

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

On the matter of :  
: GEORGIA POWER COMPANY, : DOCKET NUMBERS  
et al. : 50-424 and 50-425  
: (Vogtle Electric Generating :  
Plant, Units 1 and 2) :

AFFIDAVIT OF B. C. HARBIN

COUNTY OF BURKE  
STATE OF GEORGIA

Before the undersigned officer duly authorized to administer oaths did appear B. C. HARBIN, who after being duly sworn, did state as follows:

1. My name is Bennie C. Harbin. My business address is Vogtle Electric Generating Plant, Route 2, Waynesboro, Georgia 30830. I am employed by Georgia Power Company as Manager of Quality Control. In that position I am primarily responsible for the management, and direction of activities of the Quality Control group and for ensuring development and implementation of required Quality Control procedures. A summary of my professional qualifications and experience is attached hereto as Exhibit "3A."

2. I make this Affidavit in support of Applicants' Motion for Summary Disposition of Joint Intervenors' Con-

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tention No. 8 (Quality Assurance). I have personal knowledge of the matters stated herein and believe them to be true and correct. I will first describe the Quality Control ("QC") Department at VEGP, and I will include within that discussion a description of the organizational responsibility relative to QC, and I will describe Inspector Qualification and Certification. Second, I will describe the programs for material control and storage at VEGP. Finally, I will discuss Intervenors' allegations regarding the testing of concrete at the batch plant rather than the point of placement.

#### THE QUALITY CONTROL DEPARTMENT

##### Organizational Responsibility Relative to Quality Control

3. The General Manager Vogtle Nuclear Construction ("GMVNC") heads the VEGP Construction team which includes a functional group representing Quality Control. The Quality Control group develops and implements procedures and instructions, which are approved by the GMVNC and the Vogtle Quality Assurance Manager ("VQAM") to ensure that field construction, erection and installation conform to approved specifications, drawings, codes and regulatory requirements. This group develops forms, checklists, and other Quality Control documents necessary to control activities and to demonstrate compliance with specified requirements. The Quality Control group monitors construction activities and is responsible for approval and

acceptance of in-process and completed work by contractors and craftsmen. The Quality Control Group is also responsible for material receipt and document review of delivered bulk materials, equipment, and components. Quality Control procedures have been compiled in the VEGP Field Procedure Manual. The Quality Control Group consists of two subgroups: an inspection subgroup (responsible for activities relative to civil, mechanical, and electrical functions) and an implementation subgroup (responsible for document review and surveillance activity).

4. The Manager of Quality Control is an employee of GPC. He manages and directs activities of the Quality Control group and ensures development and implementation of required Quality Control procedures. He is assisted by two assistant managers who head the inspection and implementation subgroups, respectively.

5. The inspection subgroup of QC performs the inspection activities required by the VEGP Quality Assurance program in accordance with established Quality Control procedures. This includes inspection of the actual work being performed by contractors and craftsmen. It also includes, but is not limited to, activities being performed by contractor Quality Control personnel and the material receipt, storage, and installation inspection of materials and equipment. Civil, mechanical and electrical

inspections are accomplished by inspectors under QC section supervisors.

6. Inspectors document their findings through written reports in accordance with established procedures. These reports are submitted by the inspectors to the document review section through their inspection supervisor, and copies are sent to cognizant persons in the engineering section, who must take action on any discrepant items noted. Inspectors have individual, immediate stop-work authority which they may exercise any time when quality is not being maintained.

7. The QC document review group is responsible for the quality control review and storage of documents related to the receipt, storage and inspection of materials and equipment. The document review section checks and certifies the technical and quality compliance of material and equipment with procurement requirements.

8. The QC section supervisor for civil is an employee of GPC. He is responsible for the Civil QC section. He is responsible for providing direction to the QC supervisors in the administrative and technical requirements for the performance and documentation of civil QC inspections and tests involved in the work accomplished by civil craft personnel at the Plant Vogtle site. He accomplishes this function by interfacing with all appropriate project entities -- design, engineering, and

craft -- on a daily basis. He is also responsible, as the Level III administrator, for ensuring that the inspection personnel are properly trained and certified prior to performing inspections in relation to the Project schedule.

9. The QC section supervisor for mechanical is an employee of GPC. He is responsible for the direction of the mechanical QC section. He is responsible for Quality Control functions in the areas of warehouse receipt inspection, monthly material and equipment storage inspection, preventative maintenance, inspection, and nondestructive inspection services for other functional areas. Additionally, the mechanical QC section supervisor is responsible for the measuring and test equipment control program for GPC and those contractors working within the GPC QA program. Mechanical QC also performs a sampling of radiographs from vendors and site sources for quality acceptance.

10. The QC section supervisor for electrical is an employee of GPC. He is responsible for providing direction to the two QC supervisors for the administrative and technical requirements for the performance of electrical QC inspections and tests, and in the documentation of those inspection results to ensure that quality construction is accomplished by electrical craft personnel at the Plant Vogtle site. He accomplishes this function by interfacing with appropriate project design, engineering

and craft entities on a daily basis. He is also responsible, as the Level III administrator, for ensuring that the inspection personnel are adequately trained and certified prior to performing inspections and provide timely support to the Project schedules.

11. The QC supervisor for surveillance directs inspection activities of the surveillance QC section to monitor and report on the inspection activities of GPC and contractor inspectors working under the guidelines of an approved QA/QC program and to assure the accuracy and effectiveness of their inspections. This includes the development of procedures and guidelines to surveil programmatic activities of these established QA/QC programs to assure commitments have been met as required by the FSAR specifications, procedures and other governing documents concerning Plant Vogtle. He receives direction from the assistant manager QC.

12. The document review supervisor is an employee of GPC reporting to the assistant manager QC. He is responsible for directing the document review section in the receipt, verification, storage and retrieval of the quality assurance records required for the construction of the Plant. This includes quality documentation from vendors and on-site contractors. It also includes expediting documents from vendors and coordinating transfer of records to GPC Nuclear Operations.

### Inspector Qualification/Certification

13. Inspector qualification is an important part of the assurance of quality of VEGP. The requirements for proper inspector qualification are set forth at 10 C.F.R. Part 50, Appendix B, Criterion X. The Final Safety Analysis Report (FSAR), Chapter 17, explains how GPC has committed to meet Criterion X for VEGP.

14. All contractors responsible for inspector qualification and certification programs have appropriate implementation procedures. These procedures must meet the commitment stated in Chapter 17 of the FSAR. GPC has the overall responsibility of approving these programs before they are implemented. During the construction phase, GPC QA audits these programs in addition to the appropriate contractor QA organization for compliance with their procedures.

15. Before an inspector is hired, either the QA manager for the contractor or the QC section supervisor for GPC reviews the resume' of a candidate for education and experience applicable to the position to be filled. If the candidate is accepted, his experience and education are verified while he proceeds with indoctrination. This verification process is performed by the human resources and/or QC sections for GPC and the appropriate QA/QC organization for the contractors.

16. The specific details of inspector training varies from contractor to contractor, but each contractor employs written procedures for testing and certification which all include courses such as plant operations, site organizations, quality concerns program, nonconformance control, stop-work authority, and codes and standards. This training is documented along with the other training that the new-hire will receive.

17. Upon completion of initial indoctrination, the candidate is trained in the general requirements of inspection, which are determined by the area of certification. This training includes both formal and informal sessions and, at the conclusion, certification tests are given which are appropriate to the area of certification. The tests are developed by either the GPC training facility or by the appropriate QA/QC organization and are reviewed and approved by a Level III individual or a Level III administrator to assure that the test material is applicable to the area/level of certification. These tests are administered and graded by either a training instructor/officer or the appropriate QA/QC personnel.

18. If the employee passes the academic testing, an eye exam is administered for color blindness and visual acuity. (Chicago Bridge and Iron (CBI) does not specifically test for vision for ANSI certifications; but lack of visual acuity is recognized in performance tests.)

After this training is completed, it is documented and approved by appropriate personnel to signify completion and acceptance.

19. Those employees failing either the academic or eye test have their training files reviewed to determine the cause of failure and the feasibility of pursuing certification. This review is performed by the appropriate training personnel or QA/QC personnel. If it is determined that it is not practical to re-train these individuals, they are released from employment or removed from inspection activities. Those who are not released may re-test, using a different exam, after a waiting period and/or additional training, as required by the specific program.

20. Re-certification of the inspector is required at least once every 3 years by either demonstration of continuing satisfactory performance (documented annually) or through proficiency examination. Inspectors failing to meet the re-certification requirements are removed from inspection activities until they have been re-trained and re-certified. Further, the cause of failure to re-certify is reviewed. If necessary, work material inspected by this individual will be reviewed as well.

21. After being certified/re-certified, the inspector is assigned certain responsibilities depending on his area of certification and level. (CBI uses only designations

"Certified" and "Not Certified" for ANSI certifications; it does not assign levels of certification as do GPC and the other contractors.) A Level I person is capable of performing the inspections, examinations, and tests required according to procedures and/or industry practices. He is familiar with tools and equipment to be used and has demonstrated proficiency in their use. He is capable of determining calibration status of measuring and test equipment and verifying that the equipment is in proper condition.

22. A Level II person has all the capabilities of a Level I person of the same area and has demonstrated capabilities in planning inspection, examinations, and tests. He also is responsible for supervising or maintaining the required surveillance over the inspection, examinations and tests, as well as reporting and evaluating their results.

23. The Level III person has all the capabilities of a Level II person of the same area and has had formal training in test principles and techniques. In addition, the Level III plans and supervises inspections and tests, reviews and approves procedures, and evaluates the adequacy of these activities. He is also capable of organizing and reporting the results and certifying the validity of the results.

24. In addition, GPC has a position for a Level III administrator for each major discipline. This individual is a member of the GPC Quality Control staff. He has completed training in the administration of the certification program and is capable of reviewing and establishing a certification curriculum. He is occupied mainly with administrative functions, does not work in the capacity of a field Level III inspector unless he has a Level III certification.

25. GPC, Pullman, and NISCO all have written procedures for testing and certifying nondestructive test personnel.

#### MATERIAL CONTROL AND STORAGE

##### Responsible Organization and Responsibility

26. Several organizations have responsibility for material control and storage at VEGP. GPC is responsible for approving all QA programs used at the VEGP. It is responsible for themselves and other contractors who use their procedures. Chicago Bridge and Iron (CBI) is responsible for items such as containment liner and fuel pool liners. Cleveland Consolidated, Inc. (CCI) is responsible for electrical installation. Nuclear Installation Service Company (NISCO) is responsible for installation of the Nuclear Steam Supply System (NSSS). Pullman Power Products (PPP) is responsible for piping systems installation. Pullman/Kenith-Fortson (P/K-F) is responsible for

installation of heating, ventilation, and air conditioning (HVAC). Williams Contracting is responsible for coatings application.

Commitments and Methods of Implementation

27. The governing NRC regulations for equipment control and storage are set forth at 10 C.F.R. Part 50, Appendix B, Criteria VII, VIII, and XIII. Several Regulatory Guides and Codes also govern these procedures. These are Regulatory Guide 1.38, Revision 2; ANSI N45.2.2 (1972); and ASME, Section III, Division I, Paragraph NA 4000, 1977 Edition through Winter 1977 Addendum. In addition, as a material supplier, GPC is committed to ASME, Section III, Division I, Paragraph NCA 3800, 1977 Edition through Winter 1977 Addendum. VEGP is committed to all of these procedures in FSAR Chapter 17.

28. To implement these requirements, the VEGP Field Procedure Manual (FPM) has been developed in conformance to the VEGP quality program as described in Appendix 17 of the FSAR. The contractors which administer their programs through their procedures must meet the commitments of Chapter 17 of the FSAR. During the construction phase, GPC Quality Assurance (QA) audits the GPC program and contractor programs to assure compliance with Chapter 17 of the FSAR.

Description of the Program for  
Material Control and Storage

29. The VEGP FPM establishes methods for receipt inspection, storage, maintenance, handling, and issuing of permanent Plant items received by GPC.

Receipt of Materials

30. Procedure GD-A-30 describes the procedural methods and personnel responsibilities for receipt inspection, storage and handling of items to be used in the construction of the Plant.

31. The appropriate inspectors are notified by construction warehouse personnel upon arrival of a shipment at the plant. An examination of the shipment is made to determine any apparent shipping damage and collect all shipping documents and to make certain the quantity of items matches the packing list. This operation is performed by a warehouseman.

32. If practical, preliminary inspection is performed by Quality Control personnel at the time of offloading to identify damage that may have occurred during loading or shipment.

33. Upon completion of the shipping inspection, a receiving inspection is conducted. The hold tag is used to control the items until receipt inspection has been completed and all documentation has been accepted. Receiving inspection is initiated by the construction Qua-

lity Control personnel upon notification that the material has arrived at the designated receiving area. This inspection is conducted and documented in accordance with the applicable Project Equipment/Material Receipt Inspection Report. The Equipment/Material Receipt Inspection Report is completed by the inspector to document the inspection and its findings.

34. Receipt of certain specific items are governed by specific procedures. Procedure CD-T-02 requires that bulk cement not be unloaded until the QC receipt inspector has checked the required documentation, made certain the seals are intact, and determined that the temperature is within tolerance. Bulk aggregates are not unloaded until the QC receipt inspector has checked the storage facilities for cleanliness, adequacy of area, contamination and/or segregation of existing stockpiles, and Quality Control documents. The certificate of conformance accompanying bulk flyash is reviewed by the QC receipt inspector prior to unloading. Procedure CD-T-06 requires the QC receipt inspector to check reinforcing steel or cadweld materials shipments and to confirm that steel is bundled with weatherproof tags.

35. Procedure CD-T-17 requires the QC receipt inspector to verify that miscellaneous concrete material has been delivered by an approved vendor, and it is in the manufacturer's unbroken labeled package.

36. Procedure ED-T-05, assures that the electrical QC receipt inspector makes certain that documentation received with cable reels conforms to procurement requirements. It also requires the assignment of a unique reel number to each reel for cable tracking.

37. Procedure GD-T-11 requires the QC receipt inspector to inspect rigging items received for safe-working-load indications.

38. Procedure GD-T-20 gives instructions to the QC receipt inspector for receiving instrumentation components.

39. Procedure GD-T-30 gives instructions to the QC receipt inspector to verify that shelf-life items are marked or tagged and clearly identified with the shelf life or expiration date.

40. Procedure MD-A-02 gives instruction to the QC receipt inspector on the use of travel cards for achieving traceability of mechanical items.

41. Procedure MD-T-12 gives instructions to the QC receipt inspector for receiving, storage and issue of pipe, pipe components, and weld filler material.

42. A Documentation Acceptance Report (DAR) is issued by the document review supervisor as a means of informing QC personnel that required documentation has been received and approved for specific items or materials. The QC receipt inspector reviews the Hold Tag Log to determine whether the items had hold tags placed pending inspection,

documentation review, and/or nonconformance disposition. When all items on a particular shipment have been accepted, the Hold Tag Log entries may be closed, hold tags removed, and if required, an acceptance sticker placed on the items. Items or materials may then be moved to storage or issued for construction in accordance with Procedure WH-A-01.

43. Material may be issued on a "Conditional Release" only after receipt inspection has been completed, if there is a justifiable need. Procedure GD-A-30, Conditional Release, outlines the conditional release procedure.

#### Document Review

44. The overall responsibility of the document review section is to examine quality verification documentation to assure the documents are appropriate for the material received. The extent of the review varies with the type of document; i.e., a Certified Materials Test Report (CMTR) receives a more in-depth review than a Certificate of Compliance (C of C).

45. The two major types of documents examined are vendor quality verification documentation and site quality verification documentation. Some types of vendor quality verification documentation; e.g., environmental qualification, are reviewed by engineering. In this case, the procurement specification indicates the group responsible for review of the documentation.

46. The document review supervisor is responsible for the overall activities of both the document reviewer and QA vault clerks.

47. Procedure GD-A-30 requires QA documentation arriving on site with a shipment to be delivered to the QC receipt inspector as soon as possible. The inspector routes QA documentation and inspection reports to the QC inspection supervisor who routes them to the document review supervisor for review and acceptance.

48. QA documentation is reviewed by a document reviewer for legibility, completeness, and correlation of pages. Also, these documents are compared to the requirement listed on a "Document Review Specification" card in accordance with Procedure DC-A-06.

49. When documentation for a particular item has been determined to be acceptable and complete by the document review supervisor, a DAR is sent to the QC inspection supervisor who completes the receipt process.

50. When incoming QA documentation has been determined to be acceptable, the document review supervisor transmits it to the QC vault for retention and retrievability. All QA records are stored in a fireproof room or container.

51. A staff of QA vault clerks file and maintain these documents in the QA vault in accordance with Procedure DC-A-06. The vault is designed and controlled to

satisfy the requirements of ANSI N45.2.9. The QA records vault is equipped with a fire protection system consisting of detection devices and a Halon chemical extinguishing agent. Access to the QA files and to the vault area is limited to authorized personnel only, as posted at the vault entrance.

#### Storage

52. Storage is defined by Procedure GD-T-09 as the act of holding items at the construction site in a warehouse area, yard area, or an area other than their permanent location in the Plant. Items stored in their permanent location are considered "stored in place."

53. Storage requirements are determined by the engineer to meet the requirements of ANSI N45.2.2. Electrical construction specification No. X3AR01, Storage and Protection of Equipment and Materials, defines the different types and levels of construction storage for electrical equipment.

54. Procedure GD-A-30 assigns responsibility for material, equipment, and parts storage. Storage requirement must meet the vendor requirements and/or ANSI N45.2.2. The construction warehouse supervisor is responsible for storage of items.

55. A QC inspector is assigned to inspect storage areas in accordance with FPM GD-T-17.

56. Items having expiration dates or shelf life limits are controlled in accordance with Procedure GD-T-30.

57. Storage of some materials have specific storage requirements. For instance, cadweld materials must be stored in a clean, dry area with adequate protection to inhibit rusting of the sleeve material and deterioration of cartridge or filler material. Splice sleeve must remain in its special rust-inhibiting paper until ready for use. (Procedure CD-T-06)

58. Miscellaneous steel is stored by type, heat and size, and marked clearly by the yard storage inspector. The yard storage coordinator maintains inventory control over the miscellaneous steel and component inventory by use of the Miscellaneous Steel Inventory Control Form. When material is received at the storage yard, the stock material is to have a hold tag placed on it by the yard storage inspector. This material cannot be released for use until the documentation is reviewed and accepted by the document review group and a documentation acceptance report has been issued. Upon the receipt of the DAR for steel, the yard storage inspector shall remove the hold tags from the material. The Miscellaneous Steel Inventory Form is used to control the movement and use of the items listed until they have been consumed by the shop. The Miscellaneous Steel Inventory Form is to be routed to the QA vault for retention. (Procedure CD-T-08)

59. Structural steel, Q-decking, and miscellaneous steel are stored on cribbing and off the ground. Bolts and other fasteners are stored in a covered area. (Procedure CD-T-16)

60. Procedure CD-T-17 ensures that materials are stored in an approved manner and protected from contact with soil, weather, and open flame. If the storage building temperature exceeds 90°F, a visual inspection must be conducted to verify the rolls are not severely flattened, and rubberized asphalt has not flowed past the release paper.

61. Procedure CD-T-20 requires material be stored on racks, dunnage or pallets to assure items are stored above ground. All items must be stored in a way to permit ready access for inspection or maintenance without excessive handling or undue risk of damage. Sheathing must have all open ends capped prior to installation. Caps are only removed immediately before installation or for storage inspection of internals.

62. Procedure MD-T-12 requires that weld filler material be separated according to type and size and stored in a dry and heated building. Sealed containers are not to be opened prior to issue. Also, storage instructions are given for pipe spools, random flanges and fittings, random carbon and stainless steel pipe, random tube and pipe, pipe bolting material, pipe gasket mate-

rial, manual valves, pipe supports and components, and miscellaneous structural steel shapes for pipe supports.

#### Maintenance

63. Maintenance is defined by Procedure GD-T-09 as the act of preserving an item from failure or declining repair or efficiency from the date the item is received until turnover to Nuclear Operations.

64. The Equipment Maintenance Storage List (EMSL) is a program used at VEGP to make certain maintenance is performed in accordance with ANSI N45.2.2 and vendor requirements.

65. Engineering reviews vendor requirements, determines inspection requirements, and initiates an EMSL card when items arrive on site and makes changes to EMSL card when items are moved and/or installed, or if vendor requirements are changed.

66. GPC coordination assists in maintaining proper storage environment, keeps items in compliance with EMSL card requirements as construction activities progress, and acts as a support organization in accomplishing the goals of the program.

67. GPC contractors establish and maintain the storage areas in accordance with procedures and engineering instructions and support EMSL inspections with personnel and tools to perform required maintenance.

68. QC inspectors perform inspections as required on EMSL cards and document inspection findings and/or discrepancies including inspection of maintenance that is performed by contractors and other related inspections such as inert gas purge and motor-winding insulation tests.

69. The engineer reviews the requirements of the vendor and/or manufacturer and establishes the storage, maintenance and inspections necessary to maintain the item. The QC inspector reviews the EMSL card requirements for correctness and completeness. The engineer generates the EMSL card. The QC inspector signs the card after each inspection and forwards the card to the QA vault for retention after completion. At the beginning of each month, cards with inspections due that month are pulled for the QC inspectors. Arrangements are made for the required crafts to make the inspections. The inspection is made and verified on the cards. Discrepancies noted are reported in accordance with Procedure GD-T-01.

70. Engineering notifies the QC inspector seven days prior to turnover to the Nuclear Operations, so inspections due that month can be completed, and the EMSL cards closed out and sent to the vault prior to turnover.

#### Material Handling

71. Field Procedure GD-T-11 establishes the requirements and guidelines for rigging, hoisting and transporting of permanent Plant equipment. Three categories of

material handling are given. Items classified Category A require GPC QC inspection during rigging and handling operations. Items classified Category B require inspection by the person in charge or the appropriate QC inspector. Documentation of inspection is required for both Categories A and B and must be recorded on the appropriate form. Category C is used only for non-safety-related materials and equipment.

72. Procedure GD-A-30 requires that material be handled in a workmanlike manner, observing good construction practices, and that compliance with special handling instructions is maintained as detailed in the purchase documents, vendor recommendations, or construction specifications.

TESTS TAKEN AT BATCH PLANT  
RATHER THAN POINT OF PLACEMENT

73. Joint Intervenors have suggested that, on two occasions, slump, temperature, and air tests have been improperly taken. The two incidences to which they refer occurred in 1978 and 1979.

74. The first instance was discovered during an NRC inspection between November 28 and November 30, 1978. The results of that inspection were recorded in I&E Report No. 78-9. During the course of that inspection, the inspector observed concrete placement A-11D-03. The inspector noted that the slump tests, air tests, and tem-

perature measurements were being taken at the concrete lab located beside the batch plant. After testing, the concrete was transported approximately one-half mile and the inspector observed no further testing of the concrete.

75. The procedure for testing concrete is set forth in GPC Construction Procedure CD-T-02 which referenced ACI standards as applicable.

76. As a result of this incident, Georgia Power Company re-trained the inspection personnel on procedural requirements, and the site quality assurance organization also increased their monitoring of concrete operations to ensure that concrete sampling complied with the procedures. It is important to note that failure to perform slump, temperature, or air tests at the point of placement, in this particular instance, 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 apparent consolidation problems with that concrete.

77. As a result of the corrective action and re-training of inspectors, the NRC closed this infraction in I&E Report 80-08.

78. A second similar situation was noted by NRC inspectors during a visit to VEGP between August 21 and

August 24, 1979. During that visit, the inspectors reviewed the records for Equipment Pad No. A-1210-T4-002 (Pour No. A-080-135) and Equipment Pad No. A-1210-T4-001 (Pour No. A--080-153). A review of those records revealed that the slump, air, and temperature tests had been conducted at the concrete lab near the batch plant and not at the truck discharged to the bucket. This was documented in I&E Report No. 79-9.

79. The concrete placed during these pours was of good quality. A QC inspector was present during the pour to verify time, mix, designation, and to perform visual inspections of each batch delivered and placed.

80. 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.

81. As a result of the corrective action, and as a further result of observations by NRC inspectors of placements of concrete on numerous occasions after that corrective action was implemented, the NRC closed the infraction on May 1, 1980 in I&E Report 80-08. In closing the infraction, the NRC inspectors noted, "Sampling is now performed in accordance with construction."

Further Affiant sayeth not.

B. C. Harbin  
B. C. HARBIN

Sworn to and subscribed before  
me this 20<sup>th</sup> day of June,  
1985.

Mary K. Hino  
Notary Public State of Ga.  
My Comm. expires 6/23/86

NAME - Bennie C. Harbin

EDUCATION - Associate of Science Degree in Civil Technology  
from Southern Technical Institute in September of  
1960.

MISC. - Registered Land Surveyor (Georgia)  
ACI Member - Committee Member of ACI #309  
(Consolidation of Concrete)

WORK HISTORY:

November 1984 - Present - Manager of Quality Control - Georgia Power Company - Plant Vogtle. Position reports to the General Manager - Vogtle Nuclear Construction and is responsible to manage/monitor QC inspection program for 8000+ craft personnel. QC staff performs first level inspection of all Civil and Electrical contractors' activities and second level (Surveillance Inspection) of the Mechanical Contractors' QA/QC Inspection Programs. Responsible for a GPC QC staff of 320 and contractor QC staffs of approximately 200.

April 1983 - November 1984 - Manager of Engineering Support - Georgia Power Company - Plant Vogtle - Reporting to me were the Civil, Electrical, Mechanical, I & C, Equipment and Welding Engineering Disciplines with a total staff of 175. Primary responsibility was to ensure that all site construction activities were supported with sufficient and adequate design and material to ensure the work to be completed in accordance with design documents, the project schedule and within budget.

September 1979 - April 1983 - Civil Project Section Supervisor - Georgia Power Company - Plant Vogtle. Responsible for Civil Engineering and Construction activities at a Nuclear Power Project. Administrator for Civil Contracts with a work force of 4000 - 4500. Direct supervision of 40 engineering personnel.

February 1979 - September 1979 - Civil Quality Control Section Supervisor - Georgia Power Company - Plant Vogtle. Responsible for organizing and implementing a new Quality Control Program for Civil activities at Plant Vogtle.

August 1978 - February 1979 - Civil Engineering Supervisor - Georgia Power Company - Plant Vogtle - Responsible for assigning, supervising and evaluating the Civil Engineers and Surveyors' activities. Directly involved in planning, scheduling and coordination of Civil Contractors' activities at Plant Vogtle.

May 1977 - August 1978 - Acting Civil Project Section Supervisor at Plant Hatch - Georgia Power Company. Responsible for assigning, supervising and evaluating the activities of Engineers, Inspectors, and Surveyors, during the final stages of work prior to Unit No. 2 Fuel Load. Responsible for the coordination, supervision and scheduling of the Civil Craft activities. I answered directly to the Manager of Field Operations, and was directly involved in Manpower Planning, Craft Assignments, and Coordination with other disciplines.

January 1972 - May 1977 - Blount & Ruark, Inc.

General Superintendent and Engineer in Highway Construction - Duties included estimating, bid work and preparing schedules on highway construction projects, including Grading, Drainage, Bridge Construction, and Asphalt Paving - Direct supervision of four (4) Project Superintendents, Craft personnel and various sub-contractor forces. EEO Officer and Safety Officer for the Corporation.

1960 - 1971 - Georgia Department of Transportation - Highway Project Engineer. Responsible for Highway Projects including roads and bridges, soils, concrete, grassing, paving and miscellaneous activities. Prepared schedules, Monthly Estimates and Progress Reports - Supervised Inspectors and Engineers during construction activities.

1965-1966 - Mayfield Tippens Erectors - Engineer and Estimator. Erection of prestressed and precast concrete members. Duties included Field Engineering, Scheduling, Take-Off and Estimating involved with heavy construction activities.

#### Miscellaneous

##### Company Training Courses

- Utility Claims for Construction
- Increasing Productivity and Efficiency
- Foundations of Management
- EEO Compliance
- Managerial Problem Solving
- Meetings Management
- The Executive Speaker
- Grid Management