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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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Before the Atomic Safety and Licensing Board

OFFICE OF SECRETARY
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In the Matter of	:	
	:	
GEORGIA POWER COMPANY, et al.	:	DOCKET NOS. 50-424
	:	50-425
(Vogtle Electric Generating	:	
Plant, Units 1 and 2)	:	

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APPLICANTS' MOTION FOR SUMMARY DISPOSITION
OF JOINT INTERVENORS' CONTENTION 8
(QUALITY ASSURANCE)

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18. I&E Report 83-16
19. September 30, 1983 Letter from GPC to NRC
20. I&E Report 82-29
21. January 4, 1983 Letter from GPC to All Contractor Managers
22. I&E Report 83-01

23. December 20, 1978 Letter from GPC to NRC
24. Final Report to NRC Dated November 21, 1979
25. Final Report to NRC Dated October 17, 1984
26. I&E Report 78-09
27. I&E Report 79-14
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35. November 23, 1981 Letter from GPC to NRC
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(QUALITY ASSURANCE)

I. INTRODUCTION

Georgia Power Company, Municipal Electric Authority of Georgia, Oglethorpe Power Company and City of Dalton (hereinafter "Applicants") hereby move the Atomic Safety & Licensing Board (hereinafter "Board"), pursuant to 10 CFR § 2.749, for summary disposition in Applicants' favor of Joint Intervenors' Contention 8 (Quality Assurance). As grounds for their Motion, Applicants submit that there is no genuine issue of material fact to be heard with respect to Contention 8, and that Applicants are entitled to a decision in their favor as a matter of law.

In support of this Motion, Applicants rely upon the arguments set forth herein; the Statement of Material

Facts As To Which There Is No Genuine Issue To Be Heard On
Joint Intervenors' Contention 8; the Affidavits of:

- D. O. Foster (Attachment 1) - ("Foster Affidavit")
- C. W. Hayes (Attachment 2) - ("Hayes Affidavit")
- B. C. Harbin (Attachment 3) - ("Harbin Affidavit")
- K. W. Caruso (Attachment 4) - ("Caruso Affidavit")
- N. L. Brooks (Attachment 5) - ("Brooks Affidavit")
- E. J. Turner (Attachment 6) - ("Turner Affidavit")
- W. C. Ramsey (Attachment 7) - ("Ramsey Affidavit")
- R. W. McManus (Attachment 8) - ("McManus Affidavit")
- H. W. Swain (Attachment 9) - ("Swain Affidavit")
- E. D. Groover (Attachment 10) - ("Groover Affidavit")

and the various public documents which are referred to
throughout this Motion as Attachments 11-47 and which are
listed in the Table of Contents.

II. PROCEDURAL BACKGROUND

Presently pending before this Board is Applicants'
Application for an Operating License for Vogtle Electric
Generating Plant (hereinafter "VEGP") located near
Waynesboro, Georgia. Two Intervenors, Citizens for a
Prosperous Georgia and Georgians Against Nuclear Energy
(hereinafter "Joint Intervenors") have challenged the
grant of an operating license on several grounds,
including Contention 8 (Quality Assurance). Contention 8,
as circumscribed and admitted by the Board is stated as
follows:

Applicants have not and will not implement a Quality Assurance program for Plant Vogtle for welding, for properly documenting the placement of concrete, for adequately testing concrete, for the preparation of correct concrete quality test records, for procuring material and equipment that meet applicable standards, for protecting equipment and for taking corrective action as required, so as to adequately provide for the safe functioning of diverse structures, systems and components, as required by 10 CFR Part 50, Appendix B, such that reasonable assurance exists that the operation of the facility will not endanger the public health and safety.

Memorandum and Order (Ruling on Joint Intervenors' Objection to Order of September 5, 1984 and other Matters) dated November 5, 1984 ("November 5, 1984 ASLB Order").

In its Memorandum and Order on Special Pre-Hearing Conference Held Pursuant to 10 CFR 2.715a, dated September 5, 1984, the Board adopted a stipulation entered into by the parties which provided for two rounds of discovery on each contention. Discovery lasted for 120 days during which period the parties conducted written discovery of each other. The parties later added by stipulation an additional 30 days to the discovery period during which to take depositions.

Pursuant to this schedule, each party served the other with two rounds of written discovery pertaining to Quality Assurance issues. The NRC staff served one round of Interrogatories upon Joint Intervenors. Joint Intervenors requested numerous documents to be produced by Applicants. In response, Applicants assembled approxi-

mately 28,000 pages of documents^{1/} and made them available to Joint Intervenors at the special discovery room which had been set up at VEGP. After having requested these documents, and even though these documents were available for more than four months, Joint Intervenors made no effort to review the Quality Assurance documents.

With regard to Contention 8, Applicants deposed Mr. Doug Teper who was identified by Joint Intervenors as the only presently known witness who has testimony to offer on behalf of Joint Intervenors on the issue of Quality Assurance. Essentially, Mr. Teper's testimony was that he knows nothing of the Quality Assurance program at VEGP except that which he has learned from reading documents available in the Public Document Room. He has conceded that he has no particular education, background or expertise in areas of Quality Assurance which are within the scope of the contention.

As stipulated by the parties, the period of discovery has now ended. It is now clear that there is no genuine issue as to the quality of construction of VEGP. Quality has been assured through various and numerous overlapping programs.

^{1/} These 28,000 pages were produced in response to QA discovery. Additionally, approximately 50,000 pages were produced on the technical contentions.

III. LEGAL BASIS FOR SUMMARY DISPOSITION

The standards governing summary disposition motions in NRC proceedings are now well established and are quite similar to the standards applied under Rule 56 of the Federal Rules of Civil Procedure. Alabama Power Co. (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 A.E.C. 210, 217 (1974); See Tennessee Valley Authority (Hartsville Nuclear Plant, Units 1A, 2A, 1B and 2B), ALAB-554, 10 N.R.C. 15, 20 n.17 (1979). The use of summary disposition has been encouraged by the Commission and the Appeal Board to avoid unnecessary hearings on contentions for which an intervenor has failed to establish the existence of a genuine issue of material fact. E.g., Statement of Policy on Conduct of Licensing Proceedings, CLI-81-8, 13 N.R.C. 452, 457 (1981); Houston Lighting and Power Company, (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 N.R.C. 542, 550-551 (1980); Northern States Power Company, (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-107, 6 A.E.C. 188, 194 (1973), aff.d, 502 F.2d 424 (D.C. Cir. 1974).

Simply stated, a party is entitled to summary disposition in its favor if its motion and statement of material facts show that there is no genuine issue to be heard. Equally significant, where, as here, such a

properly supported motion for summary disposition is made, the party opposing the motion may not simply rely upon allegations or denials alone. Rather, it must come forward with substantial facts in the form of admissible evidence establishing that a genuine issue of fact remains to be heard. 10 C.F.R. § 2.749(b); Virginia Electric & Power Co. (North Anna Nuclear Power Station, Units 1 and 2), ALAB-584, 11 N.R.C. 451, 453 (1980).

A party cannot avoid summary disposition on the basis of guesses or suspicions or on the hope that at the hearing the licensee's evidence may be discredited or that "something may turn up." Gulf States Utilities Co. (River Bend Station, Units 1 and 2), LBP-75-10, 1 N.R.C. 246, 248 (1975). Nor can the opposing party avoid summary disposition merely by "the showing of a 'material issue of fact' or an 'issue of fact.'" They [must show] a genuine issue of material fact." Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Units 1 and 2), LBP-83-46, 18 N.R.C. 218, 223 (1983) (emphasis in original). To be genuine, "the factual record, considered in its entirety, must be enough in doubt so that there is a reason to hold a hearing to resolve the issue." Id.

If the party opposing the motion fails to make the proper showing, summary disposition must be granted. 10 C.F.R. § 2.749(b). As the Appeal Board has emphasized,

"summary disposition procedures provide in reality, as well as in theory, an efficacious means of avoiding unnecessary and possibly time-consuming hearings on demonstrably insubstantial issues" Houston Lighting & Power Co. (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 N.R.C. 542, 550 (1980). Similarly, the Commission's Statement of Policy on Conduct of Licensing Proceedings, CLI-81-8, instructs Licensing Boards to "encourage the parties to invoke the summary disposition procedure on issues where there is no genuine issue of material fact so that evidentiary hearing time is not unnecessarily devoted to such issues." 13 N.R.C. 452, 457 (1981).

IV. LEGAL STANDARDS APPLICABLE TO QUALITY ASSURANCE

Joint Intervenors' Contention 8 asserts that Applicants have failed to implement certain aspects of a construction quality assurance program, as required by 10 C.F.R. Part 50, Appendix B. The purpose of a construction quality assurance program is to assure the adequacy of plant construction by, among other things, a formal program for identifying, documenting, and correcting errors or discrepancies. In any project as enormous and complex as a nuclear power plant, the quality assurance records will have identified and documented the correction of many discrepancies. The existence of such records

indicates the proper functioning of a quality program; it does not, as Joint Intervenors suggest, show lack of program implementation. In this regard, the Appeal Board has recently defined the context within which quality assurance issues are to be viewed:

In any project even remotely approaching in magnitude and complexity the erection of a nuclear power plant, there inevitably will be some construction defects tied to quality assurance lapses. It would therefore be totally unreasonable to hinge the grant of a NRC operating license upon a demonstration of error-free construction. Nor is such a result mandated by either the Atomic Energy Act of 1954, as amended, or the Commission's implementing regulations. What they require is simply a finding of reasonable assurance that, as built, the facility can and will be operated without endangering the public health and safety. 42 U.S.C. §§ 2133(d), 2232(a); 10 C.F.R. § 50.57(a)(3)(i). Thus, in examining claims of quality assurance deficiencies, one must look to the implication of those deficiencies in terms of safe plant operation.

Union Electric Company (Callaway Plant, Unit 1), ALAB-740, 18 N.R.C. 343, 346 (1983) (footnote omitted).

The Diablo Canyon Appeal Board agreed:

Although a program of construction quality assurance is specifically designed to catch construction errors, it is unreasonable to expect the program to uncover all errors. In short, perfection in plant construction and the facility construction quality assurance program is not a precondition for a license under either the Atomic Energy Act or the Commission's regulations. What is required instead is reasonable assurance that the plant, as built, can and will be operated without endangering the public health and safety.

Pacific Gas and Electric Co., (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-756, 18 N.R.C. 1340, 1345 (1983).

This Motion and its supporting documentation will show that Joint Intervenors' allegations are without merit and cast no doubt on the reasonable assurance that VEGP can and will be operated without endangering the public health and safety. Contention 8 should be resolved by summary disposition.

V. SCOPE OF CONTENTION 8.

In Contention 8, Joint Intervenors allege that Applicants "have not and will not implement a quality assurance program" for VEGP in the following areas:

1. Welding;
2. Concrete:
 - a) properly documenting placement of concrete;
 - b) adequately testing concrete;
 - c) preparation of correct concrete quality test records;
3. Procuring material and equipment;
4. Protecting equipment;
5. Taking corrective action.

Although the contention has been limited to the above discrete areas, the actual allegations within each area to which Applicants must respond, and the bases for those allegations, have not been well defined by Joint Intervenors' pleadings. In an attempt to focus the issues, Applicants undertook extensive discovery for the primary purpose of discovering exactly what it was that Joint

Intervenors were alleging, and what the bases were for the allegations.

The attempt was not altogether successful. For the most part, Joint Intervenors merely referenced back to their previously filed pleadings or stated that more information would be provided after reviewing Applicants' responses to their discovery requests. No such information was provided.

In other instances, the answers were vague or unresponsive. For example, Joint Intervenors have alleged, in support of their contention, that "inferior materials have been used on site." (CPG Petition for Leave to Intervene, January 26, 1984 at p. 4.) When asked to explain the basis for the allegation in written discovery, Joint Intervenors responded:

Many, many examples could be cited, such as installation of 239 inadequate circuit breakers in equipment at Vogtle; to cite all such examples would be unduly burdensome on Joint Intervenors, and we hereby refer Applicants to the NRC's Public Document Room (as well as Applicants' own records) as evidence.

(Joint Intervenors' Response to Applicants' Second Interrogatories at ¶ 8.1-11.)^{2/}

^{2/} In fact, all circuit breakers involved in this incident were repaired and modified before installations. No such circuit breakers were even used at VEGP in any safety-related function prior to modification. (Hayes Affidavit at ¶ 157.)

Following written discovery, Applicants deposed Doug Teper, the sole witness identified by Joint Interveners in support of Contention 8. When Mr. Teper was asked to identify what inferior materials Joint Interveners are alleging to have been used at VEGP, he responded:

I don't recall specifically. I seem to remember a problem with -- I don't recall right now. I believe it has something to do with spools which were checked. A number of the, a certain sample of them, were checked, and some problems were found. But I don't recall the details.

(Teper Deposition at 278.)^{3/}

Joint Interveners' vagueness and unresponsiveness has severely disadvantaged Applicants in the preparation of their case. To frame effective responses to Joint Interveners' challenges to the VEGP Quality Assurance program, Applicants searched through all of Joint Interveners' filings and all transcripts for any allegations within the ambit of Contention 8. Applicants then spent countless hours reviewing QA documents and NRC Inspection Reports ("I&E Reports") and interviewing individuals at the construction site in order to ascertain the incidents to which Joint Interveners had made cryptic reference.

Joint Interveners' Quality Assurance allegations appear to have come in large part, if not solely, from

^{3/} In fact, no "inferior spools" have been used at VEGP. See Part VI B4(d) of this Brief.

Mr. Teper. His source of information was limited exclusively to QA reports and NRC I&E Reports and other such documents available in the Public Document Room.^{4/} At his deposition, it was established that Mr. Teper has no expertise, special knowledge or professional qualifications in Quality Assurance, (Teper Deposition at 7-11, 13-14, 104-115), construction (Id. at 148-150), concrete placing and testing (Id. at 150-158), welding (Id. at 158-160), procurement (Id., at 160-161), or equipment storage (Id. at 161-163). He also exhibited a decided lack of knowledge about Quality Assurance at VEGP. He has not read the VEGP Quality Assurance Manual, the PSAR, or the Deviation Reports which relate to the allegations he had made (Id. at 122-128). Nor, has he ever talked to any present or former employee of GPC, SCS, Bechtel, Westinghouse, or any other contractor or vendor at VEGP (Id. at 168-170). He does not know what, if any, corrective action has been taken by Applicants to remedy any problems identified in the I&E Reports or GPC reports to the NRC (Id. at 209-210; 246; 281; 289; 291).

^{4/} Joint Intervenors claim to have received "tips" from several anonymous informants (See, e.g. Response to Applicants' Interrogatory 8.1-1). However, Mr. Teper has testified that he does not rely upon those "tips" in support of Contention 8 nor does he believe that any such "anonymous tip" has called into question the safety of VEGP. (Teper Deposition at p. 251-257.)

The scope of Contention 8 has been defined by the Board. The issues to be addressed within the scope of the Contention are those which have been identified by Joint Intervenors in their pleadings and in response to Applicants' discovery and the staff's discovery. This Motion will address the Contention and the issues, as defined by Joint Intervenors, to the extent the issues are cognizable.

VI. ARGUMENT

A. VEGP HAS AN EFFECTIVE QUALITY ASSURANCE PROGRAM WHICH MEETS ALL NRC QA REQUIREMENTS AND ENSURES THE QUALITY OF CONSTRUCTION.

1. Overview.^{5/}

VEGP is a two-unit nuclear facility being developed near Waynesboro, Georgia by its four co-owners, Georgia Power Company (hereinafter "GPC"), Oglethorpe Power Corporation, Municipal Electric Authority, and the City of Dalton (all collectively referred to as ("Applicants")). GPC is responsible for the design, construction, and operation of the Plant. To fulfill this role, GPC has retained the overall management responsibility, including Quality Assurance for VEGP. (Foster Affidavit at ¶ 3.) GPC monitors or directs all Project Quality Control and Quality Assurance processes. (Foster Affidavit at ¶ 17.)

^{5/} The factual statements set forth in this section of the Brief are supported by the Foster Affidavit. In his Affidavit, Mr. Foster describes the organization of GPC and VEGP in more detail than is summarized herein.

Westinghouse Corporation ("Westinghouse") designed the NSSS. Bechtel Power Corporation ("Bechtel") is the principal architect/engineer for VEGP. (Foster Affidavit at ¶ 8.)

Southern Company Services ("SCS") is a sister company of GPC; both are owned by the Southern Company. SCS is responsible for engineering, design and procurement activities for non-safety-related systems and structures (under the direction of GPC and Bechtel) and for expediting hardware purchases covered by Bechtel/SCS engineering requisitions. SCS is delegated the responsibility for assuring, through QA audits, the proper implementation and compliance with the QA program by Bechtel, and proper implementation and execution of the supplier surveillance program. (Foster Affidavit at ¶ 11.)

The construction work of VEGP is accomplished by direct contract between major construction contractors and GPC. During construction, VEGP management is accomplished by GPC through a Vogtle Project management organization. A Project Management Board, consisting of executives from GPC, SCS, Bechtel, Westinghouse, and the co-owners provide Project direction and review Project status on a continuing basis. (Foster Affidavit at ¶ 14.)

All construction work performed at VEGP is performed under the VEGP QA program. This QA program provides assurance that construction will comply with regulatory requirements and applicable codes and stan

dards, and that as construction comes to completion there is a high level of confidence that the facility can be operated without endangering the public health and safety. The VEGP QA program has been structured to address each of the eighteen criteria of 10 C.F.R. 50, Appendix B, as well as the commitments contained in the PSAR and FSAR. (Hayes Affidavit at ¶ 3.) The specific steps which have been taken to satisfy 10 C.F.R. 50, Appendix B are described in Hayes Affidavit at ¶¶ 5-67.

The assurance of quality at VEGP is a comprehensive concern which permeates all stages of design, procurement and construction. There are three basic elements which effectuate this assurance of quality. The first involves the selection of implementation of appropriate design and construction procedures and methods. Secondly, quality is assured by a programmatic system of Quality Control inspections and tests. Thirdly, quality is assured by surveillance, audits and reviews conducted by the Quality Assurance Department.

2. The Commitment to Quality at VEGP Has Been Recognized by the NRC.

The assurance of quality at VEGP has been cited on for its high standards and effectiveness.

A USNRC Regional Construction Assessment Team (CAT) inspection was conducted on the Vogtle Project from June 21 through July 20, 1983. The CAT Inspection Report,

dated October 14, 1983, (I&E Report 83-13), had the following comments applicable to the assurance of quality at VEGP:

It is evident from the corporate office management level to the site functional organizations that there is a sense of commitment to quality.

GPC project, construction, and QA management display and give evidence of an organization with experience, understanding, and ability to manage a complex nuclear project.

The licensee manages the project and does not place a high degree of reliance on contractors for project management.

Authority and responsibilities are clearly specified and well understood by participating organizations.

The site appears to be well staffed with . . . QA representation . . . to accomplish current construction activities.

All indications are that there is a cooperative and supportive rapport between . . . engineering and QA

. . . the interface activities between GPC corporate management, site QA, area engineers, and contractors is very good. It is apparent that management supports the [quality assurance] program.

The QA organization and personnel are effectively implementing the QA program requirements

GPC is a problem-oriented organization and faces the day-to-day problems head on. They admit to their problems and vigorously pursue corrective action.

It appears quite evident that GPC is not just giving lip service to the management control and QA systems. They are putting their resources up front and implementing a viable quality program with full management support and involvement.

The VEGP management and contractor commitment to quality was described in the Commission's April 4, 1984

Report to Congress, submitted pursuant to Section 13 of the NRC Authorization Act for Fiscal Years 1982 and 1983 (the Ford Amendment). The Commission cited VEGP as an example of a nuclear power plant construction project with a successful Quality Assurance program; VEGP was referred to as having "the absence of major quality failures." The Commission said the following about VEGP:

The licensee has an experienced design, construction, and construction management team. The licensee has had prior experience with a previous nuclear station, and many of the personnel who worked on it are now involved in the present project. This experience has given them an understanding and appreciation of the complexity of large nuclear station construction activities. . . . The persons contacted, in general, had good qualifications for their assignments. There is a substantial training program and an overall impression of a high level of dedication and enthusiasm to the project. Early in the construction process, it was recognized that craft personnel available in the area needed further training on the special requirements of nuclear work, and this resulted in a comprehensive craft training program. The QA/QC staff is broad and deep in experience and qualifications.

. . .

The major construction contractors (especially the mechanical and electrical contractors) and the smaller contractors have had previous experience in construction of nuclear projects.

The licensee has an orientation toward, and an attitude supportive of, quality in its nuclear project. The stated management philosophy of insisting on quality was not simply to satisfy the NRC, but to go beyond those requirements to have a reliable and safe operating plant. At higher levels in the management structure, the conviction appeared to prevail that public safety

and company profitability demand assurance of quality in the construction (and operation) of nuclear plants, and that it is less expensive in the long run to "do the job right the first time." From the interviews conducted, both at the corporate offices and the site, it was evident that a sense of commitment to quality pervades the licensee's organization at all levels. The licensee volunteered to participate in the first Institute of Nuclear Power Operations (INPO) construction pilot audit and has expanded on it with its own self-initiated evaluation. The quality assurance staff has direct access to an executive vice-president. There was no indication from the interviews of cost/schedule overriding QA/QC. At lower levels, there was an expressed feeling that the company wants to do the job right. Employees at all levels appeared to have a constructive attitude toward the need for quality in general, and the proper application of quality assurance, in specific. A pro-company attitude and good morale on the part of the employees appear to exist.

The licensee manages the project, has clearly defined the responsibilities and authorities of the participants, and has provided adequate procedures to ensure compliance, especially at the interfaces. This is manifest most clearly in day-to-day activities at the site. The licensee is running the job. The licensee does not rely on the major contractors to perform overall management functions. There are limited and defined points of contact through which the licensee directs the work of its contractors. It is also manifest by the fact that the direction for the overall quality assurance program comes from the licensee and not from its subcontractors. . . .

The licensee supports its quality assurance program with adequate resources and backing. This is manifest by a Project Management Board comprised of senior utility management, senior project management, and senior A-E and NSSS representatives. . . .

. . .

The licensee's QA/QC function is active in reviewing, witnessing, and verifying contractors'

work and in helping assure that corrective action is implemented. A well-staffed program with good procedures exists to ensure that construction conforms to the design. Licensee construction coordinators, many of whom have been quality control inspectors, do a preinspection of craft work prior to formal inspection by QC. There is feedback of lessons learned from earlier construction experience and from other projects. The licensee and its contractors have an effective corrective action program that brings about needed change. Design reviews by the licensee for constructability and operability were thorough. Licensee management interviewed indicated that they encouraged their staff to surface problems as soon as possible. In the long run, it was more beneficial and cost effective to do it earlier than later.

Improving Quality and Assurance of Quality in Design and Construction of Nuclear Power Plants; A Report to Congress, (NUREG 1055) at pp. A.12-A.13 (emphasis in original).

3. Quality is Assured by the Construction Procedures Used at VEGP.

Contention 8 asserts that Applicants have not implemented a Quality Assurance program for several specific aspects of construction. Simply stated for each of those specific areas, there are Quality Assurance programs in place which include the three essential elements outlined earlier -- the selection and implementation of appropriate procedures and methods, the implementation of a programmatic system of Quality Control inspections and tests, and the conduct of audits, surveillance or reviews by the Quality Assurance Department. With respect to construction and design procedures, the

following summarizes how this first essential element applies to the concerns Joint Intervenors have raised.

First, Joint Intervenors contend "Applicants have not and will not implement a quality assurance program for Plant Vogtle for welding" (November 5, 1984 ASLB Order). The procedures and methods of welding at VEGP are set forth in the Affidavit of K. W. Caruso at ¶¶ 3-22 ("Caruso Affidavit") which is Attachment 4 hereto. In that Affidavit, Mr. Caruso details the organization and responsibility for welding at VEGP (Id. at ¶ 3); the qualification of welding procedures (Id. at ¶ 5); the qualification of welders (Id. at ¶¶ 6-7); welder training (Id. at ¶ 8); procurement, storage, issue and field issuance of weld filler material (Id. at ¶¶ 9-16); fabrication, installation, inspection and testing of welds (Id. at ¶¶ 17-19); and Quality Control inspections (Id. at ¶¶ 19-22).

Second, Joint Intervenors contend that "Applicants have not and will not implement a quality assurance program for Plant Vogtle for . . . the placement of concrete, for adequately testing concrete, for the preparation of correct concrete quality test records . . ." (November 5, 1984 ASLB Order). The procedures and methods for documenting placements of concrete, testing concrete and maintaining accurate quality test records are set

forth in the Affidavit of L. N. Brooks at ¶¶ 3-94 ("Brooks Affidavit") which is Attachment "5" hereto. In that Affidavit, Mr. Brooks details the organization and responsibility for concrete documentation of testing (Id. at ¶¶ 3-12); procurement of concrete materials (Id. at ¶¶ 13-15); inspection of received materials (Id. at ¶¶ 16-17); documentation, testing and preparation of quality test records for: reinforcing steel (Id. at ¶¶ 18-25), cadwelds and cadweld operators (Id. at ¶¶ 26-39), batch plant operations (Id. at ¶¶ 40-54), preplacement operations (Id. at ¶¶ 55-63), placement operations (Id. at ¶¶ 64-76), post-placement (Id. at ¶¶ 77-83), and the laboratory (Id. at ¶¶ 84-94).

Third, Joint Intervenors contend that "Applicants have not and will not implement a quality assurance program for Plant Vogtle for . . . procuring material and equipment that met applicable standards . . ." (November 5, 1984 ASLB Order). The manner and methods by which materials and equipment are procured for VEGP are set forth in the Affidavit of E. J. Turner at ¶¶ 3-31 ("Turner Affidavit") which is Attachment 6 hereto. In that Affidavit, Mr. Turner describes the organization and responsibility for procurement at VEGP (Id. at ¶¶ 6-13), a general description of the procurement program at VEGP (Id. at ¶¶ 14-17); approved bidder list development and

approval (Id. at ¶¶ 18-24); bidding, evaluation, recommendation, approval and award of new purchase orders (Id. at ¶¶ 25-26); post-award purchase order and contract administration (Id. at 27-28); supplier quality program (Id. at ¶39); supplier quality surveillance program (Id. at ¶¶30-31).

Fourth, Joint Intervenors contend: "Applicants have not and will not implement a quality assurance program for Plant Vogtle for . . . protecting equipment . . . (November 5, 1984 ASLB Order). The various programs and procedures for material control and storage at VEGP are set forth in the Affidavit of B. C. Harbin at ¶¶ 26-72 ("Harbin Affidavit") which is Attachment "3" hereto. In that Affidavit, Mr. Harbin describes the organization and responsibility for material control and storage at VEGP (Id. at ¶26); the commitments to various requirements and the implementation of these requirements (Id. at ¶¶ 27-28); methods of receipt of materials (Id. at ¶¶ 29-51); the storage of materials (Id. at ¶ 52-62); the program for maintenance of stored materials and equipment (Id. at ¶ 63-70); the program for material handling (Id. at ¶ 71-72).

Finally, Joint Intervenors contend that: "Applicants have not and will not implement a quality assurance program for . . . taking corrective action . . ."

(November 5, 1984 ASLB order). The programs for taking corrective action are described by C. W. Hayes. (Hayes Affidavit ¶¶ 58-60; 144-156).

In each area specified above -- welding, concrete placement and testing, procurement, equipment storage and corrective action -- the procedures for design and construction contribute in a fundamental way to the assurance of quality at VEGP.

4. Quality is Assured by the Quality Control Department.

The Quality Control Department provides a second level of assurance of quality in construction at VEGP. The function of the Quality Control Department is described in detail by Mr. Harbin, the VEGP Manager of Quality Control (Harbin Affidavit ¶¶ 3-25). In that Affidavit, Mr. Harbin describes the organization and responsibilities for Quality Control (Id. at ¶¶ 3-12); and inspector qualifications and certification (Id. at ¶¶ 13-25). The actual activities of the QC inspectors are an integral part of the construction programs for welding, concrete, procurement and storage. Therefore, the specific activities of the QC inspectors are described in the Affidavits of Mr. Caruso (for welding) at ¶¶ 3-22; Mr. Brooks (for concrete) at ¶¶ 3-94; Mr. Turner (for procurement) at ¶¶ 3-31; and Mr. Harbin (for storage and equipment protection) at ¶¶ 26-72.

5. Quality is Assured by the Quality Assurance Department.

The third element of the assurance of quality at VEGP is provided by the Quality Assurance Department which is primarily responsible for the programmatic system of audits and vendor surveillance which confirm compliance with the overall commitment to safety and quality. (Hayes Affidavit at ¶ 5.) As is required by 10 C.F.R. Part 50, Appendix B, Criterion I, the Quality Assurance Department is functionally and administratively outside the construction program which inspects and tests on its own behalf to assure quality. (Id. at ¶ 5.)

Mr. Charles Hayes describes the functions of the VEGP QA Department in his Affidavit at ¶¶ 67-137 ("Hayes Affidavit"). Within that description Mr. Hayes has discussed the historical development of the VEGP Quality Assurance program (Id. at ¶¶ 68-80); the organizational responsibility for Quality Assurance at VEGP (Id. at ¶¶ 81-103); the Quality Assurance audit program (Id. at ¶¶ 104-131); and the QA surveillance programs (Id. at ¶¶ 132-137).

6. The VEGP Pilot Readiness Review Program has Confirmed the Quality of Construction at VEGP.^{6/}

^{6/} Each of the facts stated in this section of the Brief are supported by Ramsey Affidavit at ¶¶ 3-59. Mr. Ramsey's Affidavit (Attachment 7) also sets forth the Readiness Review Plan and results of the completed Modules in much more detail than is set forth in this portion of the Brief.

GPC has long been concerned about the inability of a number of utilities to satisfactorily complete nuclear plants under construction on time, within budget, and in compliance with NRC requirements. A number of these problems appear to have been the result of major quality-related breakdowns in the management of plant construction or the utilities' inability to demonstrate the requisite quality. In a report to Congress on Improving Quality and Assurance of Quality in the Design and Construction of Nuclear Power Plants (NUREG-1055), the NRC addressed these issues. In response to the question, "Why have the Nuclear Regulatory Commission and the utilities failed or been slow to detect and/or respond to these quality-related problems?", the NRC defined a number of shortcomings and recommended actions. One of the actions recommended for further analysis was the feasibility and benefits of readiness reviews which would involve formal assessments by the utility of their readiness to proceed at critical phases of a project and would include possible involvement of NRC staff. (Ramsey Affidavit at ¶ 3.)

In order to gain added assurance of the operational readiness of the VEGP, GPC is conducting a pilot Readiness Review Program. This program does not eliminate or diminish any authorities or regulatory responsibilities

now assigned to or exercised by the NRC or GPC. Further, the pilot Readiness Review Program does not fundamentally change the techniques of inspections or assurance of quality program activities. Rather, the program is a management system which provides for the more orderly planning and predictable execution of existing authorities and responsibilities. (Id. at ¶ 4.) It has provided a fourth essential element to those already described; thus, it has provided an even higher level of confidence that the commitment of quality undertaken by Applicants has been achieved.

In summary, the Readiness Review Program actions include a definition and description of safety-related work activities in terms of governing regulatory commitments, an in-depth GPC self-assessment of the work activities, NRC review and actions on both the programmatic and work implementation aspects of the work activities, and a methodology for scheduling the separate Readiness Review Program actions of GPC and the NRC. (Id. at ¶ 5.)

This program incorporates several important features such as a Readiness Review Board, outside technical experts in the various disciplines, and a separate design review group, all of which serve to provide independent oversight and review of Readiness Review Program actions and results. (Id. at ¶ 6.)

GPC has determined that the Readiness Review Program, including the NRC's agreement to participate, will result in significant benefits. These benefits include improved planning, which will enhance the effective use of critical NRC and GPC resources, and improved predictability resulting from the early NRC determination of program adequacy. Other benefits include enhanced assurance of the overall program acceptability resulting from GPC's self-assessment, combined with the phased independent NRC reviews, and improved stability by minimizing the potential for last minute identification of major programmatic problems. (Id. at ¶ 6.)

The Readiness Review Program will involve safety-related aspects of VEGP design and construction. The particular modules which have relevance to the scope of this proceeding are:

- Module 1: Concrete, Rebar and Cadwelds.
- Module 4: Mechanical Equipment, Piping and Components.
- Module 8: Structural Steel.
- Appendix A: Organization.
- Appendix C: Procurement.
- Appendix E: Material Control.
- Appendix H: Nonconformances.
- Appendix I: Project QA Organization.

(Id. at ¶ 24.)

Of these modules, Module 1 and Appendix I have been completed. The remaining relevant modules are due to be finalized and submitted to the NRC throughout this summer. (Id. at ¶ 25.)

As they have done with documents in the PDR, Joint Intervenors may read the findings set forth in the Readiness Review Modules and argue that these findings support the conclusion that there has been a breakdown in the VEGP QA program. As with the documents found in the PDR, the findings of the Readiness Review Task Force do not call into question the QA program. The effectiveness of the VEGP QA program has been verified in the proceeding sections of this Brief. The conclusions of the Readiness Review Task Force have confirmed the quality of construction at VEGP.

Despite relatively minor and isolated findings of the Readiness Review Task Force with regard to concrete, the task force concluded that the civil concrete structures at VEGP "comply with FSAR commitments and that this compliance is verifiable with existing project records." (Id. at ¶ 40.)

The Readiness Review Board concluded:

The Readiness Review Board has been apprised of the scope of the Reinforced Concrete Structures Module and has reviewed the program verification and independent design review process and results. Additionally, the Readiness Review Board has reviewed the corrective actions, both proposed and implemented, by the Vogtle Project.

Based upon this review, and based upon the collective engineering experience and professional judgment of the Readiness Review Board members, the Board is of the opinion that the corrective action proposed is acceptable. The Readiness Review Board has also concluded that the concrete at VEGP is of sound quality and installed in a manner consistent with the commitments set forth in the FSAR and PSAR and acceptable engineering and construction practice.

(Id. at ¶ 41.)

A similar intensive review and verification of Project Quality Assurance Department is described in Appendix I. (Id. at ¶ 42.)

The purpose of this verification was to ascertain whether, through representative sampling, the Vogtle Quality Assurance Organization, under the direction of the Vogtle Quality Assurance Manager (VQAM), has implemented a comprehensive Quality Assurance program which encompasses design, procurement, construction, preoperational testing, and operating activities. (Id. at ¶ 43.)

An evaluation of the results of this verification indicates that the Quality Assurance organization has functioned effectively to ensure proper implementation of licensing commitments. (Id. at ¶ 44.)

B. JOINT INTERVENORS' CHALLENGE TO THE VEGP QUALITY ASSURANCE PROGRAM IS WITHOUT MERIT.

1. Overview.

Joint Intervenors' basic allegation is that Applicants have failed to "implement a quality assurance program" in the areas of welding, portions of concrete

work, materials and equipment procurement, equipment protection, and corrective action. This basic allegation consists of a series of sub-allegations alluded to in Joint Intervenors' filings and discovery responses. All of the various allegations are based solely on Applicants' QA reports and NRC I&E Reports available in the NRC Public Document Room.

Obviously, reports of this type are generated for all domestic nuclear power plant construction projects and are indicative of NRC's activities in fulfillment of its regulatory functions and responsibilities. The purpose of this section of the Brief is to demonstrate that, in each instance, the discrepancies cited by Joint Intervenors have been resolved or are being resolved with corrective action, strictly in accordance with formal QA program and NRC regulatory requirements.

None of the reported instances cited have resulted in unsafe conditions or compromise of the quality of construction at VEGP. Many have not even resulted in a citation of noncomformance or violation by the NRC. As will be evident from the discussions below of the individual allegations, none are of sufficient substance or breadth to suggest programmatic or generic deficiencies in the Quality Assurance program.

The allegations clearly do not support the basic contention of Joint Intervenors that Applicants have failed to implement a QA program in the five areas. To

the contrary, the reports and the dispositions described in those reports indicate not only an effective and properly functioning QA program, but also a commendable commitment on the part of VEGP management to take special measures to investigate quality reports and to use those experiences to implement improvements in the program and its procedures.

2. Welding Allegations.

In the area of welding, Joint Intervenors have referred to seven specific instances in support of their contention. Each contention is described in detail below.

(a) The August 22, 1983 Meeting Regarding Pullman QC Inspectors.

One of the incidents which Joint Intervenors have cited in support of their quality assurance contention has been incorrectly characterized as follows:

The severity of the QA performance at Plant Vogtle forced a meeting on August 22, 1983 at GPC Headquarters regarding Pullman QA performance and intimidation of QA inspectors.

CPG Supplement to Petition at p. 18.

The sole basis for this allegation is from a letter by James P. O'Reilly, Regional Administrator NRC Region II, to GPC (Attachment 11). (Teper Deposition at p. 183-186). This letter confirms a meeting held at GPC Headquarters on August 22, 1983 among members of GPC staff, Mr. O'Reilly and members of Mr. O'Reilly's staff. Contrary to Joint Intervenors' suggestion, the meeting was

not "forced" by the "severity of QA performance" by either Pullman or any QA inspector.

The meeting was called by GPC to explain to the NRC staff the results of certain findings which had been made by a GPC special task force. That task force had been formed to address some concerns registered by Pullman^{7/} QC personnel alleging intimidation by Pullman management. (Hayes Affidavit at ¶ 138.)

As a result of the concerns, GPC senior management formed a task force to address the concerns and to provide further assurance that the GPC's overall commitment to constructing a quality facility were being implemented. The members of the task force included, among others, Mr. W. E. Ehrensberger, a consultant and retired GPC senior officer; Mr. W. M. Wright, a senior project engineer-mechanical, Southern Company Services, and Mr. C. W. Hayes, Vogtle Quality Assurance Manager, GPC. (Id. at ¶ 139.)

The task force conducted a series of personal interviews, observed work in progress, and reviewed relevant documents. A total of approximately eighty interviews and meetings were documented involving nearly seventy different people. Most interviews were

^{7/} Pullman is the piping contractor at VEGP. (Foster Affidavit at ¶ 12.)

planned but some spontaneous interviews were conducted with craft workers while observing piping installation activities. The goal of each interview was to record the individual's attitude toward the production of quality work, and to identify potential problem areas pertaining to the individual activities and/or the overall VEGP piping program. (Id. at ¶ 140.)

It appeared that most of the charges of QC inspector intimidation related to the Pullman salary structure. Specifically, salary increases which were granted to Pullman personnel in May of 1983 were apparently a source of dissatisfaction. The task force found no indication that the salary increases had been used to intimidate the QC inspectors or other employees. Other personnel practices, including discipline and alleged favoritism in job assignments were reviewed. The task force found no improper action on behalf of Pullman management at VEGP which could be construed as intimidation of QC inspectors. (Id. at 143.)

From a technical perspective, the task force found that the Quality Control program being used at that time to monitor the installation of the piping and support work at VEGP was effective. The quality of piping was assured by the procedures then being implemented. The inspection personnel were qualified, adequately trained,

and diligent in the performance of their duties. (Id. at ¶ 141.)

(b) The Walsh Allegations.

Joint Intervenors also allege that: "allegations had been made by a Walsh Company boilermaker that improper welding and work practice had occurred." (CPG Supplement to Petition at p. 18.) Again, Joint Intervenors' sole basis for this allegation is Mr. O'Reilly's letter of September 28, 1983 (Attachment 11.)

The September 28, 1983 letter from Mr. O'Reilly to GPC describes, in addition to the Pullman investigation, an ongoing investigation by GPC into allegations of several Walsh^{8/} employees pertaining to the quality of welding work being done at VEGP. GPC began this particular investigation on August 5, 1983, following a number of quality-related concerns which had been expressed by Walsh boilermakers pertaining to the quality of work being done at VEGP. In order to fully investigate these concerns, GPC formed a task force which began its work on August 5, 1983. (McManus Affidavit at ¶ 3.)

Interviews were held individually with Walsh employees in which they were asked to describe anything

^{8/} Walsh is the civil contractor. (Foster Affidavit at ¶ 12.)

they knew, had seen, or had heard about defective or unsatisfactory work. They were also asked if they had ever been instructed to perform or cover up work that was in any way defective or did not meet the Project's specifications. The interviews were conducted under oath and recorded by court reporters, and transcripts have been maintained. In addition to the Walsh crew members, six GPC QC personnel, one Bechtel employee, and the involved Walsh superintendent were formally interviewed. The QC personnel were asked to describe what they knew about the work involved with Walsh employees' concerns, and to describe any problems they had with respect to interference with their job by Walsh employees, including the superintendent. (Id. at ¶¶ 4-5.)

A detailed investigation of the concerns described in the formal interviews was undertaken. The investigation was performed with assistance from GPC QC Department, SCS In-Service Inspection Group (nondestructive testing), the GPC Civil Construction Engineering and Bechtel Resident Engineering Groups (destructive testing plans and engineering evaluations). As part of the investigation, the team reviewed various procedures, specifications, design drawings, field change requests, deviation reports and inspection reports which were related to the quality concerns expressed by the Walsh employees. (Id. at ¶ 6.)

The investigation revealed that in thirteen instances where a concern about welding work had been expressed, the concern was either allowed by design documents or had been previously reported and investigated through the inspection process and deviation reports. Corrective action was recommended for eight of the concerns. None of the corrective action involved repair work or rework of Plant components. One report was forwarded to engineering for evaluation to disposition a deviation report initiated by the investigators. (Id. at ¶ 7.)

Personnel problems involving the Walsh boilermaker superintendent and several of the employees were frequently mentioned during the interviews. The employees stated that many of their quality concerns were caused by the direction given by the superintendent. One of the concerns had previously resulted in the superintendent receiving disciplinary action for violating a Quality Control hold point. The investigation did not reveal positive evidence to substantiate the employees' statements regarding other concerns. (Id. at ¶ 8.)

The relevant documents pertaining to the investigation for the concerns expressed by Walsh boiler-makers have been made available to Joint Intervenors (although Joint Intervenors have not chosen to inspect them). The documents relating to this investigation total

approximately 1,300 pages, including nearly 1,000 pages of sworn testimony given by witnesses and those who expressed concerns.

The allegations by Pullman inspectors and the concerns expressed by Walsh Company boilermakers were exhaustively examined and investigated by GPC. Certain corrective actions were recommended by the two task forces. Most significantly, however, none of the allegations or concerns were found to affect the quality of the construction at VEGP. Equally as important, these investigations do not suggest that there was a deficiency in the Quality Assurance program at VEGP. In fact, the effectiveness of the QA program was proven by the investigations.

(c) Coolant and Containment Systems.

Joint Intervenors have challenged the assurance of quality of the welds in the coolant and containment systems. Initially, Joint Intervenors suggested as follows:

Repeated violations of NRC regulations and construction methods applied to pipe fitting and welds undermines confidence in capability of coolant and containment systems to perform essential tasks.

CPG Supplement to Petition at p. 15.

In apparent support of this allegation, Joint Intervenors stated that there have been "potential deficiencies involving welds in containment liner pene-

trations" and that "gritblasting of the closure head weld cladding . . . was performed after liquid penetrant examination." (Id. at p. 15.)^{9/}

Later, in response to discovery, Joint Interveners added to their allegation the following:

Applicants' construction sheets for examination of reactor coolant pressure boundary welds did not specify penetrant examination required.

Joint Interveners' Response to Applicants' Second Interrogatories at ¶ 8.2-6.

Although the original allegation pertaining to "repeated violations of NRC regulations" seems broad, Joint Interveners cite no specific incident in which there have been violations of NRC regulations, other than the "process sheet" incident and the "containment liner penetrations."

The process sheets for welding are described by Mr. Caruso. (Caruso Affidavit at ¶ 19.) The specific

^{9/} This situation was found not to affect the quality or safety of VEGP. The investigation of the situation affirms the effectiveness of the VEGP QA program. Applicants conducted an inspection of welds on containment liner penetrations -- work performed by Chicago Bridge and Iron (CB&I) in its facilities in Birmingham. These inspections revealed some problems associated with weld cleanup and some conditions (such as slag, porosity, arc strikes) that should have been eliminated prior to testing. Applicants therefore issued a nonconformance report and reported the matter to the NRC as a potentially significant condition. After investigation, the discrepancies were found not to affect adversely the safety of VEGP. (See Attachment 12.)

discrepancy concerning failure to include the liquid penetrant examination on process sheets for examination of reactor coolant pressure boundary welds was identified by the NRC I&E Report 83-15 (Attachment 13). This Level IV^{10/} violation involved an isolated instance in which one process sheet failed to list the required liquid penetrant examination (PT) for a weld. GPC acknowledged and corrected this isolated violation (Attachment 14; Swain Affidavit at ¶ 3.)

The lack of penetrant examination requirements in process sheets were associated with isometric drawing 1KA-1201-119-02, Rev. 10. All other primary loop piping isometrics (twenty drawings in all) and all associated process sheets were examined and found to provide for penetrant examinations. (Attachment 14;

^{10/} For facility construction, 10 C.F.R. Part 2, Appendix C, Supplement II describes five severity levels. A severity Level I violation is one that involves a structure or system that is completed in such a manner that it would not have satisfied its intended safety-related purpose. A severity Level II violation is one involving a breakdown in the quality assurance program or the completion of a structure or component in such a manner that it could have adverse effect on the safety of operations. A severity Level III violation involves a QA deficiency related to a single work activity. Severity Level IV is a violation not amounting to Levels I through III (and therefore not indicative of a programmatic or system-wide problem or a problem that could have an adverse effect on the safety of operations). A severity Level V violation is one having minor safety or environmental significance. Applicants have never received a severity Level I, II, or III violation.

Swain Affidavit at ¶ 4.) The matter was closed in I&E Report 84-12 (Attachment 15).

It should be noted that the personnel who were involved in performing these tests had done these type of tests on these type of welds over a long period of time; it has been done over and over again. The failure of the process sheet to specify the appropriate test does not indicate that the test would not have been done or that the weld was unsafe. The weld which was to have been inspected by PT pursuant to this process sheet had not yet been finalized. When the weld was completed and the process sheets were returned for final review and confirmation, appropriate written procedures existed such that a Quality Control document reviewer should have caught the previous oversight. (Swain Affidavit at ¶ 5.)

The second "violation of NRC regulations" cited by Joint Intervenors involved liquid penetrant examination on the Reactor Closure Heads Internal Cladding. (I&E Report 83-18; Attachment 16). A NRC inspector had examined the Reactor Closure Heads Internal Cladding, observed questionable surface conditions, and concluded that these conditions did not appear to meet the criteria for performing a meaningful liquid penetrant examination. Re-examination of two suspect areas of the

cladding by liquid penetrant methods revealed linear and rounded indications greater than acceptable limits. Applicants determined, however, that the reactor vessel manufacturer had properly performed the examination, and that the indications were apparently caused by grit-blasting, which had been used as a form of post-examination cleaning. Gritblasting as a method of post-examination cleaning is in accordance with ASME B&PV, Section III. The entire cladding surface of the closure heads of both units was subsequently cleaned, repaired where necessary, and liquid penetrant examined. (Swain Affidavit at ¶ 6-7.)

Based upon that corrective action, the NRC closed the matter in I&E Report 84-21 (Attachment 17). There were no adverse safety consequences as a result of this incident. (Swain Affidavit at ¶ 8.)

Joint Intervenors have no basis for their general statement that Applicants have had "repeated violations of NRC regulations in construction methods applied to pipe fitting and welds" such that it undermined the confidence and capability of the coolant and containment systems to perform essential tasks.

Between November 1, 1982 and October 31, 1983 the NRC conducted a systematic assessment of licensee performance (SALP). This SALP Board assessment covered

the period of time when these two incidents occurred.

Despite these incidents, the SALP Board stated:

Practices used in welding large diameter reactor coolant loop piping appear excellent as are the quality of the welds being produced.

I&E Report 84-01 at p. 31 (Attachment 38).

When these two incidents are placed in the context of the overall construction effort at VEGP, with its effective and functioning QA program, there is no erosion of the reasonable assurance of quality. The isolated and unrelated violations which have been found do not undermine confidence in the capability of the coolant and containment systems to perform their essential tasks.

(d) Radiographic Procedures.

Joint Intervenors allege that: Applicants "have failed to establish adequate radiography procedures." (CPG Supplement to Petition at p. 19.) In support of this allegation, Joint Intervenors have cited only one example in which the radiographic procedure has been called into question. That particular instance involved the failure of Chicago Bridge and Iron ("CB&I") Welding Procedures to specify that the heat-affected zone (HAZ) should be examined with the same film density as required by ASME for weld material. (I&E Report 83-16, Attachment 18.)

The CB&I procedure in question specified that a film density of 3.80 be maintained only for the weld material being examined. It did not specify that the heat-affected zone was to have the ASME specified film density. (Swain Affidavit at ¶ 10.)

The HAZ was routinely examined during radiographic examination even though the film density was not specified at 3.80. The question was not whether the HAZ was properly examined for imperfections; the question was whether the film density in the HAZ was required to be 3.80. (Id. at ¶ 11.)

The single weld in question in I&E Report 83-16 was later removed, and therefore the violation was withdrawn by the NRC. However, Joint Intervenors seek to magnify GPC's initial response to the notice of violation by suggesting that GPC "erroneously equates quality assurance with simple compliance to written procedure." (CPG Supplement to Petition at p. 16.).

GPC took the position that the ASME, B&PV Code did not require any particular film density outside the weld. Therefore, GPC disputed the violation insofar as it challenged the procedures used by CB&I. See letter from Don Foster dated September 30, 1983 (Attachment 19). That letter identified the particular question involved in this instance. As stated by Mr. Foster:

The Georgia Power Company has committed to meeting their requirements of the Code in the examination of welds at Plant Vogtle. While we do not deny that the heat-affected zone of a weld should be given proper consideration during welding inspections, it remains our position that failure to designate the heat-affected zone as part of the area of interest in radiography procedures and failure to maintain film density 3.80 over the entire heat-affected zone of a radiograph do not constitute violation of Code. (emphasis added.)

Rather than rest upon its own interpretation of the Code, GPC referred this matter to the ASME Boiler and Pressure Vessel Code Committee for interpretation. That Committee has now clarified the question, and it appears that the heat-affected zone is included within the "area of inquiry" such that film density of 3.80 should be maintained in radiography procedure. Accordingly, the CB&I procedure has been revised. (Swain Affidavit at ¶ 14.)

Joint Intervenors seek to make much of GPC's initial interpretation of the Code and its disagreement with the NRC inspectors. As with many engineering situations, interpretations of various codes, procedures and standards lead to dispute. The question is not whether the dispute has occurred, but rather what the parties do to resolve the dispute. In this instance, even though the violation had been withdrawn, GPC followed up on the question. When GPC learned that their interpretation was incorrect, appropriate corrective action followed. Rather

than suggesting a deficiency in the assurance of quality at VEGP, this instance portrays a situation in which Applicants took extra measures to assure, to the maximum degree attainable, quality in construction.

(e) Welding in Light Misting Rain.

Applicants have challenged the assurance of quality at Plant Vogtle based, in part, upon an instance which occurred on November 18, 1982 in which a NRC inspector observed welding being performed on No. 2 Primary Containment Dome Sections in what he characterized as "a very light misting rain." (CPG Supplement to Petition at p. 16.)

The rain was not yet enough, at the time, to completely cover a flat surface. However, if the condition were to continue, it would have become detrimental to the quality of the weld. The NRC inspector documented his findings in I&E Report 82-29 (Attachment 20) at paragraph 5(b) at p. 4. The inspector noted that he discussed the condition with the welding supervisor and the site QA supervisor. Work was stopped for the day, although the welding supervisor and the QA supervisor were of the opinion that this condition was acceptable for welding and this position could be substantiated by appropriate CB&I procedures. (Caruso Affidavit at ¶¶ 23 and 24.)

There is no question as to the safety of the weld; it is safe. Not only did the weld undergo routine final inspection as required by appropriate procedures, this particular weld was dry at the time, and the "light misting rain" occurring in the vicinity had no affect on integrity of the final weld. There are no metallurgical problems that will surface, provided the minimum temperature of the surrounding metal is maintained according to appropriate procedures. That minimum temperature is maintained in weather conditions such as that which existed on Thursday, November 18, 1982 when the NRC senior resident inspector called into question the procedures. (Caruso Affidavit at ¶ 25.)

However, in order to more clearly define welding procedures to be used in exposed areas during times of inclement weather, Mr. H. H. Gregory, III, Project Construction Manager, circulated a letter to all contractor managers (Attachment 21). Based upon that letter, the NRC closed this unresolved item on February 16, 1983 in I&E Report 83-01 (Attachment 22).

As seen by the foregoing, there was no safety problem involved in this particular weld. Contrary to Joint Intervenors' assertion, GPC's willingness to clarify its procedures (even though the procedures had been appropriate under the circumstances of this incident)

further evidenced assurance of quality in the welds at VEGP.

(f) Embed Assemblies in the Auxiliary Building.

Next, Joint Intervenors challenge various aspects of the embed assemblies^{11/} in the auxiliary building and the control building. (CPG Response to NRC Staff's Second Interrogatories at p. 5.) This is a situation which first became known as a result of effective VEGP QC inspections. This was not a violation identified by NRC inspectors.

The problem was first reported to the NRC in a verbal telephone conversation on November 21, 1978.

(Hayes Affidavit at ¶ 143.) This was followed by formal written notification on December 20, 1978. (Attachment 23.)

A problem concerning improper installation of some embeds was first identified by GPC Quality Control inspection personnel who noted the improper installation on deviation reports. Pursuant to standard procedure, these were sent to Bechtel for disposition and justification. (Brooks Affidavit at ¶ 97.)

In order to test the competence of the embed assemblies, GPC and Bechtel developed a testing method to

^{11/} An embed assembly is a metal plate which has bolts or studs on the back which are embedded in the concrete. The embed is placed into the concrete wall with the face of the metal plate exposed. The purpose of the embed is to allow welding of pipe supports or miscellaneous steel to it. (Brooks Affidavit at ¶ 96.)

exert a pulling force on the embed plates in order to determine whether they were capable of carrying their designated loads. Those plates, which were able to carry their designated loads, were accepted as is; the others were either derated or abandoned as appropriate.

Depending upon the amount of design loads that it was determined they could carry, the design documents were also revised to reflect the reduced load carrying for these embeds and to indicate that they had been derated.

(Id. at ¶ 98.)

As a result of the licensee identified items regarding embeds, the NRC regional inspectors monitored the evaluations and the corrective actions. A final report was issued by GPC to the NRC on November 21, 1979. (Attachment 24.) The particular problems with the embed assemblies which were discussed in that report were resolved by corrective action. GPC's embed plates are now in compliance with design requirements, and the quality of those embed plates is assured.^{12/} (Brooks Affidavit at ¶ 99.)

^{12/} Joint Intervenors do not purport to rely upon any other problem with the embed assemblies at VEGP. Nevertheless, there have been other licensee identified deviations concerning those embed assemblies. (Brooks Affidavit at ¶ 100-102.) Each of these has been satisfactorily resolved. (Brooks Affidavit at ¶ 103.)

As a result of the effective of Quality Control inspections and QA audits at VEGP, the problems involving embeds were identified. Proper investigation was conducted and corrective action was proposed and taken in order to assure that the embeds would safely perform their essential tasks. (Brooks Affidavit at ¶ 103.)

As with any set of procedures, mistakes can occur. One measure of program effectiveness, however, is the ability to identify weaknesses and correct them; another is the prompt implementation of corrective actions necessary to preclude recurrence of identified deficiencies. The corrective steps taken in the resolution of the embed problems represent a systematic and prudent approach to assure a safe and quality product. While the individuals involved in installing and using the embeds may have erred, the programs which were in force at VEGP to identify problems and correct them did not fail.

(g) Cracking in Containment Pipe Rack Welds.

The next allegation which Joint Intervenors make regarding the welding program at VEGP is that cracking has occurred in containment pipe rack welds.^{13/} (Teper deposition at p. 186.) As with the embed assemb-

^{13/} Containment pipe rack is a supporting structure made of structural steel members which supports and arranges critical piping inside the containment building.

lies, this was a problem which was first identified by GPC and reported as a licensee identified item.

On July 20, 1984, a potentially reportable condition relating to deficient welds was verbally reported to the NRC which was followed by a written notification submitted on August 17, 1984. A final report was issued by GPC on October 17, 1984 (Attachment 25). That report set forth the scope of the problem and the corrective action planned. (Caruso Affidavit at ¶¶ 26, 27.)

The pipe racks are fabricated by welding structural members using a fabrication procedure defined by the Pullman field welding engineer. The procedures used were acceptable. The cracks in the pipe racks were discovered subsequent to final Quality Control inspections. On April 24, 1984, Pullman issued eight nonconformance reports covering two welds with cracks on containment pipe rack R0002 and seven welds with cracks on containment pipe rack R0003. Thus, nine welds out of approximately 12,000 welds had cracks. These were the welds which were subject to the self reporting. (Caruso Affidavit at ¶ 28.)

An evaluation of the nonconformance report indicated the existence of a potentially significant deficiency which was reported to the NRC by GPC. To resolve the situation, GPC requested the assistance of Bechtel Material & Quality Services organization. After

extensive investigation and review, it was determined that there was no programmatic breakdown in the Pullman quality assurance program. (Caruso Affidavit at ¶ 29.)

A repair of the welds in question was performed. All uncracked welds with generic rack designs similar to those which cracked were identified. With regard to each of those, corrective action was planned which includes one of the following:

- (1) local stress relief;
- (2) reinforced joint with doubler plates;
- (3) remove and replace weld; or
- (4) load test to 25% over size of load.

(Id. at ¶ 30.)

The NRC has reviewed the corrective action and has indicated a preference that all generic welds be removed and replaced. However, GPC may justify why the other alternative is also viable. Although the corrective actions in question have not been completed or accepted, no NRC enforcement action is anticipated. (Id. at ¶ 30.)

While this item is not yet finally closed, Joint Intervenors have no basis upon which to challenge the corrective action which might be accepted by the NRC. Mr. Teper has acknowledged that he has no facts or circumstances or evidence to testify as to whether or not corrective action is proper or improper. (Teper Deposition at p. 209, 210.) He further concedes that he

has no expertise to challenge a NRC inspector who would approve a corrective action for a weld. (Teper Deposition at p. 210).

Based upon the foregoing, it must be concluded that the weld procedures at VEGP are appropriate and assure the quality of construction at VEGP. Although there have been isolated instances in which procedures have been violated, Joint Intervenors have no evidence upon which to support their conclusion that "Applicants have not and will not implement a quality assurance program for Plant Vogtle for welding . . . , such that reasonable assurance exists that the operation of the facility will not endanger the public health and safety." Indeed, Applicants have proven the contrary. The quality of construction with regard to welding at VEGP is assured.

3. Concrete Allegations.

(a) Overview.

Joint Intervenors have been allowed inquiry into the Quality Assurance program for concrete at VEGP insofar as it relates to: (1) properly documenting the placement of concrete; (2) adequately testing concrete; and (3) for preparation of correct concrete quality test records. (November 5, 1984 ASLB Order.) Joint Intervenors have raised five instances to support their contention. Each is discussed in detail below.

(b) Tests Taken at the Batch Plant Rather Than Point of Placement.

In support of the allegation that Applicants have inadequately tested concrete, Joint Intervenors have alleged that slump, temperature and air tests have been improperly taken. (CPG Response to NRC Staff's Second Interrogatories at p. 4.) The incidents to which they undoubtedly refer occurred in 1978 and 1979.

The first instance was discovered during a NRC inspection between November 28 and November 30, 1978. The results of that inspection were recorded in I&E Report 78-9 (Attachment 26).

A second similar situation was noted by NRC inspectors during a visit to VEGP between August 21-24, 1979 (I&E Report 79-14; Attachment 27).

The failure to perform slump, temperature or air tests at the point of placement did not adversely affect the quality of the construction. A Quality Control inspector was on duty at the point of placement and conducted visual inspections of all concrete that was placed. Moreover, post-placement inspections would have discovered any problems with that concrete. (Harbin Affidavit at ¶ 76, 79.)

As corrective action, the proper testing procedure for concrete was re-emphasized to civil QC inspectors. The Quality Assurance Department increased

its monitoring of concrete operations to assure that concrete sampling complied with written procedures. (Id. at ¶ 80.)

As a result of the corrective action and as a further result of observations by NRC inspectors and placements of concrete on numerous occasions after that corrective action was implemented, the NRC closed the matter ca May 1, 1980 in I&E Report 80-08 (Attachment 28). In closing the matter, the NRC inspectors noted "sampling is now being performed in accordance with construction procedures." (Id. at ¶ 81.)

(c) Fine Aggregate Test Sieves.

Joint Intervenors have alleged as part of their contention regarding inadequate testing procedures that "fine aggregate test sieves failed to meet the requirements" of 10 C.F.R. Part 50. (CPG Response to NRC Staff's Second Interrogatories at p. 4.) This situation was identified as an unresolved item in I&E Report 79-1; (Attachment 29).

A test sieve is a screening device. When concrete materials are passed through the screen, a certain percentage of those materials are to be caught by the screen. The ASTM Standard 11 gives the percentages that have to remain in the sieve and not pass through it, and determines whether the percentage retained qualifies for ASTM standards. (Brooks Affidavit at ¶ 105.)

All of the sieves used at VEGP, even those before this infraction was found, were ASTM-qualified sieves. However, they were not traceable to National Bureau of Standards, and VEGP did not have a documented program for periodically checking the sieves to insure that they maintained the appropriate screening capacity. (Id. at ¶ 106.)

In response to the NRC infraction, VEGP obtained a set of test sieves from the National Bureau of Standards to use as a master. The program was adopted to periodically compare the sieves being used with the master set which have been obtained from the National Bureau of Standards. If they are still in good working order, the sieves continue to be used. If not, they are replaced. (Id. at ¶ 107.)

In a subsequent inspection by the NRC on July 24, 1979, the inspectors witnessed the first set of calibration operation after GPC had received from the National Bureau of Standards the appropriate master test sieves. The first calibration showed that the sieves which had been previously used by GPC were, in fact, adequate to meet the ASTM standards. Based upon the corrective action which had been adopted by GPC and the results of this recalibration, the NRC closed the infraction in I&E Report 79-13 issued August 8, 1979

(Attachment 30).^{14/} (Brooks Affidavit at ¶ 108.)

(d) Cadweld Testing Procedures.

Joint Intervenors allege that: "testing procedures have identified discrepancies involving cadweld operators." (CPG Supplement to Petition at p. 19.) Joint Intervenors have not further defined this allegation. This allegation apparently refers to an incident noted by a NRC inspector in I&E Report 82-26 (Attachment 32).

At the time this NRC inspection, Reg. Guide 1.10 required testing cycles for the "crew," which GPC defined as all GPC personnel performing cadwelds under the direction of a QC inspector. Thus, each inspector was said to have a "crew" even though the individuals within the "crew" might change from day to day. The NRC inspector suggested that "crew" be defined as the five or six individuals who are actually doing cadwelds in a particular area. (Brooks Affidavit at ¶ 111.)

As a result of this I&E Report, GPC redefined its definition of "crew" as suggested by the NRC inspector. GPC's corrective actions were subsequently

^{14/} It may be noted that the underlying I&E Report 79-1 also identified a "unresolved item" relating to batch plant calibration records. Arguably, this incident is relevant to the inquiry into VEGP concrete testing and maintenance of test records. Aside from the fact that this was not a violation, but merely an unresolved item, this matter was closed in I&E Report 79-5 (Attachment 31) on April 10, 1979 when the inspector was satisfied that metering devices were calibrated at three month intervals. This did not result in an infraction, noncompliance or violation found by the NRC.

reviewed by the NRC during I&E Report 83-04 (Attachment 33), and the deviation was closed at that time. (Brooks Affidavit at ¶ 112.)

The particular problem noted in I&E Report 82-26 was not whether the cadwelds were proper or even whether there was an appropriate number of tests being performed. The problem was merely one of redefining the cross-sectional basis for these tests. When that was accomplished, the matter was closed. It posed no safety problem to the plant. (Brooks Affidavit at ¶ 113.)

(e) Falsification of Concrete Test Records.

Joint Intervenors allege that Applicants have falsified concrete QC test results. (CPG Supplement to Petition at p. 19.) This allegation is based solely upon the information contained in I&E Report 81-09 (Attachment 34). (Teper Deposition at pp. 239-241.) It is important to note that I&E Report 81-09 itself shows that there is no basis to the allegation that concrete test records were falsified.

These allegations were first made by an informant to the NRC Office of Inspection and Enforcement Headquarters, Washington, D. C. The NRC conducted a full and exhaustive investigation of the incident. I&E Report 81-09 (Attachment 34) sets forth the scope and results of the investigation.

There were seven specific allegations which were investigated. These allegations were as follows:

1. Calibration data for some of the sieves used in concrete aggregate and soil testing were altered to indicate that the sieves complied with the calibration requirements, when in fact, they did not.
2. An error was made in calculation of the results of approximately 200 backfill gradations tests which were performed prior to June 1980.
3. The results from backfill procter analysis were altered to indicate that failing tests (those which did not meet specification requirements) complied with specification requirements.
4. On several occasions, testing of concrete aggregate disclosed that the aggregate did not meet the specified gradation requirements.
5. Concrete with slump exceeding the specification requirements was placed in the Unit 1 Reactor Building foundation basement. The quality records for such concrete placement were altered to reflect that the concrete placed on the base mat met requirements.
6. Personnel involved in testing of plastic concrete for Unit 1 base mat were instructed to obtain samples for testing from the best trucks when the samples were supposed to be randomly selected.
7. Concrete cylinders were discarded without being tested as required. Records were fabricated to indicate the test had been performed and the results complied with specification requirements.

During the course of the investigation, the NRC investigators held discussions with numerous current

and former Applicant and Applicant Contractor employees. Formal interviews were conducted with forty-five (45) individuals who were either named from the allegor's sworn statement, or who, based upon the information developed during the investigation, had specific knowledge of the alleged acts, omissions or practices. A total of 135 man hours of investigative activity was conducted on site and an additional 55 man hours were involved in conducting interviews of former site employees at various locations in Alabama, Georgia, and South Carolina.

Following this exhaustive investigation, the NRC concluded with regard to the seven allegations that three were wholly or partially substantiated. That is, the allegations were correct or partially correct as stated. However, NRC found that Applicants' QA Program had detected the problems described and that adequate corrective action had been taken. Therefore, the NRC concluded, there was no safety significance to these three allegations. The remaining four allegations were found to be unsubstantiated and are not addressed here.^{15/}

The first allegation which was partially substantiated was Allegation No. 2: "An error was made in calculation of the results of approximately 200 backfill

^{15/} These four allegations are discussed in I&E Report 81-09.

gradation tests which were performed prior to June 1980." After conducting the investigation, the NRC concluded that "some individuals apparently had been performing the sieve analysis calculations incorrectly. However, this error was minor and had no impact on the qualification and acceptance of Category 1 backfill materials. The error was detected and resolved by the licensee in accordance with their QA program."

The second allegation which was partially substantiated was Allegation No. 4: "On occasions, testing of concrete aggregate disclosed that the aggregate did not meet the specified gradation requirements." After conducting a thorough investigation, the NRC concluded: "The allegation was partially correct as stated. The licensee had problems with No. 67 aggregate gradation. However, the licensee's QA program had detected the problems and adequate corrective action was taken to resolve the problems."

The third allegation which was partially substantiated was Allegation No. 5: "Concrete with slump succeeding the specification requirements was placed in Unit 1 Reactor Building base mat. The quality records for this concrete placement was altered to reflect that the concrete placed in the base mat met requirements." After conducting its investigation, the NRC inspectors con-

cluded: "The allegation as stated is partially correct in that some high slump concrete was apparently placed in the base mat. However, this was detected by the licensee's QA program and evaluated."

Significantly, the NRC inspectors found no substantiation for the allegation of falsification of these records. Specifically, the NRC inspectors stated: "The portion of the allegation concerning placement of 60 to 70 truck loads of concrete with slumps in the range of 8 to 10 inches in the base mat and falsifying records to indicate that all concrete placed was in compliance with Project requirements was not substantiated."

(f) Failure to Correctly Prepare Concrete Test Records.

As a result of the investigation into the allegation of falsified records, the investigators identified one violation. This violation was not associated with any of the allegations, but was identified by the investigators during a review of the Applicant's QA records. The violation found two instances in which Quality Control records did not furnish the identity of the inspector or data recorder. Joint Intervenors have argued this violation as a basis for their contention that Applicants did not adequately prepare correct quality test records. (Teper Deposition at pp. 239-240).

The specific violation noted the following

occurrences:

1. The inspectors who performed the in process testing of the plastic concrete for Unit 1 base mat placement are not identified in the records.
2. The inspectors who performed the unconfined compression testing of concrete cylinders for the period January 1980 through January 1981 are not identified on the records.

I&E Report 81-09 (Attachment 34).

Prior to I&E Report 81-09, GPC documented inspections by having the Level II or lead inspector verify that only qualified inspectors were used, and he would sign the test records. The in-process testing and inspectors did not individually place their initials on the test records. Following I&E Report 81-09, GPC changed its procedure to provide that the in-process testing inspectors placed their initials by the results of each test performed and on the concrete placement pour log. Random followup surveillance has assured, that since I&E Report 81-09, this is the procedure being followed. (Letter from GPC to NRC, Attachment 35.)

It is significant that the violation identified in I&E Report 81-09 did not question the quality of the concrete placed or the fact that inspection had been performed. It merely indicated that the individuals performing the tests were not individually identified.

Based upon the foregoing, it is clear that the challenge to the documentation of concrete placement, the method of testing concrete, and the preparation of concrete quality test records lacks merit. There is no basis to assert that "Applicants have not and will not implement a quality assurance program for Plant Vogtle. . . for properly documenting the placement of concrete, for adequately testing concrete, [or] for the preparation of correct concrete quality test records . . . "

4. Procurement Allegations.

(a) The GPC QA Manual in 1974.

Joint Intervenors allege that the GPC QA Manual was insufficient with regard to procurement practices in 1974. (CPG Response to NRC Staff's Second Interrogatories at p. 4.) The basis for this allegation is I&E Report 74-01, issued on March 27, 1974. (Attachment 36.) In that report, three deficiencies were identified by the Atomic Energy Commission as follows:

- A-1 GPC QA Manual did not adequately describe the QA Program for design and procurement.
- A-2 The GPC Quality Assurance audit planning did not include adequate disability, in that the application of all applicable QA criteria was not clear for design and procurement.
- A-3 The Southern Services, Inc. (SSI) QA Manual did not reflect the requirements of the current PSAR, Section 17.

It is important to note that these deficiencies were found by the AEC before a construction permit was issued with regard to VEGP, and at a time before any safety-related work had been performed. (Groover Affidavit at ¶ 5.) At that time, GPC's Quality Assurance responsibilities relative to design and procurement were being handled by SCS, its sister engineering service organization. SCS was administering a contract with Bechtel, the architect-engineer. Therefore, at the time, the QA audit program description and the QA Manual was a SCS document. (Id. at ¶ 6.)

Southern Company Services quality assurance organization performed work on a number of other projects. Their quality assurance audit program description was general and contained few specific details unique to the Vogtle Project. (Id. at ¶ 7.)

Accordingly, GPC proposed as corrective action to completely rewrite the VEGP QA Manual. The re-written manual was composed of eighteen sections corresponding with the arrangement of 10 C.F.R. Part 50 Appendix B and showing the requirements for implementation of those criteria. The new QA Manual also had a text with accompanying diagram and organizational charts which fully described organizational/functional alignment, responsibilities and authorities, and activities of the QA

program. The contractor QA programs and their interfaces with GPC was clearly outlined by appropriate text and references. Reference of supporting documents and implementing procedures were utilized to indicate how the QA requirements were satisfied and to insure that the Manual was self-supporting. The QA Manual which resulted from this corrective action is essentially the same as that which has been used since that time. That QA Manual has governed all safety-related work at VEGP since it was adopted in response to I&E Report 74-01, (Attachment 36). No safety-related work was done under the allegedly deficient QA Manual. (Id. at ¶ 8.)

The AEC accepted GPC's proposed corrective action and closed these deficiencies in I&E Report 74-04 issued on October 9, 1974 (Attachment 37).

Joint Intervenors have no basis upon which to allege that the deficiencies found in I&E Report 74-01 support their conclusion that "Applicants have not and will not implement a quality assurance program for Plant Vogtle for . . . procuring material and equipment that meet applicable standards"

(b) VEGP Vendor QA Programs and Applicants' Audits of Vendors.

As part of its challenge to the Quality Assurance program for procurement, Joint Intervenors have alleged: "various VEGP vendors have inadequate QA pro-

grams" (Response to Applicants' Interrogatories at ¶ 8.1-18, 19). Joint Intervenors further assert that: "Applicants have failed to audit vendors properly." (Response to Applicants' Interrogatories at ¶ 8.1-4).

This oblique challenge to the procurement practices at VEGP lacks any specificity or support. Given this state of the evidence, Applicants respond by stating that vendors of safety-related items are required to have adequate QA programs (Turner Affidavit at ¶ 29), and that their programs are routinely audited pursuant to the VEGP quality surveillance program. (Id. at ¶ 30.) Joint Intervenors cite no evidence to suggest that these procedures have not been adequately followed to assure that the procurement of quality equipment and materials at VEGP.

(c) Procurement Office QA Letters.

Joint Intervenors have alleged that the Procurement Office "made up" Quality Assurance letters. (Response to Interrogatory 8.1-20). This information purportedly came from an anonymous whistle-blower who told Joint Intervenors "that he remembers at a certain point in time when they [VEGP Procurement Department] realized that they did not have qualified letters for certain vendors, and that their office spent a couple of days making up letters for what is called the "qualified vendors list." (Teper Deposition at p. 268.) Joint Intervenors acknowledge that this is not a question of unqualified vendors

being allowed to sell equipment to the Project. The anonymous informant did not allege that the vendors were unqualified. (Teper Deposition at p. 269.) He merely suggested that they did not have appropriate qualifying letters on file. (Teper Deposition at p. 269.) In fact, the only vendor which Mr. Teper alleges was unqualified is TDI.^{16/} (Teper Deposition at p. 270.)

It should be sufficient to answer that Joint Intervenors do not allege any of the vendors for whom letters were "made up" were unqualified. However, it is important to understand that all vendors supplying safety-quality-related materials and equipment to VEGP are "qualified". Programmatic methods for qualifying vendors of such safety-related equipment exist at VEGP. (Turner Affidavit at ¶ 18-24.)

The particular concern expressed by Joint Intervenors in this regard appears to be that qualifying letters were written and put in the file with regard to some qualified vendors who supplied commercial grade "off the shelf" material. These vendors were qualified based on past historical data as allowed by ANSI N45.2.13 draft committed to in the PSAR. These letters were written to document how these vendors were qualified. (Id. at ¶ 159.)

^{16/} The issues surrounding the TDI Diesel Generators are the subject of a separate contention. (Contention No. 14.)

There is nothing in this incident which suggests a compromise of the safety of the construction or procurement practices at VEGP. (Id. at ¶ 160.)

(d) Inferior Materials.

Next, Joint Intervenors argue that inferior materials have been used at VEGP. (CPG Petition filed January 26, 1984, at p. 4.) When asked to explain the basis for the allegation in written discovery, Joint Intervenors responded:

Many, many examples could be cited, such as installation of 239 inadequate circuit breakers in equipment at Vogtle; to cite all such examples would be unduly burdensome on Intervenors, and we hereby refer Applicants to the NRC's Public Document Room (as well as Applicant's own records) as evidence.

(Joint Intervenors' Response to Applicant's Second Interrogatories at ¶ 8.1-11.) In this particular case, the incident involving "239 inadequate circuit breakers" stems from a GPC report to the NRC pursuant to 10 C.F.R. 50.55(e). All circuit breakers involved in this incident were repaired and modified before installation. No such circuit breakers were actually used at VEGP in any safety-related function prior to modification. (Hayes Affidavit at ¶ 160.)

When Mr. Teper was questioned about this allegation in his deposition, he was asked to identify what inferior materials Joint Intervenors contend were

used at Plant Vogtle. In response to this question, he stated:

I don't recall specifically. I seem to remember a problem with -- I don't recall right now. I believe it has something to do with spools which were checked. A number of them, a certain sample of them, were checked, and some problems were found. But I don't recall the details.

(Teper Deposition at p. 278.)

To the extent this allegation now relates to some "spools which were checked," the incident involved a re-inspection of approximately 15,000 piping spool pieces that had been fabricated by Pullman. The re-inspection program resolved the quality concern. No inadequate spools were used at VEGP. (Groover Affidavit at ¶ 11.)

The NRC Inspectors have commented on this situation in SALP Report No. 84-01. (Attachment 38.) The SALP Board said:

Another activity relating to piping systems was the re-inspection of approximately 15,000 piping spool pieces that had been fabricated by Pullman Power Products. The re-inspection was needed to ascertain the acceptability of fabrication welds after code rejectable deficiencies had been found in a sampling of spool pieces stored at the plant site. The extensive re-inspection program was handled in a thorough manner and resulted in the satisfactory resolution of a generic quality problem.

I&E Report 84-01, at p. 34.

It is clear from the foregoing that Joint Intervenors have no evidence upon which to challenge the procurement practices at VEGP. To the contrary, the

procurement practices are sound and assure the quality of the equipment and materials which are purchased for use at VEGP. In its SALP Report dated March 9, 1983, (I&E Report 83-06; Attachment 39), the NRC has found: "Procurement activities were generally well controlled and documented." (I&E Report 83-06 at p. 35.)

5. Storage Allegations.

(a) Overview.

As part of their challenge to the Quality Assurance program at VEGP, Joint Intervenors have asserted that: "Applicants have not and will not implement a quality assurance program . . . for protecting equipment" (November 5, 1984 ASLB Order.) The three instances which Joint Intervenors claim support their challenge to the Quality Assurance program for equipment storage involve: (1) the failure to have storage procedures for certain safety-related equipment in 1977; (2) the failure to provide for adequate storage of reinforcing concrete during a NRC visit in 1979; and (3) failure to provide for adequate storage of electrical cabinets during a NRC inspection in 1982. (Teper Deposition at pp. 281-289.) A discussion of each of these incidents reveals that they do not suggest a programmatic breakdown of Quality Assurance with regard to material control and storage. Indeed, these instances were isolated and the

Quality Assurance Program for material control and storage has been effective at VEGP.

(b) Storage Procedures in 1977.

The first incident to which Joint Inter-venors refer is a statement made by a NRC inspector in I&E Report 77-03 (Attachment 40) that, at the time, "a QA program is not in operation at Vogtle," sufficient to receive safety-related equipment. (CPG Response to NRC Staff's Second Interrogatories at p. 5.) This incident came about when safety-related equipment (including spray nozzles for containment spray systems, 44 Fisher control valves and 7 elbows for reactant cooler piping) were received at VEGP in early 1977 before VEGP was prepared to receive or properly store such safety-related equipment. (Groover Affidavit at ¶ 13.)

At the time, GPC believed that there was not sufficient activity on site of a quality nature to justify the presence of full-time Quality Assurance personnel. Mr. Groover and Mr. Cecil R. Miles periodically visited Plant Vogtle from Plant Hatch (GPC's Nuclear Facility near Baxley, Georgia) to conduct audits as necessary. The safety equipment which was received and which was subject to I&E Report 77-03 arrived at VEGP between these periodic audits. It was not expected that safety-related equipment would be received on site at that time. Accordingly, when

the NRC inspection occurred between June 6 and June 9, 1977, there were no procedures governing the receipt and storage of this equipment. Moreover, full-time inspection audits had not been planned. A noncompliance was found by the NRC. (Id. at ¶ 14.)

On July 19, 1977, GPC responded to this noncompliance with corrective action. GPC notified Westinghouse and other vendors that permanent warehousing facilities were not available at the site at that time. Westinghouse was informed that the site would not receive safety-related equipment or equipment which required greater than Level "D" storage, as specified in the Westinghouse storage procedures. (Id. at ¶ 15.)

Also, a tentative quality assurance audit schedule was prepared and Mr. E. D. Groover, Senior Quality Assurance Field Representative, was transferred to permanent assignment at VEGP from Plant Hatch. Receipt, inspection and storage procedures were written and approved, and a mechanical inspector was permanently assigned to the site. The procedures for material control and handling which were written in 1977 are substantially the same as those which have been used since that time to govern purchase of all safety-related materials and equipment at VEGP. (Id. at ¶ 16.)

In response to this corrective action, the NRC closed this noncompliance on November 18, 1977. The

inspector determined that the licensee had provided a program which corrected the noncompliance previously identified. There was no deleterious effect upon the equipment which was improperly stored. The quality of that equipment was not adversely affected. (Groover Affidavit at ¶ 17.)

(c) Storage of Reinforcing Steel.

The next allegation upon which Applicants rely is that Applicants improperly stored cut reinforcing steel in 1979. (CPG Response to NRC Staff's Second Interrogatories at p. 4.) This specific incident occurred on February 14, 1979 when a NRC inspector found that reinforcing steel (re-bar) was stored on the ground and, in some instances, in water. This was identified as an infraction by the NRC inspector in I&E Report 79-02 (Attachment 41.)

In response to the infraction, GPC conducted an inspection of the situation and a proper storage area was accomplished. The cut re-bar identified in I&E Report 79-02 was either scraped or placed in a hold yard. Procedures were reviewed and revised to eliminate future storage problems. (Letter from GPC to NRC, Attachment 42.) In response to this corrective action, the NRC closed the infraction on July 12, 1979 in I&E Report 79-12 (Attachment 43).

(d) Storage of Electrical Cabinets.

The third and final allegation Joint Inter-venors make in support of their attack on the QA program for storage of equipment is that Applicants improperly stored 27 electrical cabinets in the control building. (Teper deposition at pp. 283-284.) This specific incident involved electrical cabinets "stored in place." A NRC inspector observed that plastic coverings had been torn loose and were unsecured at the bottoms providing minimal protection from dust, moisture and entry of rodents. (I&E Report 82-29; Attachment 44.)

Upon completion of the inspection, immediate action was taken by GPC in the form of removing old coverings, removal of any dirt inside by the use of brushing and vacuuming, and all openings were covered with screen to prevent the possible entry of rodents. (GPC Response to I&E Report 82-29, Attachment 45.) Corrective steps were taken to avoid further storage problems which included: (1) a revision of relevant storage procedures; (2) assignment of independent maintenance crews to perform continuous maintenance; (3) assignment of engineers for surveillance and evaluation of equipment; (4) institution of weekly inspection of equipment housekeeping and general maintenance; and (5) creation of an awareness in the craft personnel to protect, maintain and keep equipment and storage areas clean. (Id.)

In a followup inspection between May 11 and July 10, 1983, the NRC inspector noted that:

Storing and maintaining this type of electrical equipment in place while construction activities are in progress has been described in previous I&E Reports (See 82-29) and has resulted in definite corrective actions and commitments in response to violation 424-425/82-29-01. During this inspection, it was evident that many corrective actions have been implemented resulting in marked improvements in the storage and maintenance of this equipment. Although there were deficiencies disclosed during this inspection, they were considered minor and would indicate that improvements in the program have been realized with full compliance yet to be achieved. This item is considered open pending followup inspection.

I&E Report 83-14 (Attachment 46). Such a followup inspection was conducted between July 11 and July 15, 1983. At that time, the incident was closed by the NRC and the inspector noted "significant improvements were evident." (I&E Report 83-17; Attachment 47.)

It is clear that the three incidents to which Applicants refer in support of their contention do not call into question the VEGP QA program insofar as it relates to storage of materials and equipment. The incidents were isolated and unrelated, and there were no adverse safety consequences as a result of these incidents. The program for storing equipment and material at VEGP is sound.

6. Corrective Action Allegations.

The measures which have been established at VEGP to assure that conditions adverse to quality are promptly

identified and corrected have been described by Mr. Hayes. (Hayes Affidavit at ¶¶ 58-60, 144-158.)

Joint Intervenors have not identified any particular deficiency in the QA program for taking corrective action at VEGP. In response to written discovery, Joint Intervenors did not identify any particular instance in which the failure to take corrective action evidenced support for their contention. In his deposition, Mr. Teper offered no specific evidence other than: "I seem to recall some problems with the criteria in determining 50.55(e)'s." This cryptic statement hardly satisfies applicable legal standards for raising any genuine factual dispute.

It is possible that Joint Intervenors rely upon I&E Report 74-01 (Attachment 36) in which it was stated that measures for corrective action did not exist at VEGP at that time. The circumstances surrounding that I&E Report and the receipt of safety-related items prior to the enactment of appropriate storage procedures has been discussed in Part VI 4(a) of this Brief.

In summary, however, there is simply no basis upon which to assert that "Applicants have not and will not implement a quality assurance program for Plant Vogtle for . . . taking corrective action as required"

VII. CONCLUSION

It should be clear from the foregoing that Applicants have implemented an effective Quality Assurance program for Plant Vogtle for welding, for documenting placement of concrete, for adequately testing concrete, for the preparation of correct concrete quality test records, for procuring material and equipment that met applicable standards, for protecting equipment and for taking corrective action as required, so as to adequately provide the safe functioning of diverse structures, systems and components, as required by 10 C.F.R. Part 50, Appendix B, such that reasonable assurance exists that the operation of the facility will not endanger the public health and safety. In addition, the evidence relied upon by Joint Intervenors with respect to Contention 8 does not support their assertion that Applicants have not implemented a Quality Assurance program for specified construction disciplines at VEGP.

With regard to Contention 8, Joint Intervenors have relied upon three general categories of evidence. First, they rely upon deficiencies noted during Atomic Energy Commission inspections at VEGP prior to the performance of any safety-related work. These old deficiencies have been corrected, in part, by the implementation of an effective Quality Assurance program which has governed and controlled all quality-related work at VEGP.

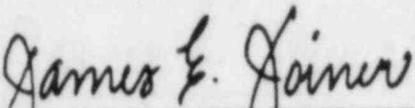
The second category of evidence upon which Joint Intervenors rely consists of isolated and unrelated minor deficiencies noted by NRC inspection during routine investigations. As has been shown, none of these incidents suggest anything more than construction defects which inevitably will be found in any project even remotely approaching in magnitude and complexity the erection of a nuclear power plant. Significantly, Applicants have never received a severity Level I, II or III violation, nor has there been any indication of a programmatic or system-wide problem that could have an adverse effect on the safety of operations of VEGP.

The third category of evidence upon which Joint Intervenors have relied are those incidents in which deficiencies have been found by Applicants' own QC/QA program or incidents or concerns of workers which have been thoroughly investigated by GPC. Significantly, none of the critical allegations investigated by these task forces alleging falsification of records or intimidation were ever found to have merit.

In summary, nothing has been advanced by Joint Intervenors which calls into question the effectiveness of Applicants' QA program or which casts doubt on the reasonable assurance which exists that the operation of VEGP will not endanger the public health and safety. Because

there are no facts as to which there is a genuine issue to be heard, Joint Intervenors' Contention 8 should be resolved by summary disposition.

Respectfully submitted,



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Dated: June 24, 1985

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

DOCKETED
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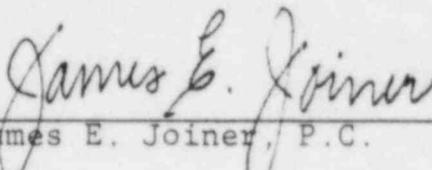
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In the Matter of :
: GEORGIA POWER COMPANY, Et al. : Docket Nos. 50-424
: : 50-425
(Vogtle Electric Generating :
Plant, Units 1 and 2) :

CERTIFICATE OF SERVICE

I hereby certify that copies of "Applicants' Motion for Summary Disposition of Joint Intervenors' Contention 8 (Quality Assurance) were served upon those persons on the attached Service List by depositing a copy of same in the United States Mail, postage prepaid, or where indicated by an asterisk(*) by hand delivery, this 24th day of June, 1985.

Respectfully submitted,



James E. Joiner, P.C.
Counsel for Applicants

DATED: June 24, 1985

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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In the Matter of)
)
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) 50-425
(Vogtle Electric Generating Plant,)
Units 1 and 2))

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ATTACHMENTS 1 - 10
(Affidavits)
SUBMITTED IN SUPPORT OF
APPLICANTS' MOTION FOR SUMMARY DISPOSITION
OF JOINT INTERVENORS' CONTENTION NO. 8

(Quality Assurance)

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