U. S. ATOMIC ENERGY COMMISSION
REGION I
DIVISION OF COMPLIANCE

Report of Inspection

CO Report No. 247/69-9

Licensee: CONSOLIDATED EDISON COMPANY
Indian Point No. 2 (IP-2)
License No. CPRR-21
Category B

Dates of Inspection: August 26, 27 and 29, and September 10, 1969

Dates of Last Inspection: July 23 and 24, 1969

Inspected by: G. L. Madsen 10/17/69
G. L. Madsen, Reactor Inspector Date

Reviewed by : R. T. Carlson 10/20/69
R. T. Carlson, Senior Reactor Inspector Date

Proprietary Information: Section II.C.2 and other references to formation of Wedco, Inc.

SCOPE

Routine, announced inspections were made of the Consolidated Edison Company, Indian Point No. 2 construction site. The main items reviewed were the Westinghouse proposed organization change, status of pipe allegation investigations, and control of electrical cable placement.

SUMMARY

In connection with previous pipe allegations Con Ed is performing an active audit program for stainless steel piping procured from Dravo. A final report relating to this audit is nearing completion.

Two sections of safety injection piping were returned from Cameron Iron Works following repairs. Con Ed found one of these sections to be unacceptable because of surface depressions. Ultrasonic testing is scheduled.

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Con Ed and Courter have altered their welding records to correct previously noted deficiencies relating to difficulty of verifying completeness of systems.

Westinghouse is presently planning to form a subsidiary company (Wedco, Inc.) The new company is to essentially absorb the UE&C activities and much of the Westinghouse involvement. The takeover by Wedco is presently scheduled for October 15, 1969.

Twenty of 32 reactor coolant system welds have been completed and accepted. Formation of the remaining 12 is in progress.

Welding of the control rod drive vessel seal welds is in progress. Sixteen welds have been formed and hydrostatically tested.

Electrical cable placement between the control room and containment and the primary auxiliary building is about 75% complete. Con Ed has traced the routing of 25 cables and some apparent deficiencies have been noted. Observations by the inspector revealed questionable conditions relative to required separation of redundant cables.

The Fuel Storage Building has been essentially accepted by Con Ed. The inspector noted that the storage rack spacing, storage capacity, and crane mobility does not adhere to the requirements of the FSAR.

The core internals have been received and are stored within a regulated area.

A partial loss of electrical supply to the polar crane was encountered while positioning the lower core internals in the reactor vessel. Movement of the crane was halted by removal of electrical power. Inspection of the core internals and the reactor vessel cladding revealed no evidence of physical damage.

Westinghouse has authorized the installation of 20 gauge stainless steel protective bands in areas where carbon steel supports are in contact with stainless pipe. Also where gross expansion movement is anticipated, stainless wear pads are to be welded to the pipe in order to prevent carbon fretting from the support materials.

U. S. Testing (UST) surveillance of concrete activity between November 1968, and July 1969, revealed some QC deficiencies. Con Ed therefore, upgraded the surveillance of this activity. Compressive

strength results indicate that acceptable strength concrete has been obtained.

DETAILS

I. Persons Contacted:

A. Con Ed

Mr. G. Nicholson, Assistant to Vice President of Construction
Mr. F. McElwee, Site Project Manager
Mr. A. Corcoran, Site Construction Superintendent
Mr. P. Leo, Assistant Site Construction Superintendent
Mr. E. Dadson, Site Quality Assurance Supervisor
Mr. F. Repose, Piping Inspector
Mr. O. Beusse, Electrical Inspection Foreman

B. Westinghouse

Mr. D. Anderson, Project Superintendent
Mr. T. Nader, Welding Inspector
Mr. T. Lawson, Quality Assurance Inspector

C. United Engineers & Constructors (UE&C)

Mr. J. Fant, Quality Control Supervisor

II. Results of Visit

A. Pipe Allegations

1. General

In connection with previously reported pipe allegations,* Con Ed initiated an active audit program for stainless steel pipe and fittings procured from Dravo. The audit program included visits to Dravo and the pipe and fitting suppliers to determine the acceptability of all class I stainless piping in IP-2. Two general problems were identified. They are: (a) deviations from purchase specifications and (b) deficiencies in supporting mill certificates. The audit of one pipe

*CO Report Nos. 247/6906, Paragraph II.C., 247/69-7, Paragraph II.H., and 247/69-8, Paragraph II.A.

supplier (Allegheny-Ludlum) remains to be completed; however, based on previous spot checks no problems with this supplier are anticipated. Con Ed is in the process of preparing a final report relating to the pipe audit program.

2. Dravo Visits

As previously reported*, the review of mill certificates at Dravo revealed deficiencies relating to insufficient identification of base materials, carbon contents below purchase specification, and lack of hydrostatic, flattening, and radiographic data.

3. Supplier Visits

Con Ed initiated pipe and fitting supplier visits for all cases which involved mill certification deficiencies in the Dravo records. Mr. Corcoran stated that all but one of these suppliers (Allegheny-Ludlum) have been visited and that UST is scheduled to visit this supplier. Based on the results of the supplier visits Con Ed presently feels that the questions to be resolved are centered around pipe procured from Associated Steel Company and deviations from the purchase specification which will require resolution and approval by Westinghouse.

4. Associated Steel Company (AS)

UST visited the shops of Associated Steel Company (now Tube Associates). The visit reports indicated that material records relating to hydrostatic, radiographic, and flattening testing was not available at this supplier. Con Ed's review of UE&C and Westinghouse audit reports did not present documentation or indication of the testing performance. As a result, Con Ed expanded their surveillance program for this supplier. A review of records by Con Ed and UST established that material sent to Dravo by Associated Steel was limited to four mill certificates. Further searching revealed that Dravo was aware of Associated Steel's questionable quality in that

*CO Report No. 247/69-8, Paragraph II.A.2.

of 4300 linear feet of pipe delivered to Dravo only some 1300 linear feet were paid for. In addition, Dravo performed radiography of all longitudal welds included in piping from this supplier. UST verified the availability and acceptability of these radiographs.

An inventory of materials shipped to Dravo, returned to AS, and still in the Dravo shops established that the material shipped to IP-2 was limited to ASTM A-312, 6 inch schedule 80 - 316, and various diameters of schedule 10 - 304 piping.

An additional review of mill certificates and bill of materials indicated that all the 6 inch schedule 80 - 316 piping was associated with the safety injection system. Con Ed performed a visual inspection of all 6 inch, schedule 80, 316 piping and concluded that 15 spool pieces of AS material were included in the system. Con Ed's follow-up program for this material included the following:

a. Ultrasonic measurement on all pieces. The results indicated a minimum wall thickness of 0.420 inches versus the minimum permissible thickness of 0.378 inches for ASTM-312 pipe.

b. The CO inspector witnessed hydrostatic testing of one spool piece (SI-123) at 150% of design pressure which is 2250 psig. The test pressure is equivalent to that needed to conform to the 50% of yield strength requirement for ASTM-312 pipe.

c. Con Ed had Westinghouse take one radiograph of each longitudal seam associated with the 15 spool pieces. The radiographs revealed some short lengths where the fusion weld was not continuous. In these areas Mr. Dadson feels that filler metal may have been added as a repair. Mr. Dadson indicated that this condition was an individual interpretation and feels that the pipe is acceptable for use based on material certificate information and subsequent testing performed on the material procured from AS.

d. Con Ed is considering removal of a sample for flattening testing.

Con Ed has also initiated a similar testing program for all schedule 10 - 304 piping with an AS source.

5. Status

Mr. Corcoran indicated that the items remaining to be resolved include the following:

a. Evaluation of Allegheny-Ludlum.

b. Design approval for deviation from Westinghouse specifications such as:

(1) Use of ASTM A-358 piping in place of A-312.

(2) Carbon content below 0.04%.

(3) Substitution of 304L for 304 stainless material.

c. Completion of evaluation of Associate Steel piping.

Mr. Corcoran stated that a final report relating to the piping and fitting investigation will be published and available to Compliance for review.

B. Safety Injection System

1. SI-112 and SI-136

Two pipe sections (SI-112 and 136) were returned to Cameron Iron Works for repair due to incomplete machining of the internal surfaces.* Mr. Dadson stated that SI-112 had been replaced. SI-136 was returned from Cameron; however, Con Ed finds this pipe section to be unacceptable because of two surface depressions. Ultrasonic measurement of the wall thickness is to be performed.

2. Welding Records

During a previous inspection**, welding records were found to be deficient in that positive verification of

*CO Report No. 247/69-6, Paragraph II.E.2.
**CO Report No. 247/69-6, Paragraph II.E.3.

the completeness of a system was difficult. As a result, Con Ed instituted a mechanical systems audit program*, for verification of proper installation and record keeping for the systems. Since the last inspection Courter (pipe subcontractor) has prepared system isometric drawings for the safety injection system (includes high pressure injection, accumulators, residual heat removal, and recirculation systems) and the containment spray system. Both Con Ed and Courter are presently transposing information to these isometrics. Upon completion Con Ed and Courter should have evidence of independent checks performed and completion status of the systems. This item will be audited during a future visit.

C. Organization

1. Con Ed

Organizational changes of interest are as follows:

a. H. G. Woodbury from Vice President of Construction to Senior Vice President of Engineering and Construction.

b. W. Cahill from Assistant Vice President to Vice President of Engineering.

c. A. C. Husband, recently retired Admiral, U. S. Navy, to assume duties of Vice President of Construction.

d. F. D. McElwee, a former Army Colonel, to assume a newly established position of IP-2 and IP-3 Site Project Manager

e. F. Matra, former Piping Engineer has assumed the position of Assistant Construction Superintendent, IP-3.

A. Corcoran continues as Site Construction Superintendent, IP-2 and IP-3, and P. Leo continues as Assistant Construction Superintendent, IP-2.

*CO Report No. 247/69-8, Paragraph II.B.

2. Westinghouse

a. General

Plans for the formation of a subsidiary company within Westinghouse is in progress.* The new company is to be named Wedco, Inc., and will essentially absorb the present UE&C activities, the present Westinghouse site involvement, and much of the procurement and vendor inspections presently handled by Westinghouse. In the beginning Wedco will be involved in the IP-2 and IP-3 projects only. The takeover of these activities is presently scheduled for October 15, 1969.

b. Wedco Organization

A preliminary proposed organization for Wedco is included in Appendix B of this report. Additional information relating to the proposed organization follows:

(1) Mr. J. Stiefel, presently in charge of all turnkey projects for Westinghouse, will be the President of Wedco.

(2) Mr. W. Lee, presently in charge of the IP-2 and IP-3 projects for Westinghouse will be the Executive Vice President.

(3) Reporting to Mr. Lee will be the Engineering Manager, Vice President Construction, Program Manager, Contracts and Purchasing Manager, Corporate Relations Manager, Controller, and Reliability Manager. These individuals have been assigned and are presently employed in the Westinghouse organization. With the exception of the Engineering Manager these individuals will maintain offices at the site. Messrs. Gates and Anderson have been associated with the construction at Indian Point for some time. Messrs. Matheny, Snow, and Turnan are presently on site.

(4) Reporting to Mr. Anderson, Vice President of Construction, will be Mr. E. Clark as Construction

*Inquiry Memorandum No. 247/69-B, dated September 16, 1969

Manager. Mr. Clark is presently employed by J. A. Jones Construction (JAJ) and is at the site.

(5) Reporting to Mr. Clark will be the Managers Mechanical, Civil and Electrical, Labor Relations, Quality Control, Construction Scheduling, and Office and Field Engineering. The proposed head of the quality control organization is presently in charge of Mechanical Quality Control inspections for UE&C at Indian Point. The construction scheduling head is a member of the present Westinghouse site organization. The other five individuals are to be drawn from JAJ. With the exception of the Labor Relations and Office and Field Engineering, these individuals have arrived at the site.

(6) The Reliability Group under Mr. M. Snow is to assume responsibilities for vendor inspections for IP-2 and IP-3 components. In addition, this group is to function as auditors of the Construction Quality Control Organization.

(7) The Engineering Group is to include a body that will be responsible for formulation of Quality Control Standards.

(8) The Operation Group under Mr. Matheny will be responsible for manual preparation, startup testing, procedure preparation, data evaluation, and training. This group will absorb the present Westinghouse personnel performing these functions and plans to include the retention of some UE&C personnel to provide needed assistance.

c. <u>Status</u>

Discussion with Con Ed, Westinghouse, and various personnel performing construction duties revealed the following information:

(1) Present speculations are that all UE&C supervisory people will be leaving IP.

(2) Mr. Nagel, former Site Superintendent, and Mr. J. Sullivan, Field Engineer, for UE&C, have departed from the site.

(3) The subcontractors (Fishback and Moore-Electrical, Courter-Welding and Piping, Vacca-Testing Laboratory) are to be retained.

(4) Morale of UE&C supervision has not been noticeably affected; however, the indecision of their reassignment is of obvious concern.

(5) New personnel are arriving at the site to assume assigned positions and responsibilities.

d. Concerns

The review of the proposed organization presents the following items of concern to the inspector:

(1) The departure of UE&C and establishment of Wedco is contrary to the organizational coverage for construction and quality control as specified in various places throughout the FSAR.

(2) It appears that one level of quality assurance is eliminated for site construction activities. In addition the construction quality control group reports to the Construction Manager.

(3) The potential is for a letdown in individual efforts as a result of impending departure from the job, loss of job continuity and failure to fully followup on previously identified problems.

(4) The apparent difficulty in acquiring the desired types of personnel may lead to insufficient coverage.

(5) The organization change will result in preoperational and operating procedures being available at a later date than previously planned.

e. Implementation Plans

Con Ed is following the proposed transition on a daily basis. Upon inquiry, Mr. McElwee stated that Westinghouse had given assurance that an orderly transition would be made and that every effort would be made to prohibit any decrease in construction quality. He informed the inspector of Con Ed's obvious concerns relating to organizational changes and potential losses in construction progress. Mr. Corcoran stated that the Compliance inspector will be kept informed of the organization change status.

D. Reactor Coolant System

Twenty of the 32 reactor coolant system welds have been completed and accepted. Six additional welds have been formed and the formation of the remaining six welds is in progress. Observation of welding in progress revealed no deficiencies.

E. Control Rod Drive Systems

Discussions with Con Ed and Westinghouse revealed that 16 control rod vessel head seal welds have been formed and hydrostatically tested at 3110 psig. No unusual problems have been encountered.

F. Electrical

1. Cable Placement Status

Cable placement between the control room and containment and between the control room and the primary auxiliary building is about 75% complete. Placement of cable within the containment vessel has not started.

2. Cable Tracing

The inspector asked Con Ed if a cable tracing program had been initiated. Mr. Leo indicated that 25 safeguard cables had been traced, from termination to termination, using cable fault location equipment, to determine accuracy of cable placement. Deficiencies noted by this tracing were:

a. In two cases the cable was found to bypass a cable tray as specified in the cable schedule. Con Ed indicated that UE&C was aware of the condition, had verbal approval from UE&C engineering and a schedule routing correction is forthcoming.

b. One case where routing was correct but one section of metal separation barrier was missing. This separation barrier is scheduled to be installed.

The inspector witnessed the tracing of one cable (CK 2-JE2) from terminal to terminal. The cable routing conformed to the route schedule; however, one section of metal separation barrier was missing. Mr. Leo indicated that this item will be corrected and a complete review of all separations barriers will be performed as construction nears completion.

3. Cable Separation

The following questionable conditions relative to required separation of redundant cables were observed by the inspector:

a. All cables leading to the control room traverse through a common tunnel. This includes power, control, and instrumentation cabling.

b. Redundant safety control cables are contained in common trays with only a thin metal barrier for separation. Though questionable relative to separation, this appears to fulfill the requirement of the FSAR (Pages 8.2-7 and 8.2-8).

c. The redundant safety control cables referred to in paragraph b., above, are exposed and without separation barriers from the point where they depart from the common cable tray to their entry through the control room floor.

d. Conditions similar to that described in paragraph c., above exist with cables between cable trays and the containment penetrations.

e. Splicing of cables in exposed areas, at the containment wall, rather than having the splices contained in an

enclosed box. The FSAR (Page 8.2-9) spells out flame testing of cables employed; however, no reference is made to testing of the splice wrapping materials or adequacy of splices not enclosed in a splice box.

The above questionable conditions were brought to the attention of cognizant Con Ed personnel. The individuals did not disagree with the inspector's observations. Mr. Leo indicated some unhappiness with the existing condition and stated the condition is linked to cable criteria alternation after the design and construction of the effected buildings. The inspector encouraged Con Ed to pursue this matter and indicated that additional followup will be required by Compliance.

G. Fuel Storage Building

1. General

Con Ed has accepted the Fuel Storage Building with the exception of items listed in Appendix A of this report. Receipt of fuel assemblies, as authorized by License No. SNM-1108, is scheduled to begin during the early part of September.

2. Physical Layout

Discussions and observations of the physical layout of the Fuel Storage Building revealed the following:

a. The fuel storage racks are constructed with a 20.5 inch center to center spacing. This condition is in agreement with the SNM license but does not meet the 21 inch spacing requirement as specified in the FSAR*.

b. The storage capacities of the new and spent fuel pits are 72 and 264 fuel assemblies respectively. These numbers are in agreement with the SNM requirements; however, the FSAR* specifies storage capacities of 64 and 257 respectively.

*Table 9.5-1.

c. A permanent pipe has been installed which extends below the top of the fuel racks. A possible drainage, by siphon effect, might result in partial exposure of stored fuel.

d. The main crane can be operated over the fuel racks; whereas, the FSAR* states that the crane facilities do not permit the handling of heavy objects, such as the spent fuel shipping container, above the fuel racks.

e. A review of tag and code stamps on the spent fuel pit heat exchanger indicates that the vessel was designed for 150 psi and 200° F, and was hydrostatically tested at 225 psi. The shell side was constructed to the requirements of ASME Section VIII and the tube side was constructed to ASME Section III. The tag information indicates that this vessel was constructed according to the FSAR (Table 9.3-3) requirements.

With the resolution of the above-listed items and the to be completed items listed in Appendix A, the Fuel Storage Building will fulfill the requirements of the FSAR.

3. Preoperational Checks

Discussions revealed that flushing and operability testing of the spent fuel storage systems have been completed. Items to be resolved are included in Appendix A of this report.

4. Initial Fuel Receipt

Procedures and instruction have been prepared for the receipt and storage of the first core loading of fuel assemblies. A review of the associated manual revealed that information relating to the following is included:

a. Requirements relative to building security.

b. Health physics coverage requirements.

*Page 14.2.1-3.

c. Shipment receipt and fuel handling instructions.

d. Instruction relative to accountability practices and examples of the appropriate accountability forms.

e. Fire instructions. Internal coverage and the use of the Verplank Fire Department.

f. Outline of the training program for fuel handling activities.

g. Station emergency signals and designated actions.

h. A copy of the application for a special nuclear material license. The issuance of License No. SNM-1108 is based upon the content of this application.

Based on a review of the above information, adequate control mechanisms are available for the receipt of fuel assemblies in accordance with SNM-1108.

H. Polar Crane

On August 8, 1969, a partial loss of electrical supply to the polar crane was encountered, while positioning the lower core internals (150 tons) in the reactor vessel.* The first sign of trouble was an audible indication of motor overspeed, which prompted the operator to cut the electrical power. The cause of the partial electrical supply was attributed to loss of contact at the carbon collector shoes on one phase. Movement of the crane stopped promptly on removal of electrical power. The mechanical brakes are believed to have stopped the crane movement; however, the electromagnetic overspeed braking device may have assisted in slowing the travel.

Con Ed's inspection of the core internals and the reactor vessel cladding revealed no evidence of physical damage. Corrective actions taken included the replacement of a portion of the carbon collector shoes with bronze and changing the crane's gear ratio from 1 to 16 to 1 to 32. The gear ratio change was

*Inquiry Memorandum No. 247/69-A.

made to reduce electrical current requirements and reduce previously noted resistance overheat. The remainder of the collector shoes are scheduled to be replaced with bronze. The polar crane was reactivated, and the lower core internals were removed and placed in the reactor cavity storage position. No adverse conditions were noted during this operation.

Prior to the partial power failure, the polar crane was utilized for movement of large vessels such as:

1. The reactor vessel with skid attached (485 tons). For this operation the crane girders were supported by four pedestals and the gear ratio was 1 to 32.

2. The pressurizer (100 tons) with a crane gear ratio of 1 to 16. Some resistance overheat was noted during this operation.

The normal load rating for the crane is 175 tons, which is limited by the girder strengths. No additional load testing of this crane is planned.

I. Internals

The upper and lower core internals have been received at the site and are stored within the reactor cavity. The internals were stored within an enclosed area. Entry to this area requires special authorization from the UE&C Quality Assurance Supervisor and is under the surveillance of a security patrolman.

The inspector visually inspected the bottom portion of the lower core internals for evidence of physical damage which may have been caused during shipment or the polar crane power failure.* This inspection revealed no unusual conditions.

J. Pipe Supports

As previously reported**, carbon steel supports were observed to be welded to stainless steel auxiliary coolant piping. The licensee is aware of the condition and removal of these supports is in progress. Con Ed asked Westinghouse for an evaluation of

*Item H of this report.
**CO Report No. 247/69-7, Paragraph II.1.

of the various stainless steel support designs. As a result Westinghouse authorized UE&C to design and install 20 gauge stainless steel protective bands around Class I stainless steel piping in areas where carbon steel supports and clamps are installed. The 20 gauge stainless steel bands are to be tack welded to the pipe to assure no movement from thermal expansion. In addition, where gross thermal expansion movement is anticipated, stainless steel wear pads or lugs are to be welded to the pipe in order to prevent stainless steel pipe to carbon fretting. This item will require additional compliance followup.

K. Concrete

A review of UST reports relating to surveillance of concrete for the reactor containment building since November 26, 1968, revealed the following pertinent information:

1. On November 26, 1968, observation of placement of concrete from elevations 153' to 158' revealed no deficiencies at the batch plant or point of placement.

2. On April 30, 1969, observation of concrete placement from elevations 168' to 173' revealed that Hudson Type II cement had been substituted for Marquette Type II cement for the previously tested design mix in use. In addition, slump tests were not being made on each truck load of concrete; however, visual checks indicated the concrete to have an apparent slump of less than 5 inches.

3. On May 14, 1969, placement of concrete from elevations 178' to 183' was observed. Once again Hudson Cement was substituted for Marquette Cement. Observation of placement activities revealed no discrepancies.

4. On May 21, 1969, observation of placement from elevations 183' to 188' revealed no deficiencies at the batch plant or site of placement.

5. Observation of placement on June 24, 1969, from elevations 188' to 193.5' revealed no deficiencies; however, the rebar was noted to be 2 inches from the form work which is the minimum allowable in the ACI Manual of Concrete Practices. UST recommended close surveillance of this item during future pours.

6. One July 3, 1969, concrete placement was observed for elevations 193.5' to 199.0'. Reinforcement bar coverage was found to be greater than noted for the previous pour. The only deficiency noted was that a Vacca QC inspector was not in the vicinity during the unloading of about half of one truckload of concrete.

7. On July 24, 1969, UST made a review of UE&C quality control files covering concrete inspections and tests. The reports included information on: batch plant and field inspection, aggregate analysis, casting of test specimens, and compressive test results. The review covered the period January 3, 1968 to June 19, 1969. The records appeared to be in order and indicated no cylinder compressive strength results below the 3000 psi strength specified.

The above results as reported by UST indicates an active surveillance program. The finding of discrepancies such as substitution of cement and failure to take slumps are indications of potential quality control problems. Con Ed, therefore, upgraded their coverage of the containiment concrete activities. The compressive strength results indicates that an acceptable strength concrete has been maintained in spite of UST observed deficiencies during the past months.

III. Management Interview

Management interviews were held with Messrs. Corcoran and McElwee at the conclusion of the visits. Items discussed included the following:

A. Pipe Allegation

The inspector indicated satisfactory findings, to date, relative to the pipe allegations audit program and stated that a review of the final report would be made by Compliance.

B. Safety Injection System

The status of the corrective actions relating to pipe welding records was reviewed. The inspector indicated that the adoption of the complete system isometrics and the surveillance program in progress should provide acceptable results.

C. Wedco, Inc.

The establishment of Wedco, Inc., was discussed. The inspector related a concern relative to the possible effects of this transition. Mr. McElwee stated that Westinghouse has given assurance that an orderly transition will be attained. Mr. Corcoran stated that he would keep the inspector informed of all developments on this subject.

D. Electrical

The electrical cable routing findings were discussed. The inspector relayed concern relative to the lack of separation, especially between the cable trays and the control room. Mr. Corcoran indicated that he would followup on this item. The inspector stated that additional Compliance evaluation of this subject would be forthcoming.

E. Fuel Storage Building

The Fuel Storage Building storage rack spacing, storage capacity, and crane mobility deviations from the FSAR were discussed. Mr. Corcoran indicated that the subject would be pursued and the necessary corrective action would be taken.

F. Polar Crane

The polar crane electrical failure was reviewed. Mr. Corcoran stated that all the electrical conductor shoes are to be replaced with bronze. He also indicated that Con Ed had requested additional explanations relating to the Westinghouse evaluation of the crane failure and resulting corrective actions.

G. Internals

The need for a thorough inspection program for the internals was discussed, especially in view of the recent polar crane failure. Mr. Corcoran indicated that some detailed visual inspections have been performed and additional surveillance will be completed during various phases of the internals fitup.

H. Pipe Supports

The Westinghouse decision to prevent carbon to stainless pipe fretting by installation of stainless steel bands and stainless wear pads was reviewed. The inspector indicated that followup of this item by Compliance could be anticipated.

I. Concrete

The inspector indicated a generally acceptable finding with reference to the UST inspection reports on concrete for the containment building. Mr. Corcoran stated that some control problems were identified and as a result their surveillance activities were increased. He indicated a belief that an acceptable quality of concrete has been achieved even though some minor QC deficiencies did exist.

CONSOLIDATED EDISON CO. (IP-2)

Appendix A

CO REPORT NO. 247/69-9

Attachment To FS-4 For Fuel Storage Building

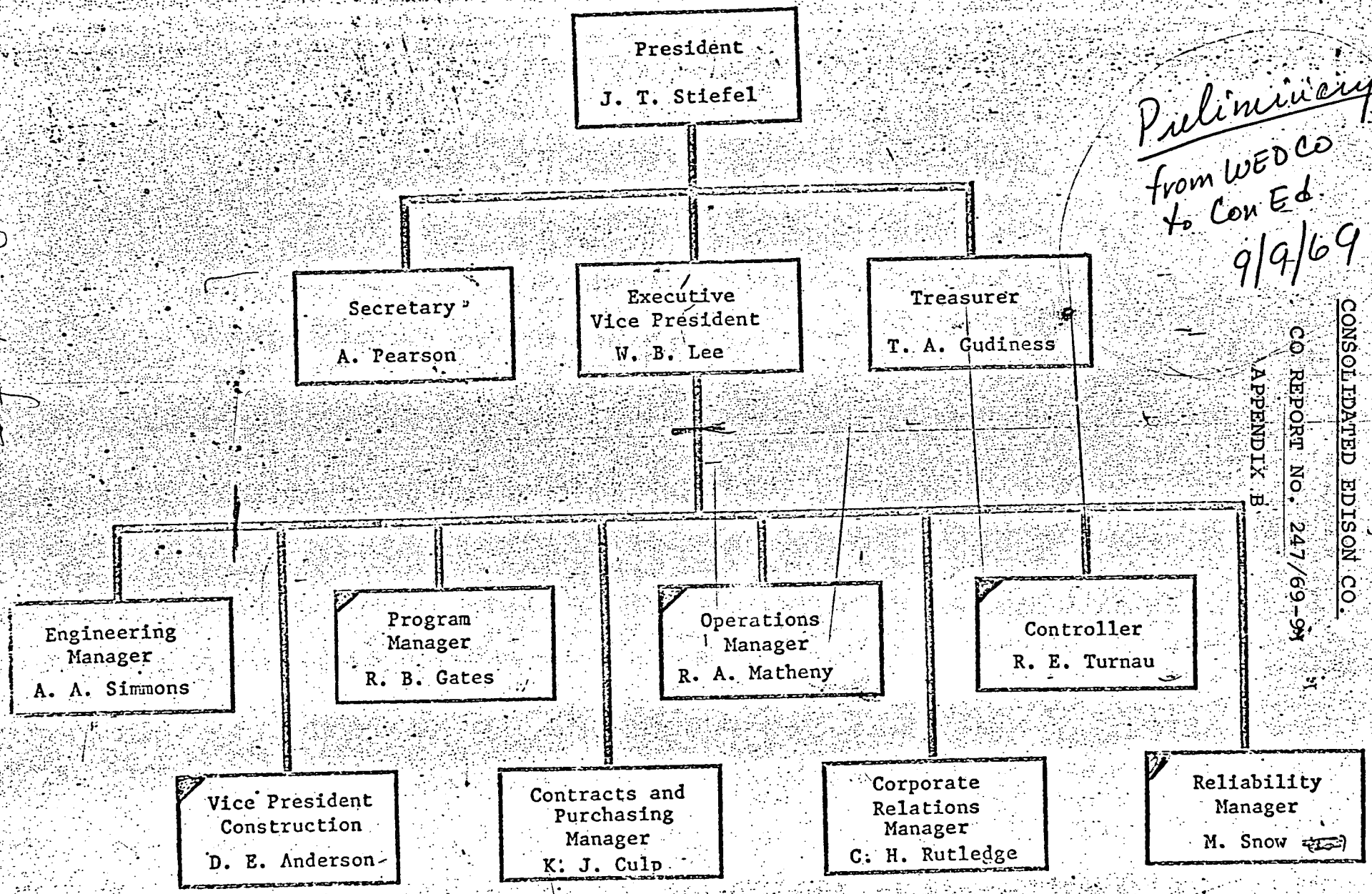
The following items require the action noted for final completion of the Fuel Storage Building.

Item	Action
1. Burnable poison handling tools	Procure
2. Spent Fuel Rack link and removal tool	Resolve deficiencies
3. Flow indicator FI-603	Replace with Proper indicator
4. Spent Fuel Pit deliberate draining	Resolve how to be accomplished
Inadvertent draining	Resolve/insure that it will not happen
5. Radiation Monitor	Complete cable installation & operational check-out
6. Underwater lights	Procure
7. Lighting	Connect to permanent power supply & remove temporary lights
8. P.A. System	Remove temporary connections to Unit No, 1 & complete inter-tie with Unit No. 2.
9. Pit temperature & level instruments.	Complete installation of remote alarms & operational test
10. Heating and ventilation	Complete installation connecting to the Fuel Storage Building
11. Fuel Transfer System	Operational check-out & complete containment side construction

Preliminary
from WEDCO
to Con Ed
9/9/69

CONSOLIDATED EDISON CO.
CO REPORT No. 247/69-9
APPENDIX B

PAGE 1 of 5



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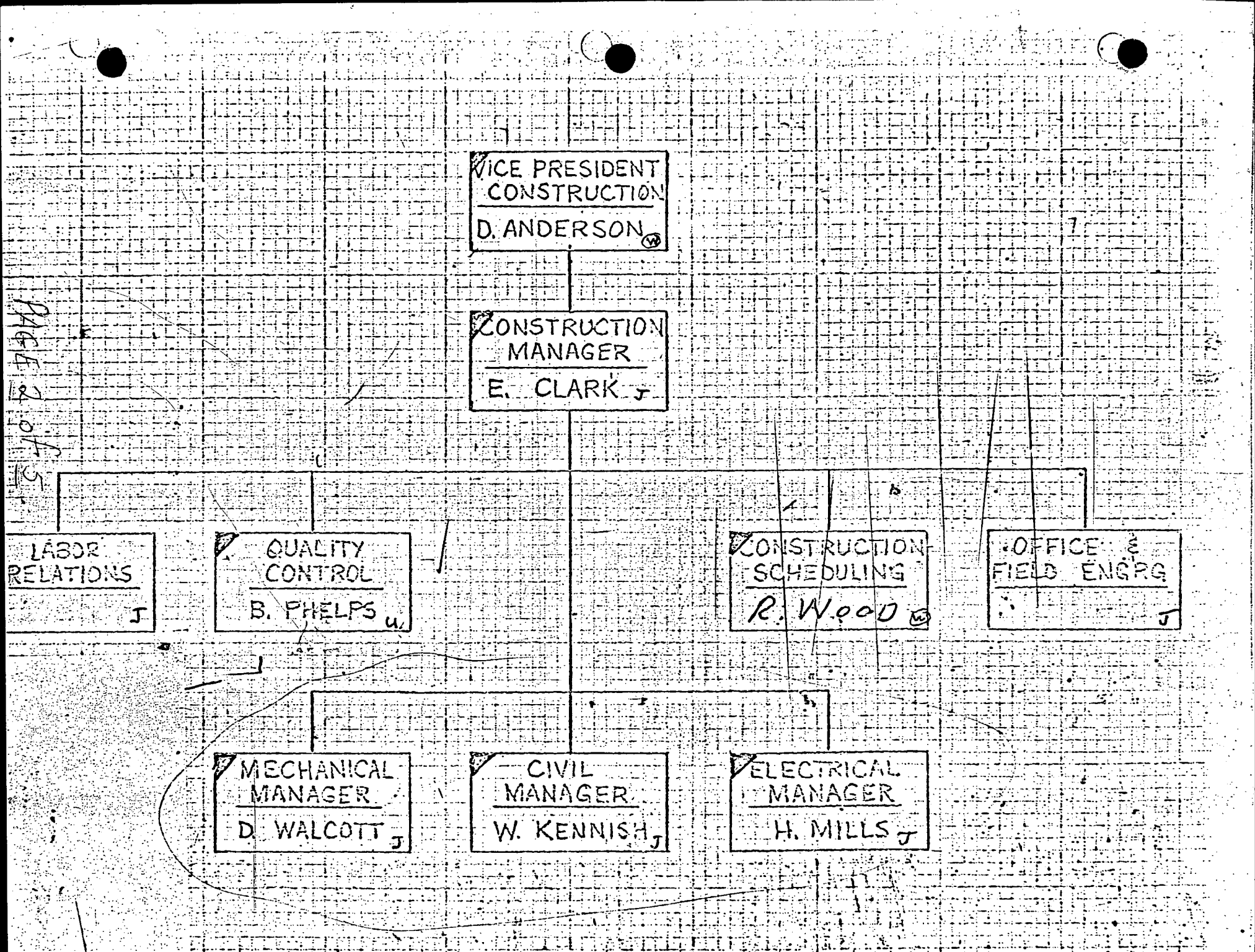
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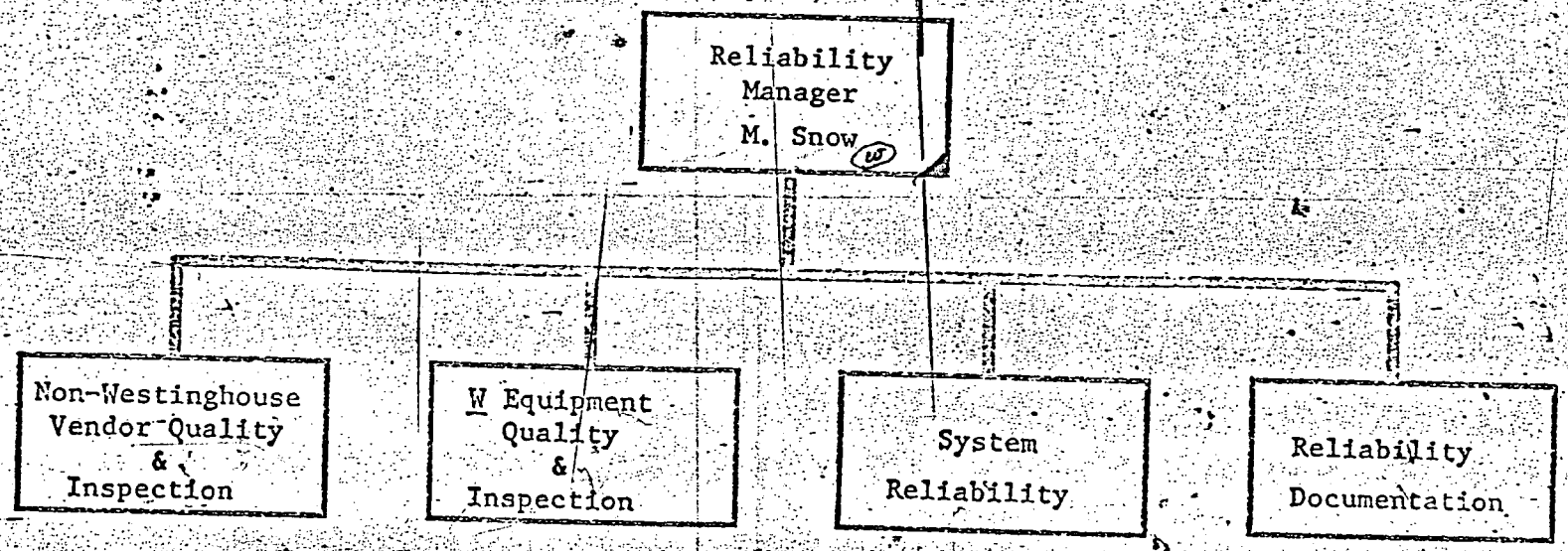

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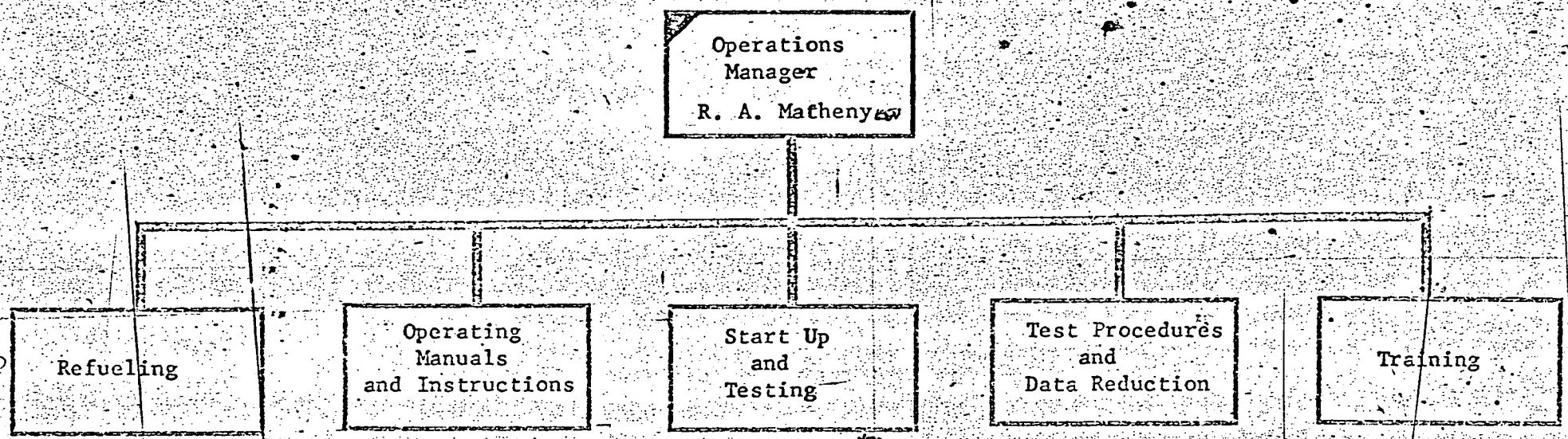
BUCHANAN, N. Y.



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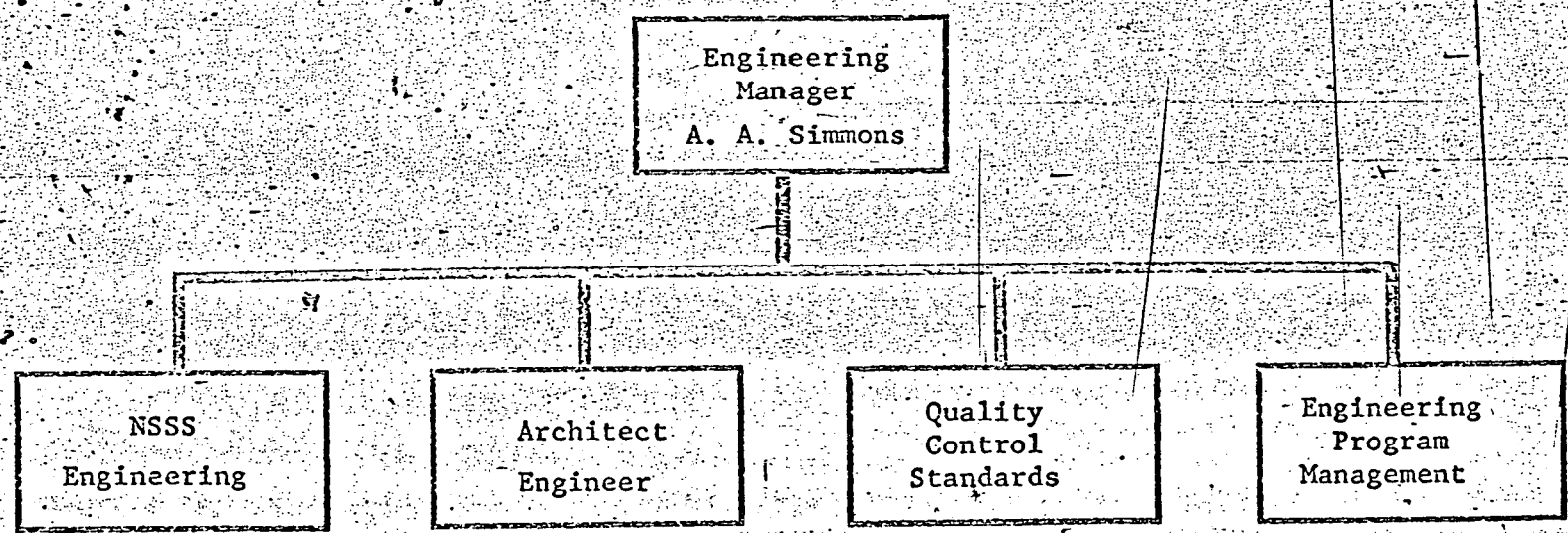
Engineering Manager
A. A. Simmons
NSSS Engineering
Architect Engineer
Quality Control Standards
Engineering Program Management

WEDCO, INC.