EBASCO SERVICES INCORPORATED

Two World Trade Center, New York, N.Y. 10048-0752

EBASCO

March 17, 1987

Bertrand R. Mazo
Vice President
Corporate Quality Programs

Mr. E. W. Merschoff - Acting Chief
Vendor Program Branch
Division of Quality Assurance,
Vendor, and Technical Training Center Programs
Office of Inspection And Enforcement
Washington, D.C. 20555

Dear Mr. Merschoff:

Subject: Ebasco's Topical Report ETR-1001, Rev. 13

With respect to your letter of February 17, 1987 and the understandings reached at the meeting held in Bethesda on March 12, 1987, the following responses are offered for your consideration.

1. a) The two positions shown on Figures I-2.3 and I-2.4 are two distinct different individuals. The Vice President of Corporate Engineering is responsible to set overall engineering policy for all of Ebasco. Whereas the Vice President Engineering and Project Services is responsible for engineering on a Project basis in Region 1. It is coincidental that both individuals reside in Region 1 and that all of our personnel manning our major Projects are located in Region 1 which is also Ebasco's Corporate office. At the present time we do not envision any change in the way which Ebasco has been handling its major Projects from that in the past.

1. b) The title "Senior Vice President Engineering & General Manager" on Figure I-2.4 was corrected to read "Senior Vice President & General Manager" on our second transmittal to the NRC of Feb. 10, 1987 so as to agree with Figures I-1.1 and I-1.3.

1. c) As in the past we have not shown either Nuclear Licensing or Applied Physics on any of our Organizational charts and saw no apparent reason to do so now since their level of responsibilities have not changed. As far as why there is no description for the reporting relationship regarding Applied Physics it must be understood that this is a small group of physicists whose services are available to all Projects within Ebasco on a consulting basis.

1. d) A Legend will be added to Figures I-2.1 and I-2.2 indicating that the dashed line pertains to "communication" between parties.

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1. e) We will revise Figure I-2.2 to delete reference to the "Far East" and Europe" and substitute "New York" for "Houston".

1. f) We will include the text pertaining to Ebasco's Corporate Radiation Safety Officer, as you suggest, under the Part of Section QA-I-2 that pertains to ISI/NDE Services. However, as the result of a recent organizational change this function will be shown only on Figure I-2.2 (see attached proposed changes) because it no longer is part of Ebasco's Quality Assurance Organization.

1. g) We will revise Part 3.1 of Section QA-I-2 to delete ISI/NDE Services because of the reason explained in 1. f) above and add a new subdivision, i.e., QA Regional Managers. At the same time a new Part 3.1.5 in Section QA-I-2 describing the responsibilities of the QA Regional Managers will be added, as follows:

3.1.5 Quality Assurance Regional Managers - A Quality Assurance Regional Manager is assigned in each one of the Regional Offices shown on Figure I-2.2. Each Quality Assurance Regional Manager is responsible for quality assurance implementation and direction of those projects assigned to the noted Regional Office. Reporting Supervisors and/or Quality Assurance Engineers with the same responsibilities and tasks, as applicable, as described in Paragraph 3.1.1.1 of this Section.

1. h) We will revise Figure I-2.4 to indicate "Project Procurement Supervisor".

2. The change that was proposed was to provide Ebasco a method to define the required interdiscipline reviewers where a predetermined list of specifications and drawings were not developed as in the case of retrofit work. Therefore, in order to avoid unnecessary confusion we will restore the original words in Part 5.2 of Section QA-I-4. However, in order to be responsive to new work assignments such as retrofit, maintenance etc., we propose to add the following new Part in Section QA-I-4.

Part 5.X. For retrofit engineering and other similar engineering activities, interdiscipline review of design change packages or other Client directives shall be in accordance with written approved procedures. These procedures shall require a Lead Discipline Engineer to select interdiscipline reviewers from a predetermined interdiscipline review matrix which shall be approved by the Project Engineer and Quality Assurance. During the verification process the independent verifier shall assure that all required internal reviews have been performed.

3. Recognizing that not all Regional Offices have the same computer services available in their offices as in the Corporate Office, provisions had to be made to allow them to process Vendor documents in another manner. That system is no different than when the Corporate Office had not yet instituted the EMDRAC system and was or still is in some limited cases processing these documents manually in accordance with a written approved procedure.

4. Adding the words "or designee" in the fourth line of Part 7.3 in Section QA-I-4 was an oversight on our part and these words will be deleted.

5. The use of the term "Regional/Branch" was intended to be an all encompassing term with no changes to Ebasco's design control process irrespective of which Region or Branch office the work is being accomplished in. Please refer to Part 2.1 in QA-I-2 which describes this relationship. Also, please note that there are no project related safety-related drawings or specifications issued through the Corporate organization. However, in order to avoid any additional misunderstanding regarding Part 1.0 of QA-II-2 as it applies to other documents, we will add the word "Corporate" ahead of the word "Regional" therein.

6. Unless we misinterpreted NRC's letter of March 18, 1986 by J M Taylor to Mr. Green it is our understanding that the NRC has endorsed the ASME's Accreditation Program which would allow Ebasco to accept a potential manufacturer from a Q.A. aspect who holds a valid ASME-N-Type Certificate of Authorization without a further Q.A. Manual review or facility audit.

7. The second proposed revision to Part 3.3 of QA-I-5 does not in our view delete the commitment to purchase safety-related items and services only from vendors included on the list. We direct your attention to Section QA-II-4 Part 4.3 and Section QA-III-4 Part 3.7 which require that approval from the Quality Assurance Department be obtained prior to placing a purchase order. We deleted the wording "safety related items & services shall be purchased only from vendors included on this list" from Part 3.3 of QA-I-5 because this Section deals with the qualification of vendors, not procurement, and the statement itself is redundant when the requirements of Sections QA-II-4 and QA-III-4 are considered.

8. In order to avoid a misunderstanding regarding the word "Projects" we will restore the original wording except for the word "Procurement" since there no longer is a separate Procurement organization.

9. Ebasco has reviewed this NRC concern and does not feel there is a deletion of any commitments. Part 8.0 of Section QA-I-6 was consolidated to address all audits and at the same time cross-reference Sections QA-II-9 and QA-III-9 which further addresses auditing. The only intention in deleting the words "The quality assurance records shall be maintained by Site Quality Assurance to assure that they are maintained properly until turned over to the "owner" was to delete some of the redundancy in this Section.

10. Section QA-II-4 was revised in order to differentiate between the procurement of a safety-related item and the procurement of special services since there always was a misunderstanding regarding these two commodities. Most of the controls regarding the procurement of an item (e.g. pump, valve etc.) requires the preparation of a specification, bid proposals, evaluation of bids etc. none of which applies to a supplier of computer software services. The primary controls regarding the procurement of computer software services is defined in Ebasco's implementing Procedure A-30 which basically requires that such computer software service suppliers have an acceptable Quality Assurance Program and that they have been surveyed by Ebasco and found acceptable prior to performance of any safety-related work. In order to emphasize this point we will, cross-reference Section QA-I-5 at the end of Part 6.3 in Section QA-II-4.

11. You will note that throughout Section QA-II-5 reference is made to surveillance of items, materials or fabrication and therefore to have also referenced "services" in Part 1.0 was not really appropriate with respect to the rest of the text throughout Section QA-II-5. Therefore, the word "service" was deleted. This does not mean that there has been a change in our policy regarding control of services, but to impose a "Hold Point" surveillance program on computer software and laboratory services is unrealistic. However, we do assure ourselves that such suppliers have qualified personnel, written procedures, calibrated equipment etc. by conducting audits in the Suppliers facility.

12. The following additional information is provided with regard to the provision added to Parts 3.8 of Section QA-II-5 and 4.8 of Section QA-III-5 concerning PQAE authorization to release equipment prior to completion of required engineering reviews:

    As indicated in the parenthetical statement, the type of documents involved are equipment seismic qualification, environmental qualification and ASME Code Design reports. "The responsible engineers concurrence is obtained prior the PQAE authorizing shipment, in effect providing a check and balance. The Release for Shipment form is annotated by the Vendor Surveillance Representative to indicate the type of report which is to be forwarded later. The report is tracked by the engineering discipline in order to close out the equipment qualification package, which is finalized prior to the equipment being placed in service". Please be advised, that this type of authorization is NOT granted for fabrication type documents such as drawings, calculations or specifications. However, in order to provide assurance that there are adequate controls in place, we will add similar words to those above that are between the quotation marks to Part 3.8 of Section QA-II-5 and Part 4.8 of Section QA-III-5.

13. Part 3.2.1 was added in Section QA-II-6 to make it consistent with Part 6.2 of Section QA-III-6. Further we feel that there are in place adequate controls which when a condition identified as falling under the requirement of 10 CFR 21 and/or 10 CFR 50.55 (e) shall be processed, evaluated, dispositioned, and closed-out in accordance with Ebasco procedure N-23 which is referenced in Part 3.2.1 of Section QA-II-6. However, to be more specific, we will add the words "and closed out" after 10 CFR 21.

14. We have reviewed this NRC concern and will revise Part 2.5.1 of Section QA-II-9 to read as follows:

The audit shall be performed by one or more individuals, at least one of whom shall be a qualified lead auditor. For audit teams comprised of two or more aduitors, a qualified lead auditor shall be designated as the team leader. The team leader shall be responsible for:

15. It was brought to our attention by our Corporate Radiation Safety Officer (CRSO) that he knows of no Nuclear Regulatory Commission requirement or State Regulatory requirement applicable to Ebasco's Nuclear Quality Assurance Program that requires audits of our radiation safety procedure. Therefore, the deletion of reference to the two Agencies. Under Ebasco's Q.A. Program Ebasco does not act as a Licensee for any of the functions addressed by ETR-1001. Where Ebasco does act as a Licensee, for the use of isotopes for industrial radiography, a separate Quality Assurance Program is in use and radiation safety audits are required and performed (e.g., NRC Materials License #29-27056-03 and State of Texas Radioactive Materials License #11-3370).

The purpose of referencing the duties of our Radiation Safety Officer in ETR-1001 is primarily to alert Clients that such services are available and that Ebasco compiles radiation exposure records of its employees, where applicable. Therefore, in order to avoid unnecessary confusion in Section QA-II-9 which establishes the requirements for conducting audits, we propose deletion of Part 4.0 therein and deleting reference to audits in that Part of Section QA-I-2 that describes the CRSO's responsibilities.

16. Section QA-III-2 entitled Document Control describes the distribution and control of documents including revised ones. The development and revising of documents is described in Section QA-III-1. Therefore, the commitment "Changes to documents shall be reviewed and approved by the same organizations as for the original documents, unless delegated in writing by the originating organization to another responsible organization", was moved from Part 7.0 of QA-III-2 to Part 5.0 of Section QA-III-1. Otherwise there has been no change in our commitment.

17. Will replace original wording in Part 3.2.1 of Section QA-III-3 but will suffix them with the words "when applicable".

18. Part 3.10 of QA-III-4 will be clarified to read as follows:

Purchase orders for spare or replacement parts must be processed in accordance with the requirement of this Manual and comply with technical requirements which are equal to or better than the original, or as may be necessary to preclude a repetition of defects.

19. Part 4.1 of QA-III-4 was changed to read "reference file of Bidders" due to the decreasing availability of vendors who supply items or services to the industry. Ebasco feels the concept has not changed since the "Qualified Bidders List" was for commercial considerations only and not for quality requirements. However, to be more explicit we will add the words "All successful Bidders must be surveyed and qualified by the Quality Assurance Organization prior to the commencement of any activities under a construction and/or service contract" at the end of Part 4.1.

20. Section QA-III-4 describes the controls for field procurement of both "items" and "services". Specifically Part 3.0 describes the controls for the procurement of safety-related items (materials/equipment) which include a QA review. Part 4.0 is specifically for the procurement of field construction activities as well as service contracts (e.g. calibration laboratory services). For this reason reference to safety-related items was deleted from Part 4.2 and Part 4.3 was revised to read "prior to start of any service" since this term is more broadly defined and would cover all activities of a service nature including safety-related work. To further clarify this concept we will add the word "construction" in Appendix I pertaining to the definition "Service".

21. The change to the parenthetical list in Part 4.8 of Section QA-III-5 was proposed in order to make the text consistent with the parenthetical list in Part 3.8 of Section QA-II-5. Historically, the design, seismic and environmental reports are the type of documents that are the last ones that are submitted by the Supplier for Ebasco review. However, this does not mean that the noted listed documents are the only documents that the VSR is expected to check for Ebasco review. Radiographic film and special process procedures are reviewed early on in the fabricating stage of an item and verification of the review is in accordance with Section QA-III-5 of the Manual.

22. In order to avoid any misunderstanding regarding the intent of Part 3.2.1 from QA-III-7, and QA-III-8, we will restore the original words. Please note that the proposed changes were only for purposes of clarification and to get rid of some of the redundancy.

23. Part 3.3 of Section QA-III-9 deals with an audit activity of QA records as maintained by Site Quality Records. In accordance with Part 5.2 of Section QA-III-11 these records include the qualification and certification of site Quality Control personnel (inspectors) which are subject to audit by Section QA-III-9.

24. Item c was added to Part 5.3.1 of Section QA-III-9 in order to make it consistent with item c of Part 2.3.1 of Section QA-II-9 which was not commented on in a previous submittal to the NRC. However, a review of ANSI/ASME N45.2.23-1978 has confirmed that auditor proficiency can be maintained by participation in training programs and not orientation programs. We will therefore delete the terms "orientation or" in Part 5.3.1 of Section QA-III-9 and also correct item c of 2.3.1 of Section QA-II-9.

25. The increase in the time allowed for audit report preparation and issue in Part 5.7.2 of Section QA-III-9 from "within 10 working days" to "within 30 working days from the post-audit conference" is consistent with ANSI/ASME NQA-1, 1983 as endorsed by Regulatory Guide 1.28 Revision 3.

26. The qualification of personnel performing inspection activities is addressed in Section QA-III-11 Parts 2.3 and 4.0. In addition the procedures used are listed in Section I-1, Table I-1.3.

Please note that also enclosed are additional changes to our Topical Report ETR-1001, Rev. 13 which were made as a result of a recent management change and which were also discussed at subject meeting. This change merely transferred our Inservice Inspection/Nondestructive Examination Services division (now renamed ISI Services) from our Quality Assurance organization into a new division named "Materials Testing and Examination Services". This new division now becomes part of Ebasco's Corporate Quality Programs organization as shown on Figure 1-2.2 with two subdivisions. Namely, "Materials Engineering Laboratory" and "Inservice Inspection Services". Except for the manner in which reporting is done there is no change in the assigned activities.

We consider these additional changes not to be of a substantive nature and that conformance with the basic intent of Ebasco's Quality Program and policy is in no way violated and that the Program with proposed changes incorporated will continue to satisfy the criteria of Appendix B of 10CFR50.

The foregoing commitments and changes will be reflected in the approved and published version of ETR-1001, Rev. 13 upon your acceptance of the foregoing.

I will be pleased to answer any questions you may have in regard to the above.

Very truly yours,

BRM/SS:aa
Enclosure (3 copies)
cc: Document Control Desk
US Nuclear Regulatory Commission
Washington, DC 20055

Corporate Engineering & Programs, Ebasco Constructors Inc., and Regional Office Engineering and Project Services assigned personnel. Corporate Engineering & Programs provides personnel to other Regional Offices on a project or program-related "as need" basis. The organizational structures of these are shown on Figures I-2.2, I-2.3, I-2.4, and I-2.6 at the end of this Section. Envirosphere Company, Ebasco Plant Services Inc., Advanced Technology, and International are involved in the implementation of Quality Program requirements through supplemental services they provide. Project Managers provide overall contractual administration of a project, coordinating the efforts of involved departments and serving as a line of communication between Ebasco and its Clients.

2.4 The responsibilities of the individual Ebasco organizational units for quality assurance requirements applied to nuclear power facilities are described herein.

3.0 CORPORATE QUALITY PROGRAMS

Primary responsibility for quality assurance rests with the Vice President Corporate Quality Programs who reports directly to the Chairman. Qualification requirements for the position of Vice President Corporate Quality Programs are: Bachelor of Science Degree in Engineering; a minimum of 10 years of experience in quality-related work or equivalent experience in the engineering or construction of a nuclear power plant, including at least 10 years experience in responsible managerial project positions; and a thorough knowledge of the Ebasco Quality Assurance Program. The Corporate Quality Programs unit is comprised of the following organizations, each of which contributes directly to the implementation of the Quality Program (see Figure I-2.2).

(a) Quality Assurance
(b) Materials Applications and Welding
(c) Vendor Surveillance
(d) Quality Assurance Consulting Engineer
(e) Materials Testing and Examination Services

R

R

3.1 Quality Assurance is administered by the Director Quality Assurance who reports to the Vice President Corporate Quality Programs. Qualification requirements for the position of Director Quality Assurance are: Bachelor of Science Degree in Engineering; a minimum of 10 years of experience in quality-related work or equivalent experience in the engineering or construction of a nuclear power plant, including at least 5 years experience in responsible managerial project positions; and a thorough knowledge of the Ebasco Quality Assurance Program. Quality Assurance is responsible to plan implementation of, evaluate, monitor and enforce the Ebasco Quality Program. This responsibility is carried out by five functional subdivisions:

(a) Quality Assurance Projects
(b) Quality Assurance Site Services
(c) Quality Assurance Engineering
(d) Quality Assurance Consulting
(e) Quality Assurance Regional Managers R

Managers in charge of the subdivisions report directly to the Director Quality Assurance. Engineers and Specialists are then assigned to specific projects from these subdivisions. The Quality Assurance Organization is shown in Figures I-2.7 and I-2.8 of this Section.

3.1.1 Quality Assurance Projects - The Quality Assurance Projects subdivision is headed by the Manager Quality Assurance Projects who is responsible for overall quality assurance planning and direction for individual projects. A Project Quality Assurance Engineer (PQAE) is assigned to each nuclear project to plan, coordinate and oversee the implementation of the Quality Assurance Program for the particular project. The PQAE, who reports either to the Manager Quality Assurance Projects through a Project Quality Assurance Engineering Supervisor or to the respective Region Quality Assurance Manager, R coordinates the quality assurance implementation efforts of Corporate Quality Programs personnel (Quality Assurance Engineers, Materials Engineers, Welding Engineers, Nondestructive Examination Specialists, Vendor Surveillance Representatives and site Quality Assurance R personnel) assigned to his project.

3.1.1.1 The PQAE has the authority and responsibility to identify quality related problems, to initiate or recommend solutions, to control existing nonconformances until properly dispositioned, and to verify implementation of approved dispositions. Principal tasks performed by the PQAE and those assisting include:

(a) Review Ebasco specifications and drawings for inclusion of quality assurance requirements

(b) Evaluate Quality Assurance Programs of Suppliers

(c) Prepare Quality Assurance Plans for the surveillance of activities in Suppliers' shops

(d) Review or coordinate the review of Suppliers' nondestructive examination and test procedures

(e) Conduct audits of Site Quality Assurance and Vendor Surveillance personnel, as applicable

b) Identifying and initiating correction of nonconforming conditions to requirements indicated by drawings, specifications, codes or procedures and performance of reinspection to verify corrective action taken;

c) Establishing and enforcing Quality Control documentation and inspection requirements based upon specification, codes, standards, and drawings as established by Engineering;

d) Performance or monitoring of site NDE, soils, and concrete testing activities;

e) Assisting in organizing and administering training seminars as required to assure proper level of training and engaging in the certification of Quality Control personnel to the required level of qualification;

f) Identification and control of the quality status of items;

g) Development and implementation of applicable Quality Control Plans, and generation of inspection reports covering mandatory inspection activities at the construction site.

The Site Quality Control Group will only be responsible for first-level Quality Control activities for safety-related items and services being performed by Ebasco's forces. For work being performed by Contractors, the Contractors will be responsible for first-level Quality Control activities.

3.1.2.2.3 Site Quality Records - A Quality Records Supervisor and staff of specialists are assigned the following functions:

a) Development, establishment and implementation of a system for the collection, storage and maintenance of quality assurance records at the project construction site;

b) Review for completeness, control, storage, preservation and safekeeping of Vendor/Contractor and site generated quality assurance records;

c) Establishment and implementation of a records indexing system to permit proper traceability and retrieval;

d) Establishment of a procedure for access to the records storage area, and removal and retrieval of quality records.

3.1.3 Quality Assurance Engineering - The Quality Assurance Engineering subdivision is headed by the Manager Quality Assurance Engineering. He is responsible for the following activities which are under the direction of supervisors reporting to him and are performed in accordance with Quality Assurance Procedures:

(a) Administration of training and qualification programs for Quality Assurance audit and inspection personnel.

(b) Evaluation of Suppliers' Quality Assurance Programs.

(c) Conducting quality assurance education, both internal and external to Quality Assurance.

(d) Interdepartmental auditing of all individuals or groups responsible for activities covered by the Quality Program.

(e) Development of quality assurance records and Configuration Management Programs.

(f) Development of Quality Assurance Programs for power plant operations.

(g) Development and implementation of Trend Analysis Programs.

(h) Administration of International Quality Assurance Offices and overseas independent quality assurance services.

3.1.4 Quality Assurance Consulting - The Quality Assurance Consulting subdivision is headed by the Senior Consulting Quality Assurance Engineer who is responsible for the following activities:

(a) Development of Quality Assurance standards & procedures.

(b) Interpretation of Quality Assurance requirements as specified in National Codes, Std's and Regulatory documents, and incorporating these requirements in company documents.

3.1.5 Quality Assurance Regional Managers - A QA Regional Manager is assigned in each one of the Regional Offices shown on Figure I-2.2. Each Quality Assurance Regional Manager is responsible for quality assurance implementation and direction of those projects assigned to the noted Regional Office. Reporting to each Quality Assurance Regional Manager are Quality Assurance Supervisors and/or Quality Assurance Engineers with the same responsibilities and tasks, as applicable, as described in Paragraph 3.1.1.1 of this Section. R

EBASCO SERVICES INCORPORATED	NUCLEAR QUALITY ASSURANCE PROGRAM MANUAL	SECTION QA-I-2
	ORGANIZATION AND RESPONSIBILITIES	REVISION 7 DATE

3.2 Materials Applications and Welding under the supervision of the Chief Materials Applications and Welding Engineer, includes four subdivisions: Materials Applications, Materials Science, Welding Development and Site Services. A Project Materials Engineer and Project Welding Engineer are assigned to each project. These positions may be assigned to the same individual if properly qualified. A Site Welding or Materials Engineer who reports to the Chief Materials Applications and Welding Engineer in the Corporate Office is assigned to each nuclear project construction site and is responsible for the direction, supervision and administration of site welding operations staff. Quality related activities of Materials Applications and Welding personnel include, but are not limited to, the following: R R

(a) Develop material and welding specifications

(b) Develop and qualify welding procedures and fabrication techniques for use by Ebasco site construction forces, engineered equipment Suppliers and Erectors

(c) Prepare site welding operations implementation procedures for Ebasco site construction forces

(d) Advise Ebasco Construction Management as to the development and application of advanced welding techniques which would enhance quality

(e) Prepare Field Weld Data Sheets and/or instructions which provide comprehensive requirements for welding process and procedure selection, postweld thermal treatment and inspection at Ebasco construction sites.

(f) Review Ebasco specifications and drawings for compliance with applicable codes and regulatory requirements and for proper selection of materials, weld procedures, joint details, and testing and examination requirements.

(g) Review Suppliers' material specification and fabrication procedures for compliance with project specifications and codes

(h) Supervise the welder performance testing program at Ebasco construction sites and provide assistance to Contractors in establishing welder performance testing programs to assure that all code and regulatory requirements have been met.

(i) Participate in quality assurance evaluations of Suppliers in the areas of welding, materials and fabrication.

(j) Provide technical assistance as required to resolve problems at construction sites and in Suppliers' shops in the areas of welding, materials, heat treatment, inspection and other related areas.

(k) Provide technical assistance concerning material properties under service conditions involving stress, radiation, temperature, corrosive media, etc., to determine capability of specific materials to perform in such environments.

(l) Review and provide recommendations for upgrading of Ebasco and Contractor welder training programs and welder assignment practices.

(m) Review site purchase requirements for filler metals and arc welding shielding gases.

(n) Prepare site filler material control procedures.

(o) Supervise and direct testing and applied research programs required to resolve site construction materials and welding problems.

3.3 Vendor Surveillance is administered by the Chief Vendor Surveillance who reports to the Vice President Corporate Quality Programs. The primary function of this department is to establish and maintain confidence that Purchase Order and documented Quality Assurance Program requirements are complied with during fabrication in Suppliers' shops and in those of their Subsuppliers, and to document results of shop surveillance visits made to carry out this function. Specific details of this department's responsibilities are included in Section QA-II-5 of this Manual. R

3.4 The Quality Assurance Consulting Engineer reports to the Vice President Corporate Quality Programs. He is responsible for conducting audits of the Ebasco Quality Assurance function to determine and report its compliance with the Ebasco Quality Program requirements.

3.5 Materials Testing and Examination Services under the supervision of the Director Materials Testing and Examination Services includes two subdivisions: Materials Engineering Laboratory and Inservice Inspection Services. R

3.5.1 The Materials Engineering Laboratory performs field non-destructive examination, and soils, concrete and reinforcing steel testing services at construction sites, as applicable. The Laboratory is administered by a Manager who reports to the Director Materials Testing and Examination Services.

3.5.2 Inservice Inspection Services is headed by the Manager of Inservice Inspection Services who reports to the Director Materials Testing and Examination Services. He is responsible for the following activities which are under the direction of supervisors reporting to him: R

(a) Performance of inservice inspection.

(b) Establishment and/or interpretation of NDE requirements and acceptance criteria for fabricated and erected equipment as required.

(c) Preparation of NDE procedures and review of radiographic films submitted by Manufacturers, site construction forces and/or Clients.

(d) Advising Manufacturer and site construction forces as to proper NDE procedures, applications, techniques, equipment and qualifications.

(e) Qualification and certification of Ebasco NDE personnel.

3.5.2.1 Radiation Safety - Ebasco's Corporate Radiation Safety Officer reports to the Manager ISI Services. He is responsible for compiling and maintaining occupational radiation exposure records received from Ebasco employees and Licensees in accordance with written approved company procedures and monitoring the implementation of those procedures by Ebasco mandated periodic audits.

4.0 CORPORATE ENGINEERING AND PROGRAMS

The President of Ebasco has overall responsibility for all Regional/Branch Offices and Corporate-related engineering functions. Reporting to the President is Corporate Engineering and Programs, headed by a Senior Vice President who resides in the Corporate Office (see Figure I-2.3). Corporate-related engineering and purchasing resources are provided to Regional/Branch Offices on a Project or program-related "as need" bases.

4.1 A Vice President reporting to the Senior Vice President Corporate Engineering and Programs is responsible for Corporate Engineering. R

4.1.1 Key members from Region I-Engineering and Project Services (e.g., Chief Engineers) provide technical oversight services to nuclear projects as the need arises and under the direction of the Vice President Corporate Engineering.

4.1.2 Personnel in Region I-Engineering and Project Services work under the direction of Corporate Engineering in development of new concepts related to engineering and design criteria, equipment specifications and procurement, plant cycles and equipment arrangements, and assist other Regional/Branch Offices in the resolution of special problems. Such activities are performed in accordance with Section QA-I-4 of this Manual.

EBASCO SERVICES INCORPORATED
CORPORATE QUALITY PROGRAMS ORGANIZATION

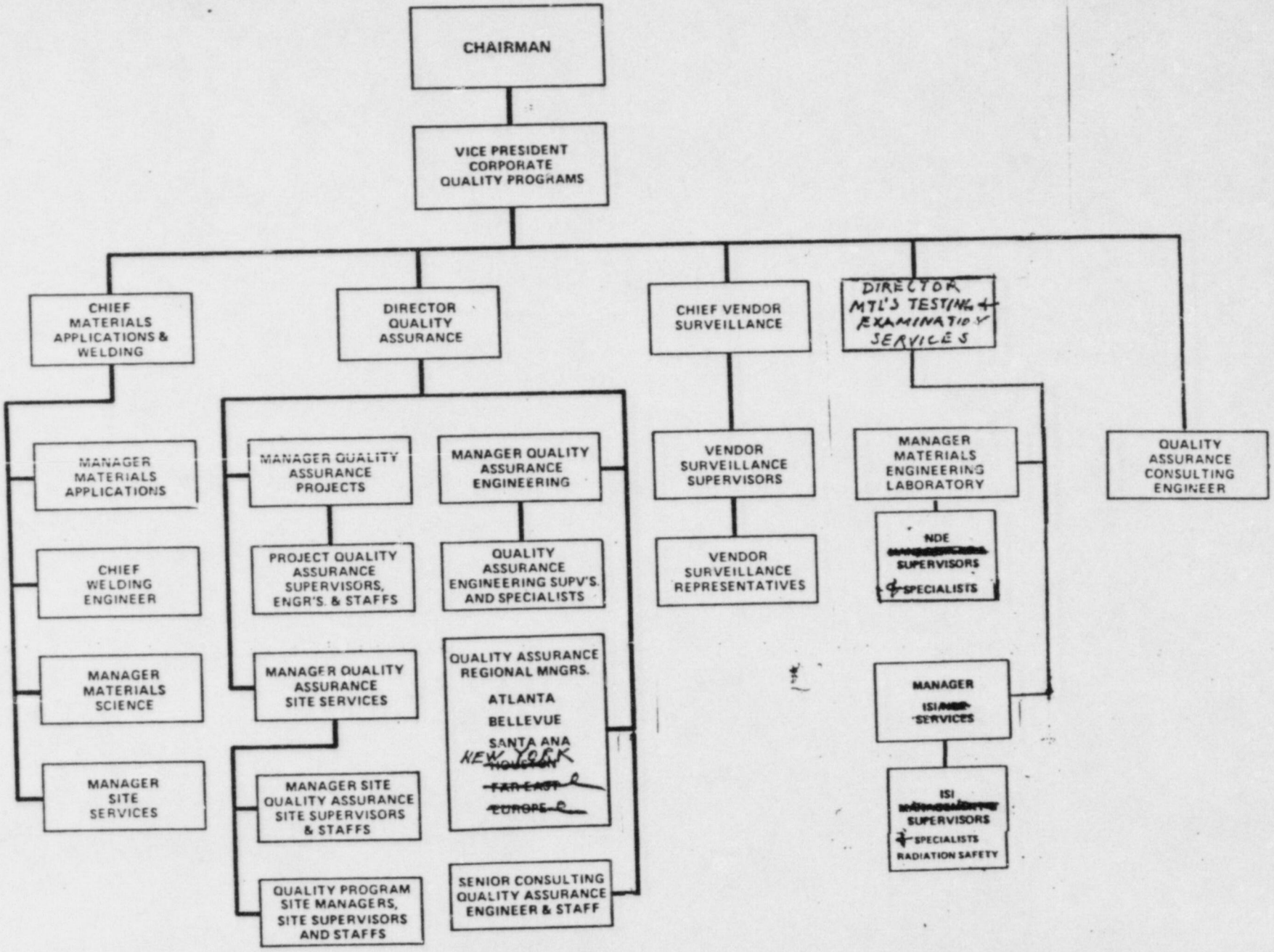

FIGURE 1.2.2
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EBASCO SERVICES INCORPORATED
QUALITY ASSURANCE ORGANIZATION

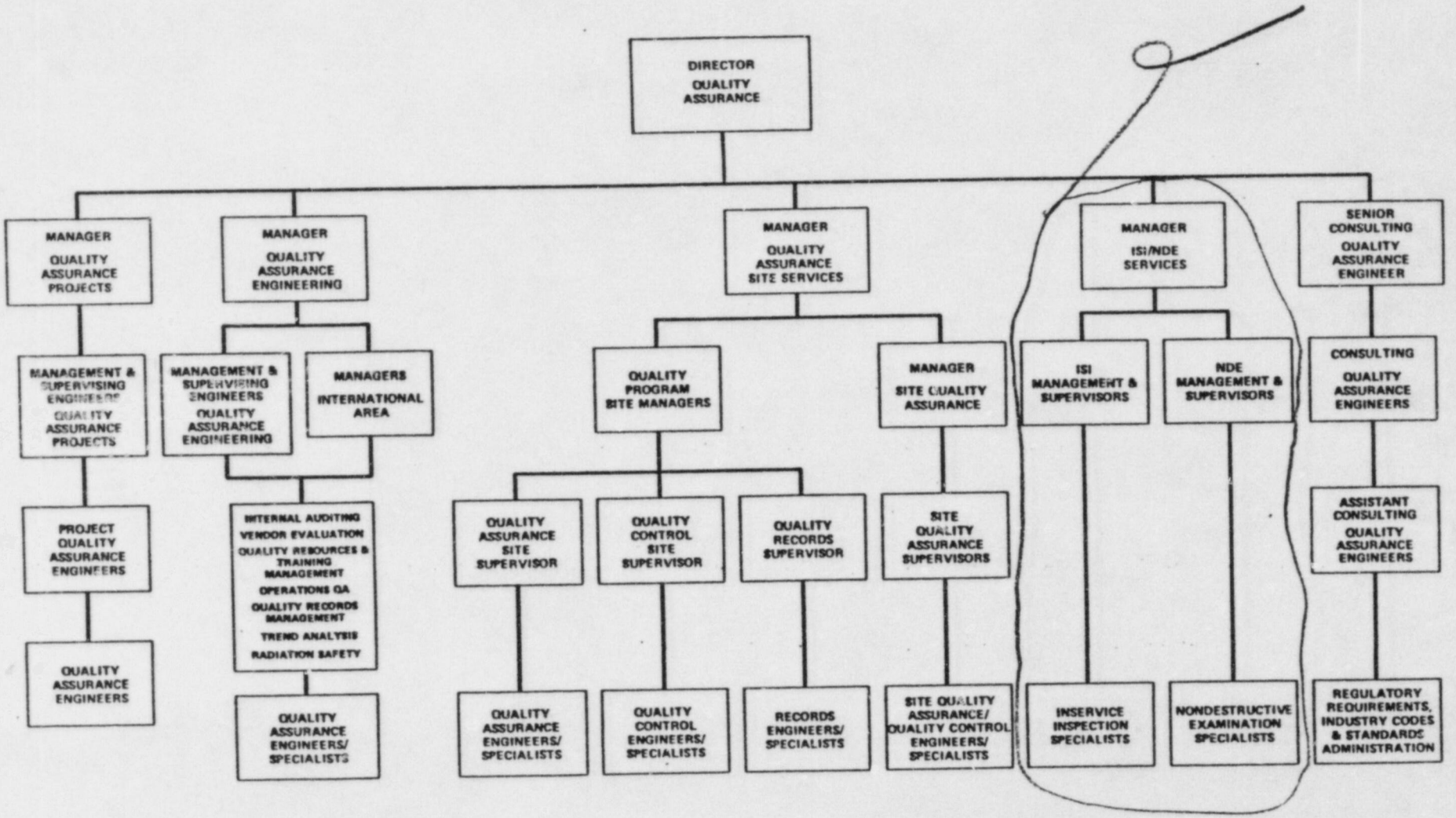

FIGURE I-2.7
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EBASCO SERVICES INCORPORATED
QUALITY ASSURANCE ENGINEERING
QUALITY ASSURANCE SPECIALISTS

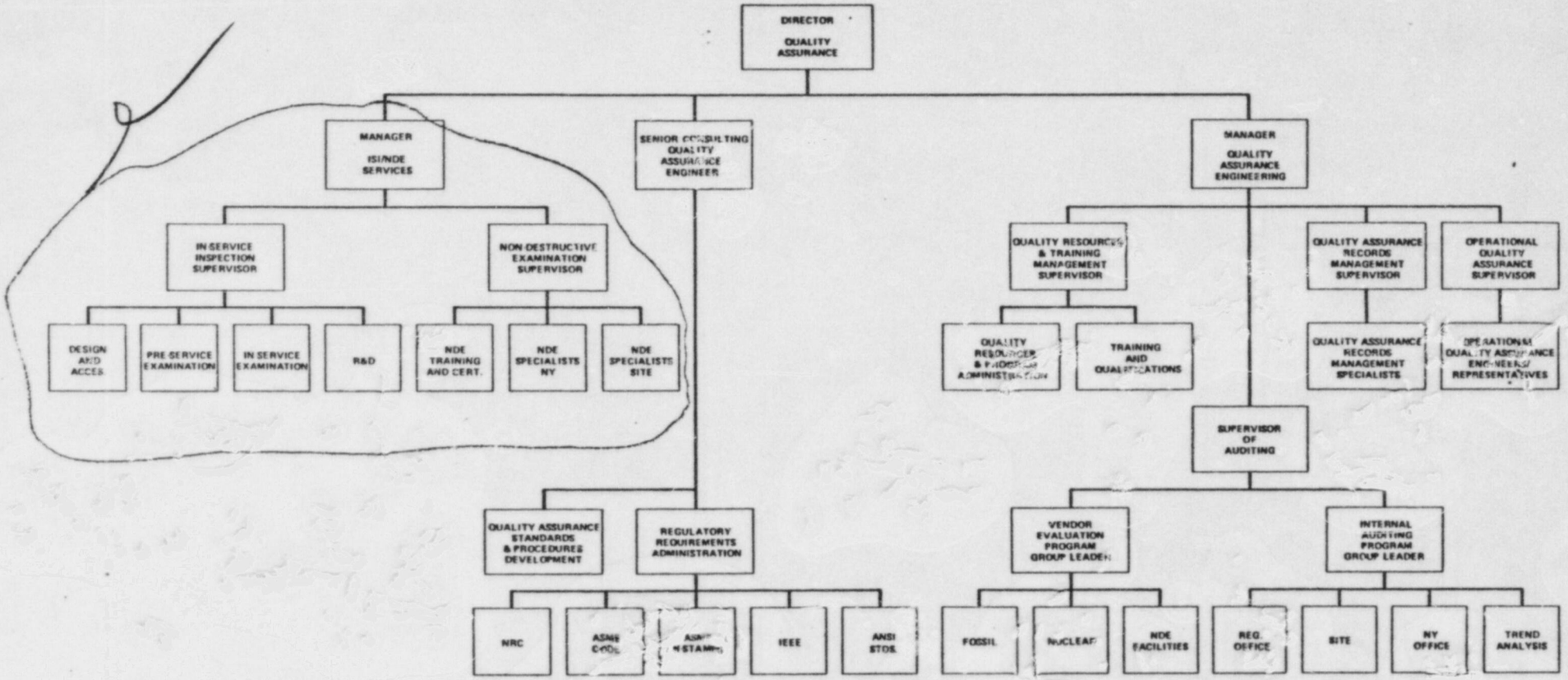

FIGURE 1-2.8
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