth*
A. D. Toth, Reactor Inspector

10/31/75
DATE

Accompanying Inspectors: *A. A. Varela*
A. A. Varela, Reactor Inspector

11/3/75
DATE

DATE

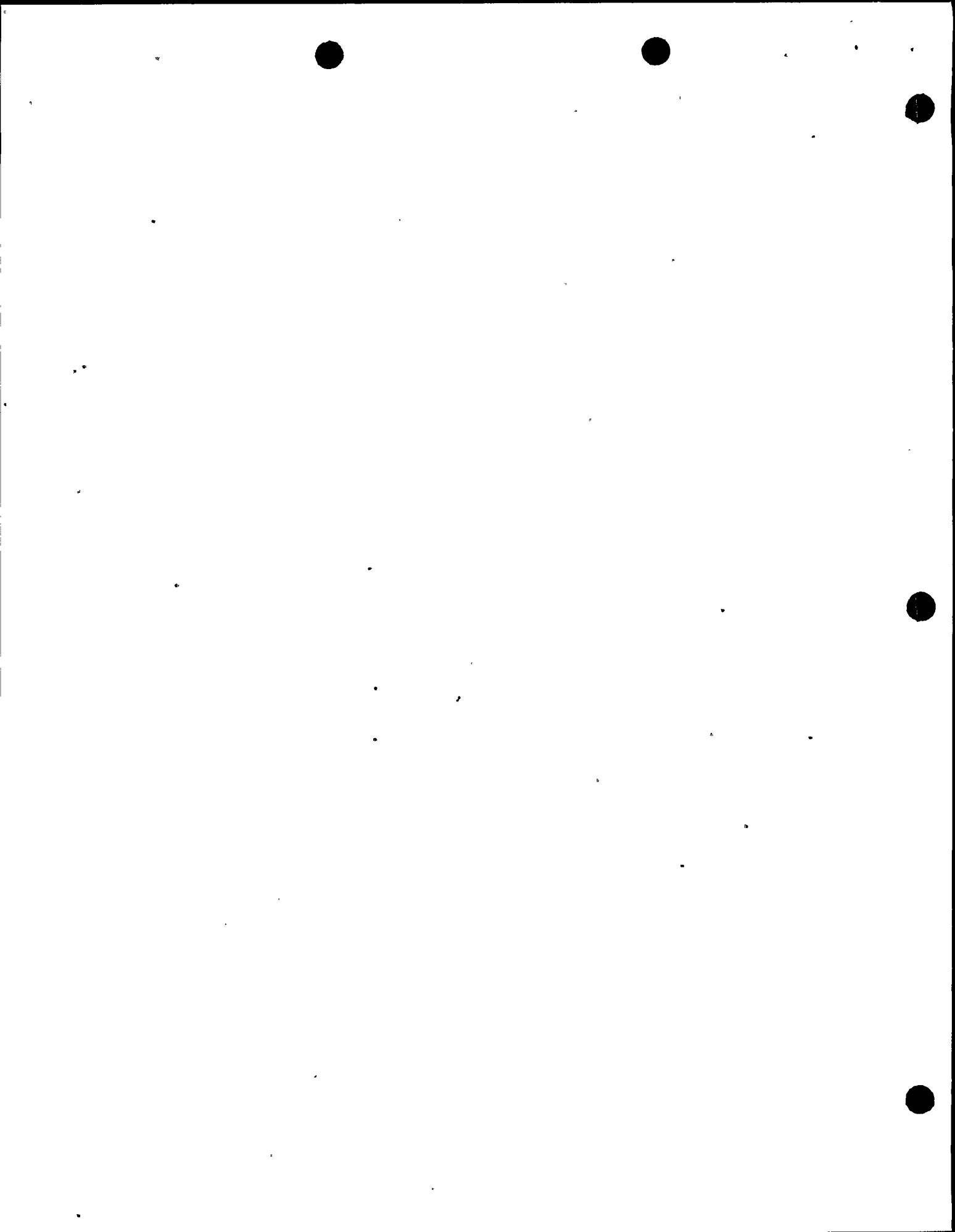
DATE

Other Accompanying Personnel: None

DATE

Reviewed By: *R. F. Heishman*
R. F. Heishman, Senior Reactor Inspector

11/5/75
DATE



SUMMARY OF FINDINGS

Enforcement Action

A. Items of Noncompliance

None

B. Deviations

None

Licensee Action on Previously Identified Enforcement Items

A. Items of Noncompliance

None

B. Deviations

None

Design Changes

None

Unusual Occurrences

None

Other Significant Findings

A. Current Findings

1. Acceptable Items

The following items were inspected and are considered acceptable except as may be noted otherwise under Enforcement Action or Unresolved Items. (Details, Paragraph 9, Subparagraphs as listed below):

- a. Quality control site organization and personnel, for licensee and contractor, for site preparation activities.



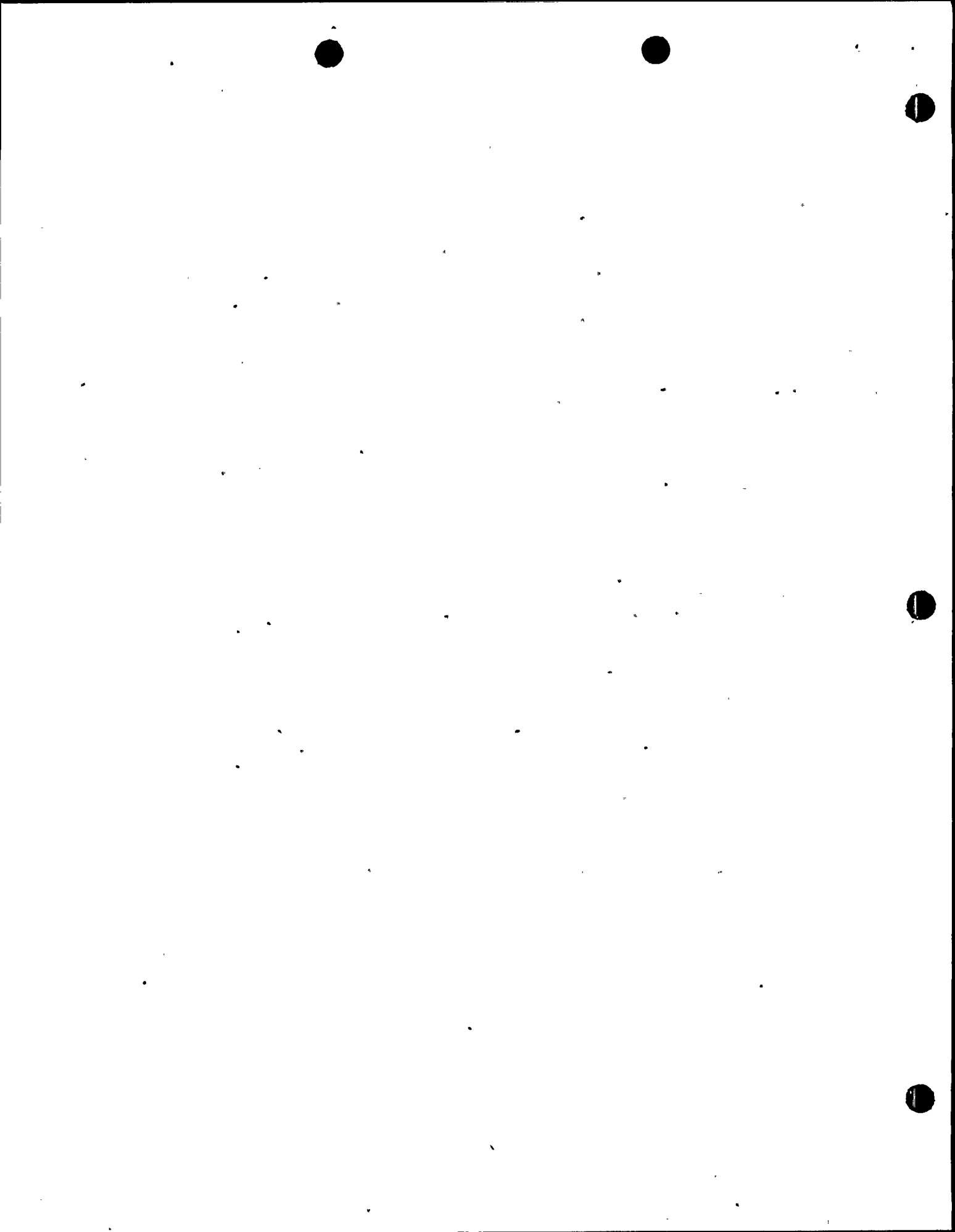
- b. Quality assurance audits of site preparation activities.
- c. Work and inspection procedures for blasting activities.
- d. Work and inspection procedures for earthwork.
- e. Records and document control for site preparation activities.
- f. Test and test equipment control for site preparation activities.
- g. Site preparation work-in-progress on blasting and rock-anchor installation.
- h. Records of blasting activities.

2. Unresolved Items

- a. Written statements of authority, responsibilities and duties have not yet been provided to the site construction and quality assurance staff of the licensee organization. (Details, Paragraph 7)
- b. An appropriate listing of the applicable aggregate collection of quality assurance instructions and procedures of the engineer/constructor is not yet available at the site. (Details, Paragraph 8)

B. Status of Previously Identified Unresolved Items

- 1. Excavation drawings have been revised to clarify the assigned responsibility for approving certain drawing interpretations. This resolves item number 5 of the Details section of IE Inspection Report No. 50-410/75-02. (Details, Paragraph 4)
- 2. A site surveillance procedure for licensee site staff has been prepared and issued. This resolves item number 7 of the Details section of IE Inspection Report No. 50-410/75-02. (Details, Paragraph 5)
- 3. Applicable CMP's have been issued to the site for blasting and rock anchors but not for earthwork or survey instrument checks. Thus, item number 6 of the Details section of IE Inspection Report No. 50-410/75-02 is still unresolved. (Details, Paragraph 6)



Management Interview

At the conclusion of the inspection a meeting was held at the site by the inspectors with the following personnel to discuss the inspection findings:

Niagara Mohawk Power Corporation

G. E. Sanford, Manager, Construction and Coordination
C. D. Terry, Associate Quality Assurance Engineer
J. P. Costello, Site Quality Assurance Engineer
S. H. Haybrook, Field App. Engineer, Construction and Coordination

Stone and Webster Engineering Corporation

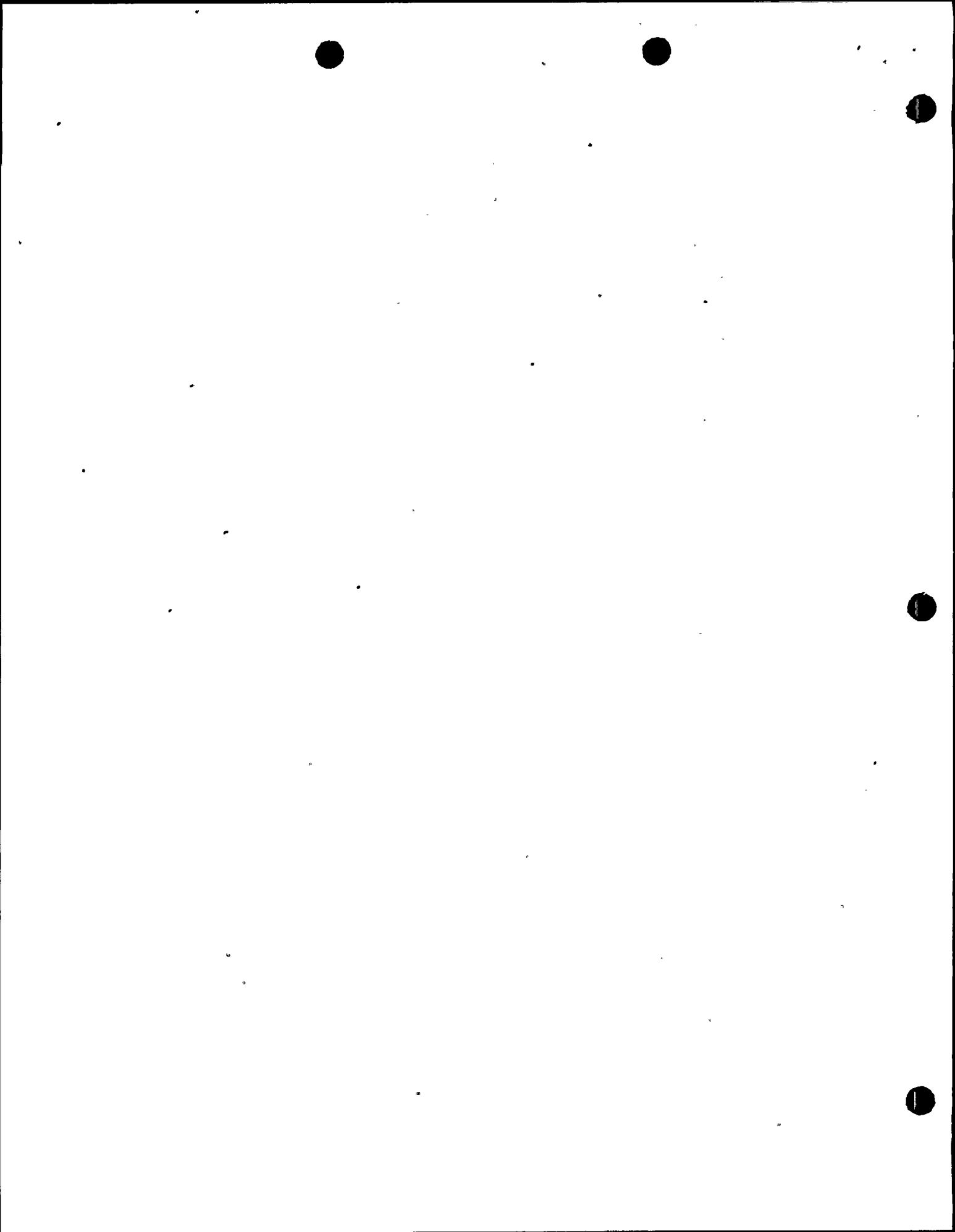
A. C. Drake, General Construction Superintendent
J. E. Loomis, Assistant Superintendent
B. W. Gatlin, Superintendent, Field Quality Control

The following inspection findings were presented by the inspector, and were acknowledged by the licensee representative:

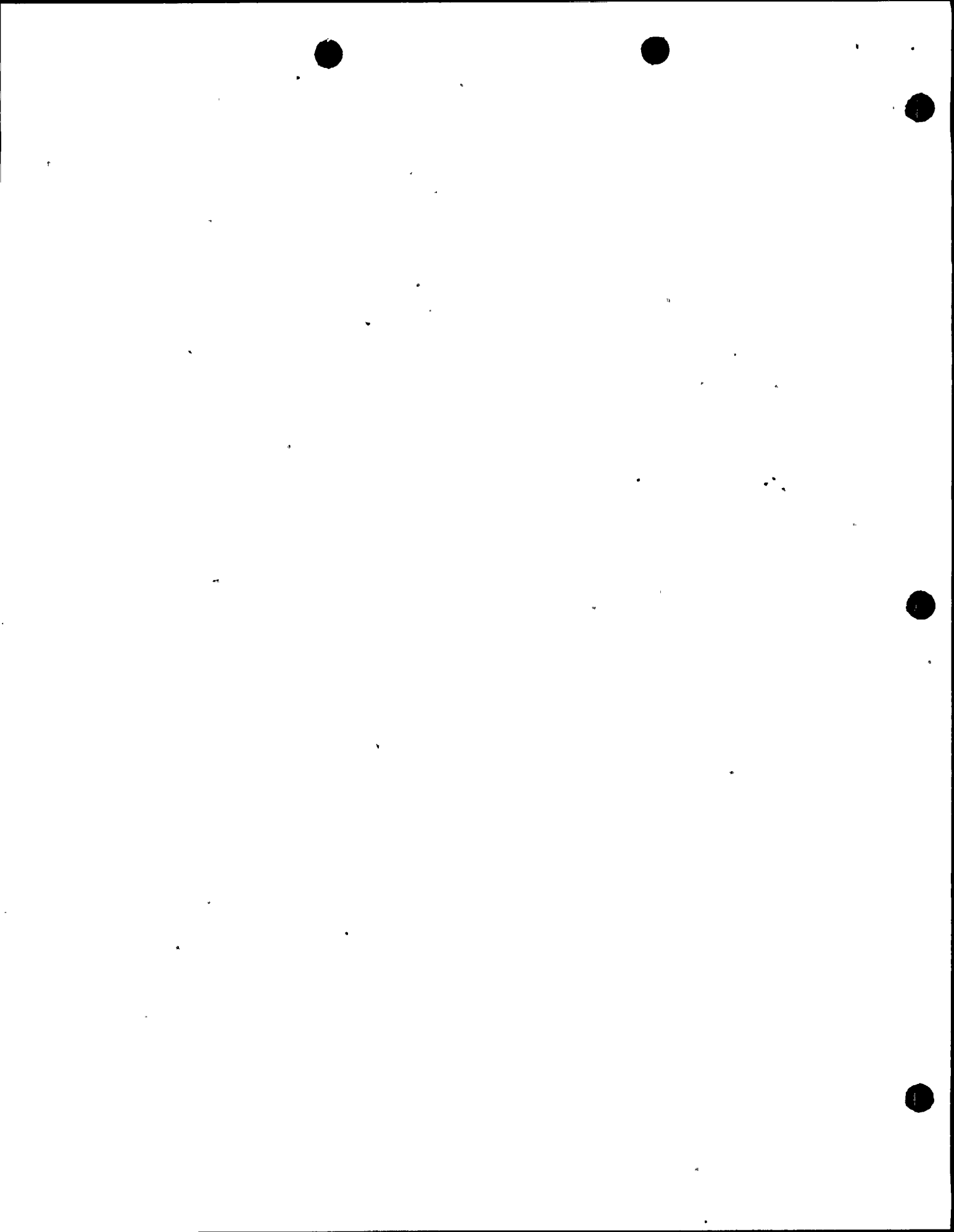
- A. The principal scope of the inspection included review of quality assurance and quality control procedures and specifications, work in progress and records for site preparation activities.

The inspector stated that this inspection included a review of the initial establishment of field quality control and quality assurance functions at the site, by the engineer/constructor and by the licensee. The inspector noted the licensee position that the actual removal of material and installation of rock anchors was not safety related work except as blasting may affect the foundation of safety related facilities. The licensee stated that evaluation of the foundation will be performed by geological engineers following completion of blasting, excavation and cleanup. (Details, Paragraph 2)

- B. Specific areas were examined and are considered acceptable as noted under "Current Findings." (Details, Paragraph 9)
- C. There were two new unresolved items identified by the inspector, as noted under "Current Findings." (Details, Paragraphs 7 & 8)
- D. Licensee resolution of two items was verified as noted under "Current Findings" and these items are now considered acceptable. (Details, Paragraphs 4 & 5)



E. Licensee action on one previously identified unresolved item was inspected and in the areas noted under "Current Findings" this item has been identified as not yet fully resolved. (Details, Paragraph 6)



DETAILS

1. Persons Contacted

Niagara Mohawk Power Corporation

G. E. Sanford, Manager, Construction and Coordination
C. D. Terry, Associate Quality Assurance Engineer
J. P. Costello, Site Quality Assurance Engineer
S. H. Haybrook, Field App. Engineer, Construction and Coordination
J. Bebko, Project Quality Assurance Lead Engineer

Stone and Webster Engineering Corporation

A. C. Drake, General Superintendent of Construction
J. E. Loomis, Assistant Superintendent of Construction
B. W. Gatlin, Superintendent Field Quality Control
J. Wazlaw, Lead Geological Technician
G. W. Page, Geotechnical Liaison Engineer
T. L. Bruno, Geotechnical Engineer
C. W. Stewart, Senior Quality Control Inspector
J. G. Hook, Assistant Quality Control Engineer.

Dames and Moore

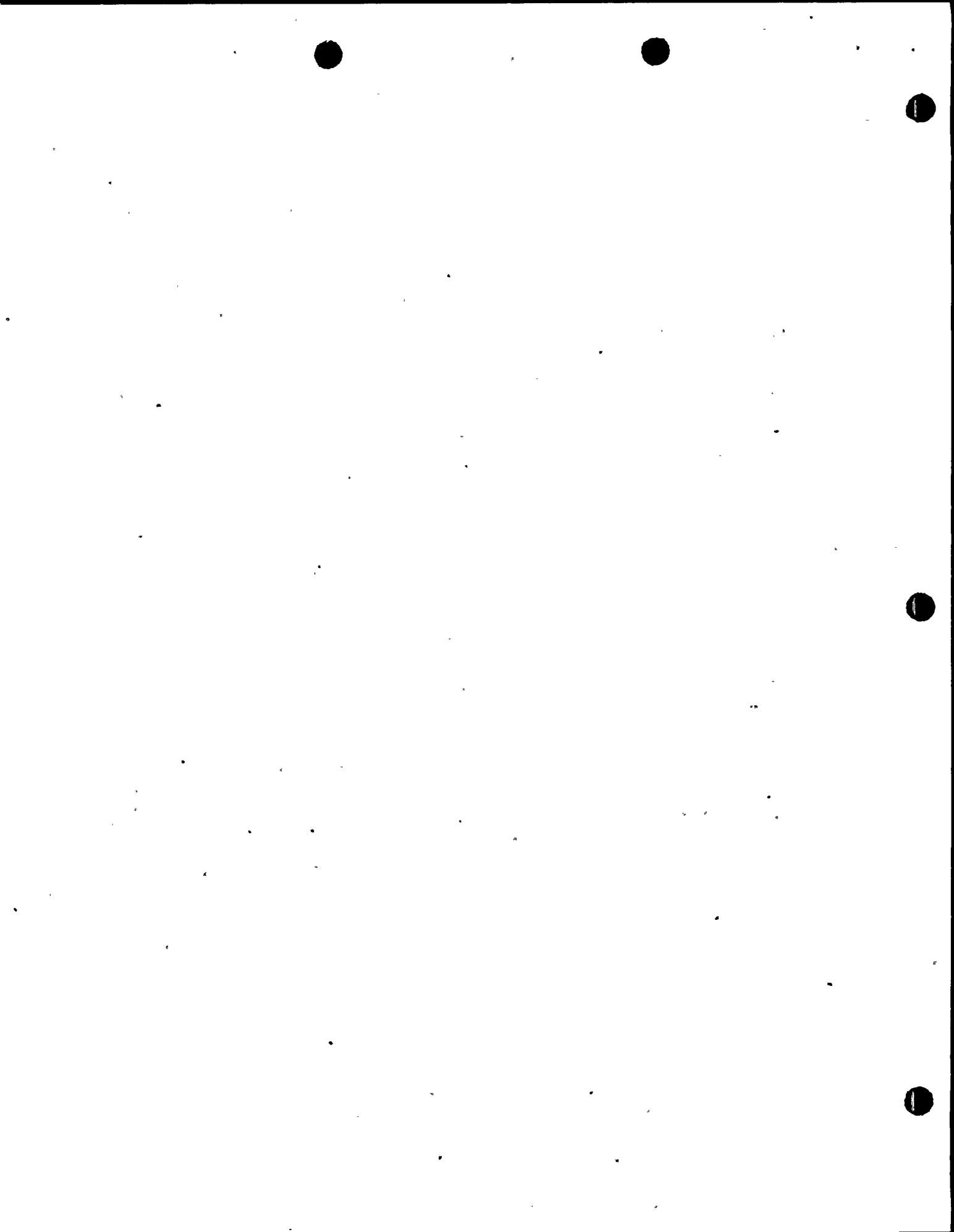
S. Rossello, Geological Technician

Peter Kiewit Sons' Company

B. Miller, Blasting Engineer
M. Bodwicz, Licensed Dynamiter
B. Miller, Blasting Consultant

2. General

This inspection was to assess quality assurance program activities for early site activities, particularly site preparation work. It included a review of specifications and procedures for conduct and monitoring of work in progress. Work activities of rock bolt installation and blasting of rock were observed. Specifications for concrete were reviewed to determine the intended approach to early establishment of design mixes. Previous unresolved items for the project were reviewed.



3. Project Status

Soil overburden has been removed from the general construction site. Blasting/excavation of bedrock has been in progress since September 15. Bedrock excavation at the reactor building and auxiliaries building has progressed to about 15-20 foot depth. Line drilling and pre-splitting and rock-bolt-reinforcing have commenced in the turbine building, heater bay and intake tunnel shaft areas. Batch plant construction has not started. First permanent facility concrete placement is not anticipated prior to October 1976.

4. Resolution: Engineer Approval Responsibility

Excavation drawings have been revised to clarify the assigned responsibility for approving certain drawing interpretations. This resolves item number 5 of the Details section of IE Inspection Report No. 50-410/75-02.

The inspector reviewed drawing 12177-EY-36 revision 3 and observed that notes numbered 8 and 10 have been clarified to establish that it is the senior construction representative on site or his designee who may approve adjustments to earth excavation outlines.

5. Resolution; Licensee Site Surveillance Procedure

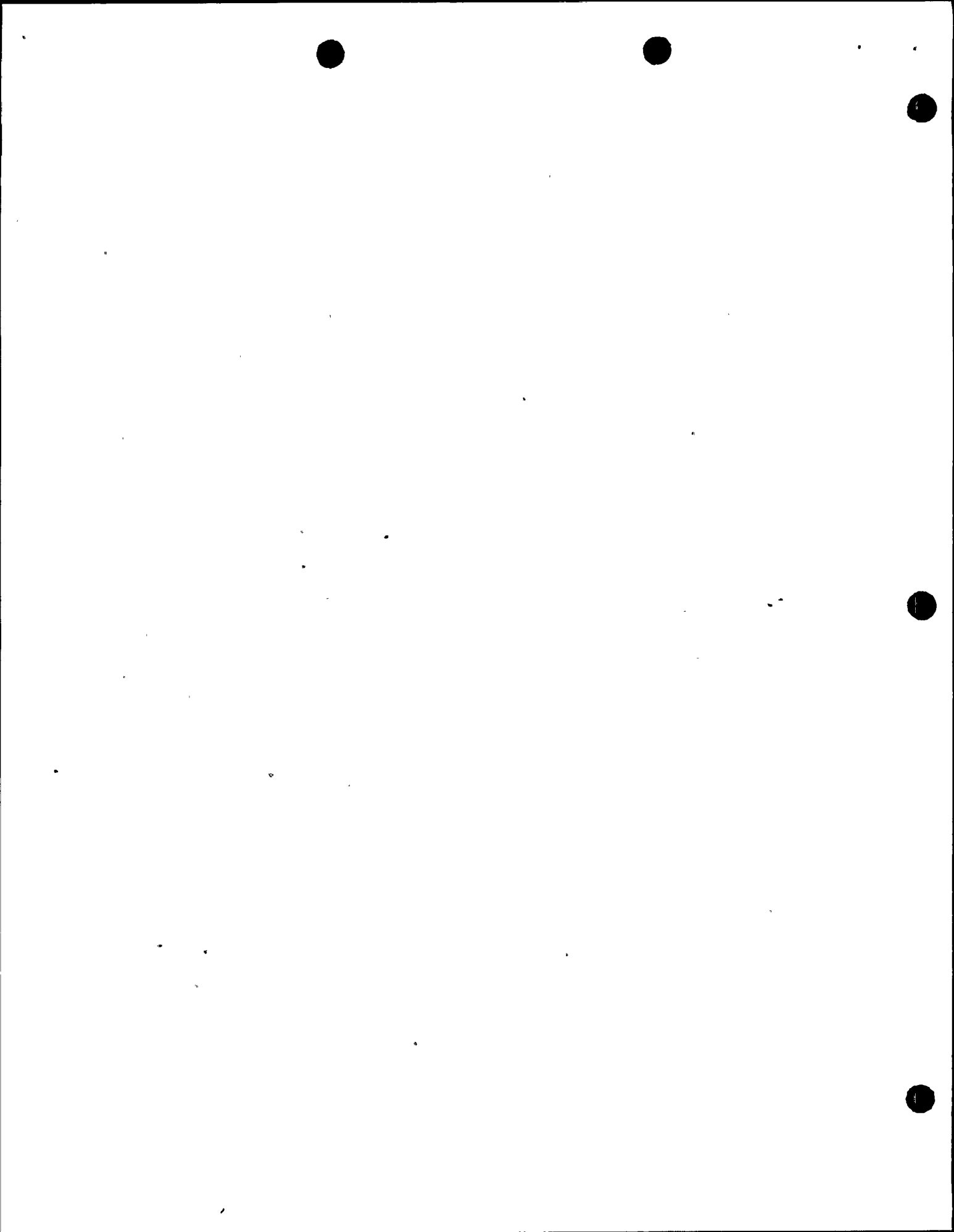
A site surveillance procedure for licensee site staff has been prepared and issued. This resolves item number 7 of the Details section of IE Inspection Report No. 50-410/75-02.

The inspector reviewed procedure QAP-10.20 dated 10/20/75. This procedure provides for surveillance of site activities, recording of irregular items, provision for follow-up, and review by supervision. It provides a log of daily surveillance areas and forms for individual reports of surveillance, results, and corrective action as required.

The inspector reviewed the schedule provided to the site by the Project Quality Assurance Lead Engineer, for the period 9/10/75 thru 10/3/75, and Surveillance Reports Log and Surveillance Reports for that period. The records indicate that personnel have been assigned and surveillance has been planned, conducted and documented for activities in progress.

6. Status of Unresolved Item: Construction Methods Procedures

Applicable CMP's have been issued to the site for blasting and rock anchors but not for earthwork or survey instrument checks. Thus, item number 6 of the Details section of IE Inspection Report No. 50-410/75-02 is still unresolved.



The inspector viewed a binder of seven Construction Methods Procedures (CMP's) and noted that among these were procedures for rock blasting and rock bolt reinforcements work; these activities are in-progress at the site. A CMP for earthwork (backfill) was not included; however, the licensee stated that no earthwork activity has been conducted nor is any scheduled for the near future.

The inspector requested identification of those CMP's which are required/planned and the schedule dates of issue. An informal 3-page list was located and the inspector reviewed this with respect to status of work at the site. CMP-1-6 "Check of Survey Instruments" appeared on the list with a scheduled issued date of 2/1/75. This procedure was not available on site, and neither the licensee nor his representative could describe its content or detailed objective. The inspector reviewed evidence that calibration checks of survey instruments have in fact been performed (indicated by the licensee 9/24/75 documented Surveillance Report) for site survey work in progress.

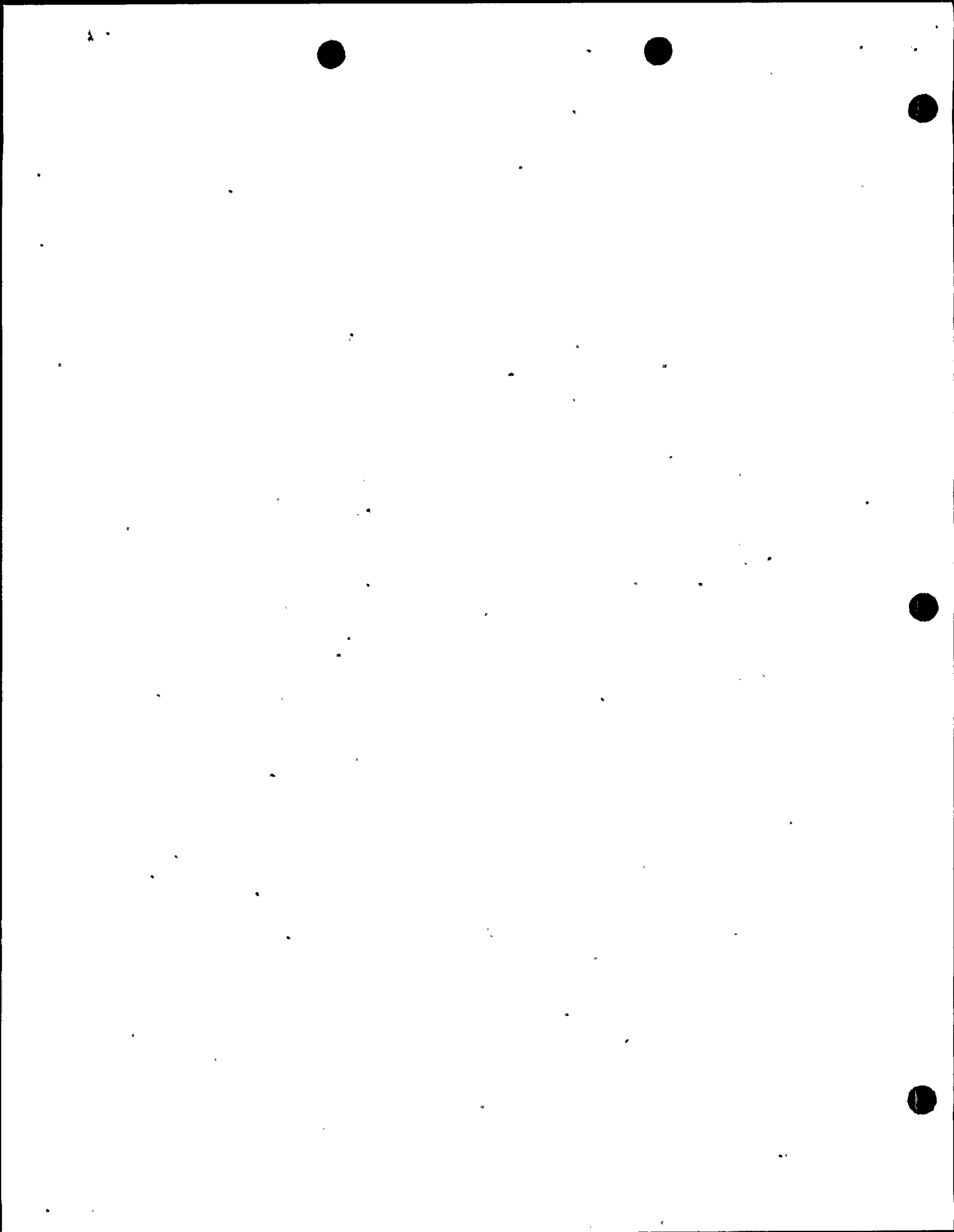
The above data indicates that the administrative system may not include adequate provisions to assure that activities are not conducted without the applicable procedures. This matter remains unresolved pending future review of controls which may be implemented and verification that required CMP's are available and used by the site is required.

The following documents were reviewed by the inspector, in connection with the above item:

QS-10-1	dated 11/13/74	Earthwork
QS-10-2	dated 6/3/75	Rockbolts and Reinforcements
CMP-1-1	dated 8/75	Preparation and Control of Construction Methods Procedures
CMP-1-8	dated 9/75	Control of Measuring and Test Equipment
CMP-2-5	dated 9/75	Rock Bolting and Rock Wall Support
NMPC Site Surveillance Report	dated 9/24/75	

7. Unresolved: Licensee Site Staff Position Descriptions

The inspector interviewed members of the licensee site staff and determined that written statements of authority and duties and clear definition of position title had not yet been established for either the quality assurance senior representative or the construction group



senior representative. A written delegation of responsibility, for specific activities, (as required by Procedure QAP-1.01 Rev. 1 Paragraph 4.3) has not yet been issued.

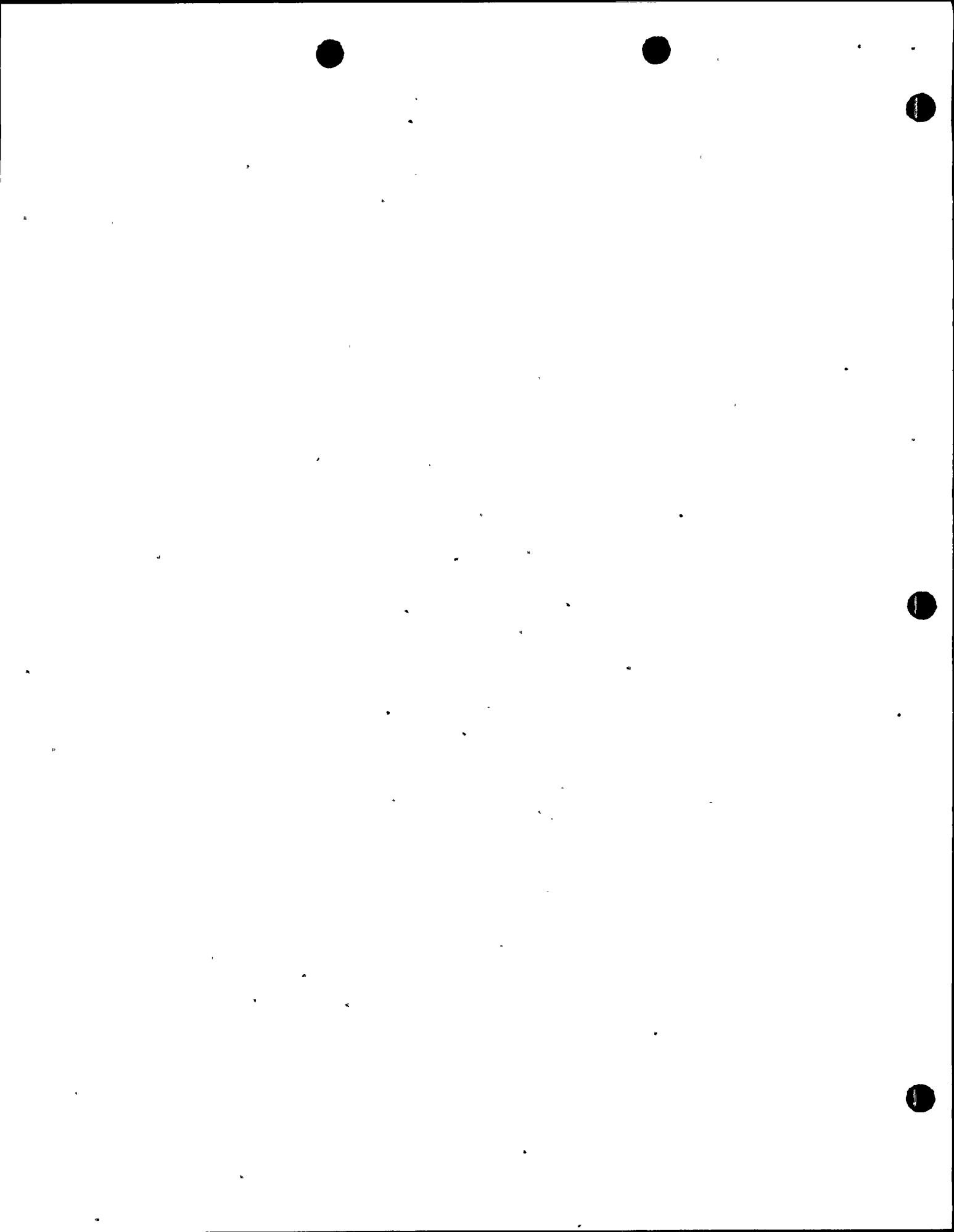
The licensee representative stated that the site personnel assignments had just recently been made and that position titles and descriptions will be established before January 1, 1976. This item is unresolved pending review of such data.

8. Unresolved: Definition of Constructor's QA Program

The inspector briefly examined the overall system of procedures and instructions available at the site, including the following Stone and Webster documents:

- Quality Assurance Program Manual
- Standard Quality Assurance Program Manual
- Quality Standards Manual
- Quality Assurance Directives Manual (Volume 1 & 2)
- Engineering Assurance Manual
- Calibration Manual
- Quality Assurance Manual for ASME Section III Items
- Construction Methods Procedures
- Construction Site Instructions
- Non-Destructive Testing Manual

The site personnel did not have available an overall listing which established which of the various documents were applicable to the work on this project. The inspector discussed the applicability of the documents with different site personnel and determined that there was not uniform agreement as to which documents were and were not applicable. The applicability of most documents was determined by reference to project applicability sheets attached to individual Quality Standards and Quality Assurance Directives, and this in turn led to conclusions that documents referenced therein were also applicable. However, the applicability of the ASME Section III Manual, and the applicability of engineering assurance procedures included in the EAP Manual but not referenced in an individual Quality Standard or Quality Assurance Directive was not clear. The cross reference matrix of Appendix A-1 of the licensee's QA Manual was insufficient to clarify the questions, in that it is out-of-date and does not reflect the Stone and Webster change to the Quality Standards/Quality Assurance Directive approach.



The licensee stated that this matter would be corrected within one month and that a letter was planned to be submitted to NRC Reactor Licensing by mid-December, describing the new system of procedures which will constitute the engineer/constructor's quality assurance program details.

9. The following items were examined by the inspector for compliance with applicable regulations and commitments and no noncompliances, deviations or other irregularities were observed except as noted:

a. Organizational Structure and QA Personnel

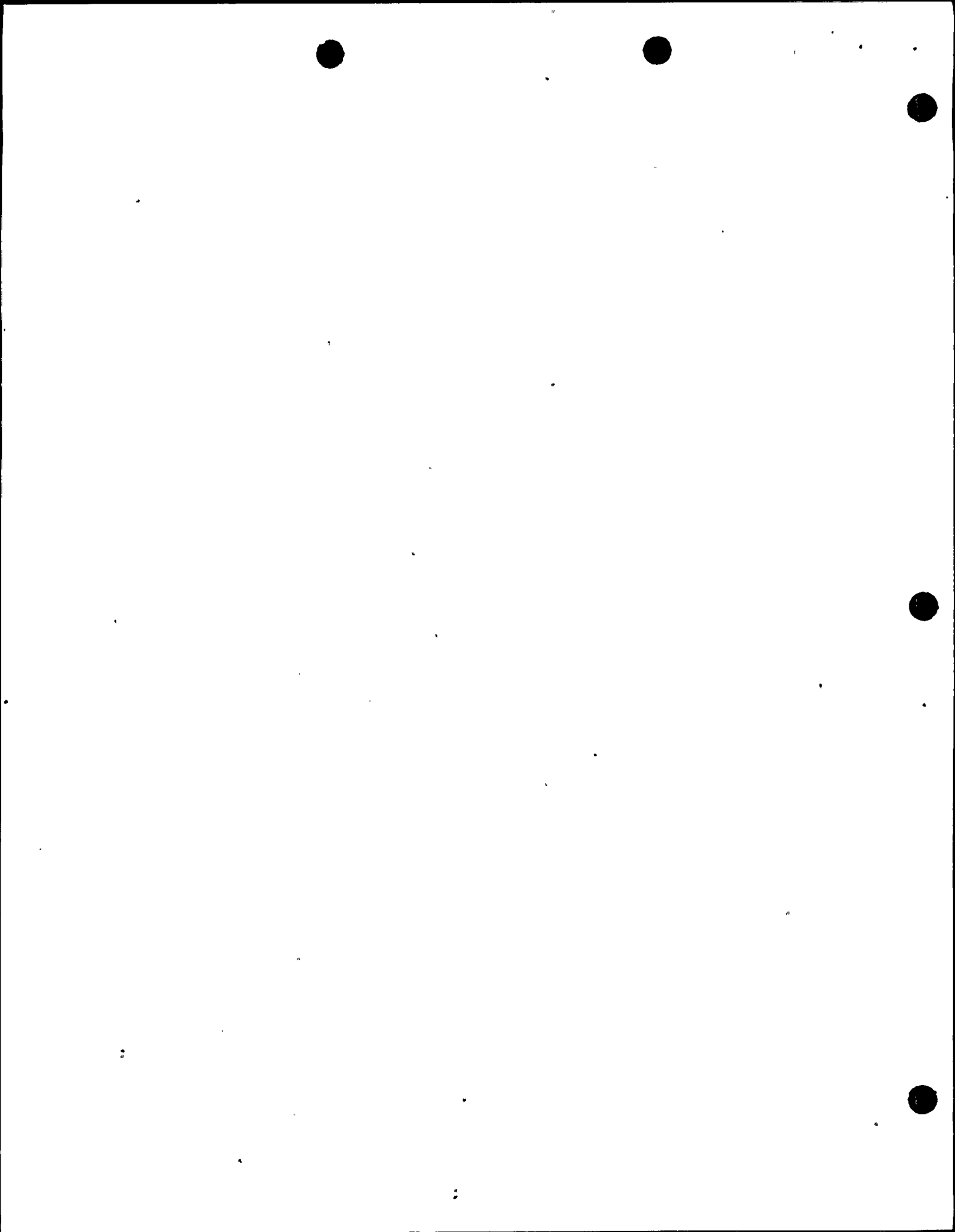
The engineer/constructor site organization includes construction management, quality control, and geological monitoring sections. Organizational independence is maintained. For excavation work in progress the engineer/constructor is providing quality control surveillance over the activities of the subcontractor.

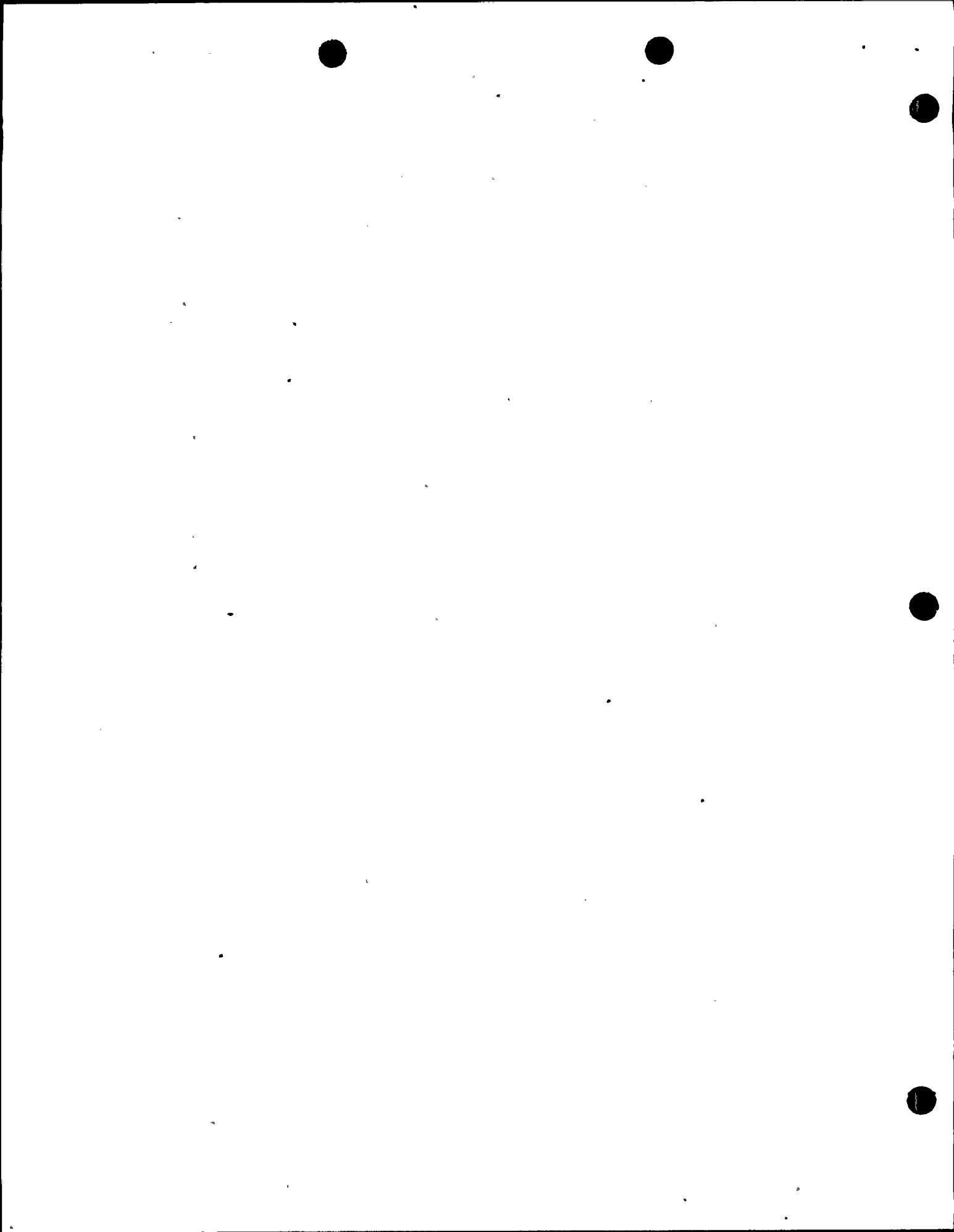
The inspector reviewed the engineer/constructor Continuing Education Schedule dated 9/10/75 for site training activities for July thru December 1975. These included quality control indoctrination, blasting, risk release of procured equipment, and concrete testing. The inspector also reviewed the Training Records for those sessions conducted in August and September, and observed that most of the site staff attended these sessions, including a monitor from the licensee organization.

The inspector reviewed procedures and discussed stop work authority with site personnel. The provision for stop work by site quality assurance personnel appears to exist, however, written statements of duties and responsibilities were absent for licensee site staff, as noted elsewhere in this report. With this exception, this item is considered acceptable.

b. Audits of Site Preparation

A site audit by engineer/constructor quality assurance staff is expected this year. A licensee audit was conducted in August, and licensee surveillance has been conducted in specific planned areas since July 1975. The inspector reviewed such surveillance reports. This activity is considered acceptable commensurate with project status.





Quality Standard QS-10-1 Earthwork
Contract Specification #502 Earthwork
Quality Assurance Directive QAD-10-4 Earthwork Inspections
Quality Assurance Directive QAD-11-1 Testing of Soils
Construction Methods Procedure - Index and Schedule of Issue

These were reviewed for conformance to the quality assurance program requirements, for structural backfill, compaction and testing. No unacceptable items were observed.

e. Records and Document Control - Site Preparation

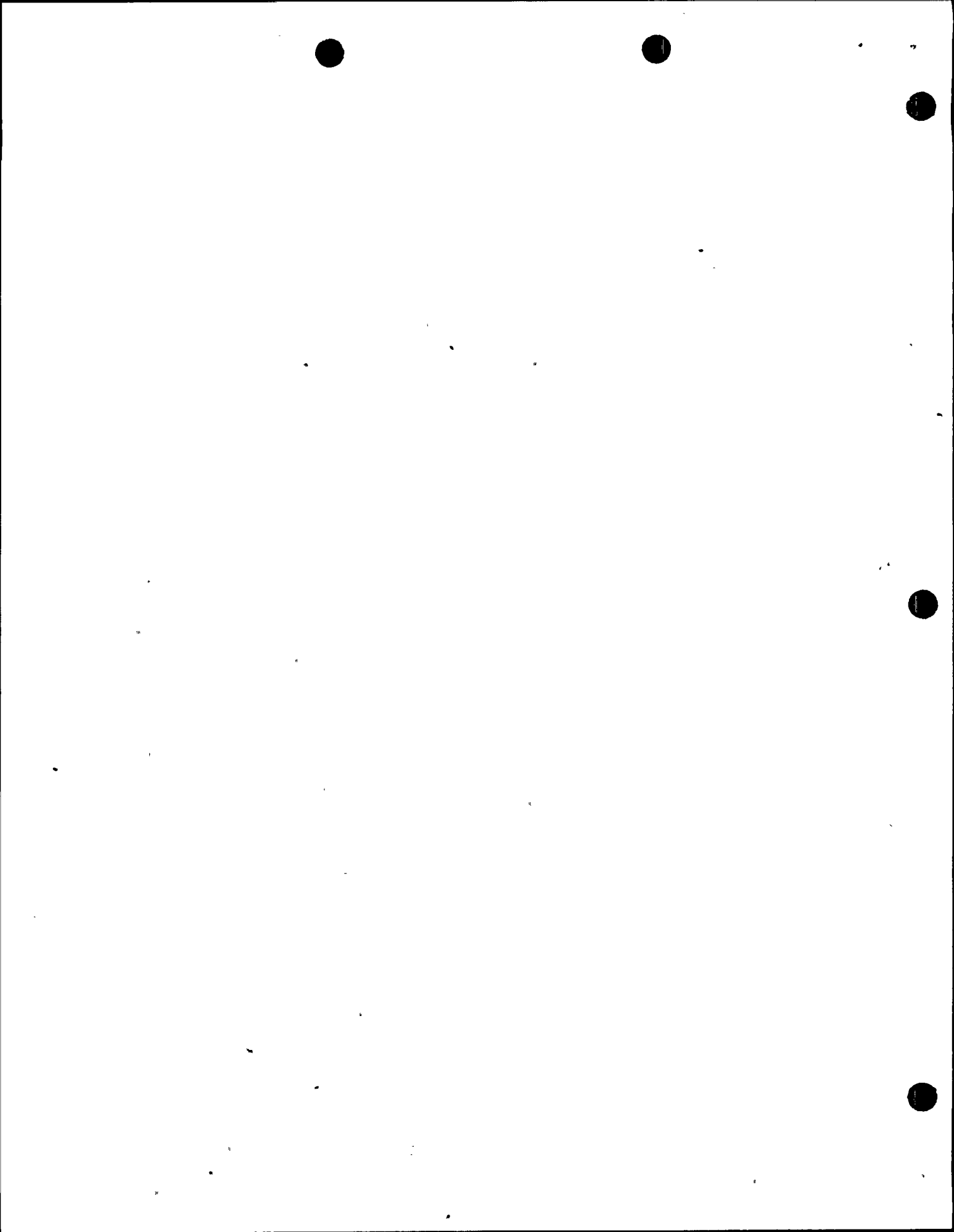
The inspector reviewed field instructions for records and document control, and examined typical records of ongoing activities. Documents reviewed included the following:

Construction Methods Procedure 11-8, Jobsite Document Control
Construction Methods Procedure 1-1, Preparation/Control of CMP's
Quality Standard QS-6-1, Document/Document Change Control
Construction Site Instruction CSI-1-1, Preparation, Issue, Control
of CSI's
Quality Standard QS-10.61, Quality Verification System
Contract Specification #500, General Excavation
Excavation Construction Drawings

Document control and records instructions appeared adequate, although a listing of aggregate instructions was unavailable, as described in paragraph 8 of this report. Drawing controls included color coding of working drawings and information drawings, and provided attachments as records of changes. Specifications included the originals and addenda. Contract specifications and quality program procedures provided for records of materials, work and work inspection, and review of records by qualified and responsible personnel.

f. Test and Test Equipment Control - Site Preparation

The inspector reviewed specifications, procedures and records relating to monitoring blasting, calibration of seismographs and rock bolt anchor tensioners, and general instrument calibration. He also reviewed requirements relating to soil testing for future earthwork activities. Documents reviewed included the following:



Construction Methods Procedure 1.8, Control of Measuring of Test Equipment Calibration Manual
Interoffice Correspondence - Regarding Calibration of Seismographs
Engineering Assurance Procedure 12-1, Control of Measuring of Test Equipment
QA Surveillance Log, September 24, 1975, re: Survey Instrument Checks
Contract Specification #502, Earthwork
Contract Specification #304, Mixing and Delivery of Concrete

The test and test equipment calibration provisions appeared to be consistent with the quality program requirements.

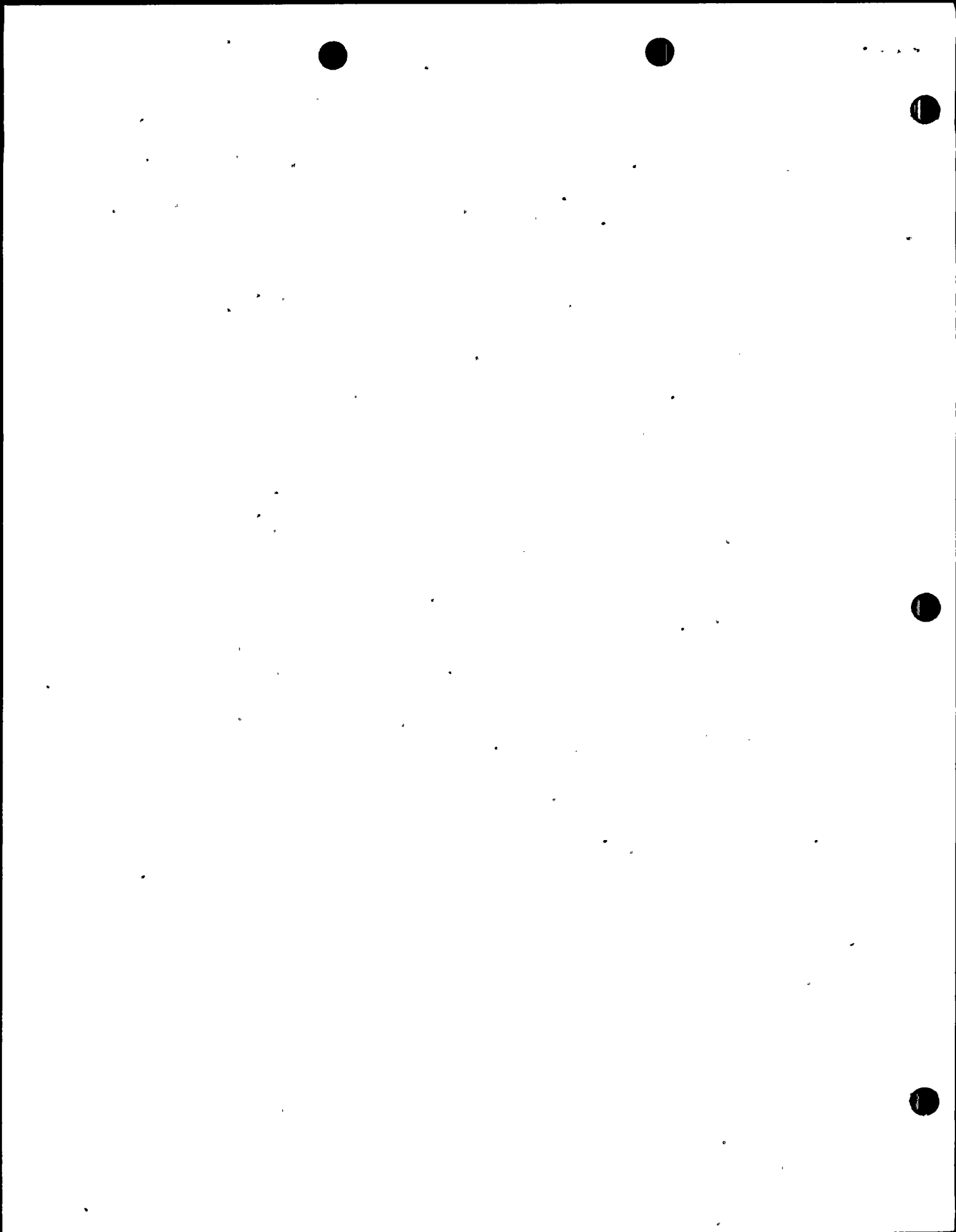
g. Site Preparation Work In Progress

The inspector observed work-in-progress involving rock anchor drilling and installation and excavation/blasting of bedrock. Specifically, the inspector observed:

- (1) Rock anchor installation at the cooling water tunnel shaft area.
- (2) Completed line-drilling for bedrock pre-splitting at the turbine building and heater bay areas.
- (3) Blast charge loading at the auxiliary building area.
- (4) Blasting at the auxiliary building area, and reactor building area.

The subcontractor drilling, loading and blasting were observed to involve approval of the engineer/constructor Geotechnical Engineer and verification by the engineer/constructor Quality Control Engineer. Blasting control was observed to satisfy the criteria established for the following:

- (1) Peak radial velocity at the existing adjacent operating reactor facility.
- (2) Peak radial velocity at 120 feet from the blast.
- (3) Peak particle velocity permissible on fresh concrete (measured at the temporary facility fresh concrete pour).



The observed work appeared consistent with the established quality program procedures, including engineering and quality control monitoring of the activities.

h. Blasting Records

The inspector reviewed the blasting records for the work-in-progress he observed on October 21, 1975. The records for the three blasts included the required reviews and approvals by Geotechnical and Quality Control staff, and included data to demonstrate that the blast was monitored as required by procedure. Records documented that the two seismographs had been calibrated traceable to standards of the National Bureau of Standards and have been subject to monthly field checks. The data from the seismographs (3-component "Sprengnether" models VS-1100 and VS-1200) was within specification limits.

10. Other Items Inspected - Containment Concrete Work Procedures

The inspector briefly reviewed concrete mix specification 304 dated 2/24/74 and addenda 1 and 2, to assess general compliance with PSAR commitments and to determine licensee intent to qualify design mixes and certify the concrete test laboratory. The specification had been prepared for bid just prior to the project delay experienced between 1974-1975 and the licensee stated that the specification is being updated prior to reissue for bid. The inspector noted that the specification requires some updating of certain reference codes and standards to comply with PSAR commitments to use latest revisions of such references. The inspector noted that quality assurance directives exist for quality control activities for concrete work. Since concrete placement activities are not scheduled to commence until fall of 1976, the inspector deferred a more intensive review of quality assurance program provisions for this activity.

