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Vogtle Project

April 2, 1985

Director of Nuclear Reactor Regulation
Attention: Ms. Elinor G. Adensam, Chief
Licensing Branch #4
Division of Licensing
U. S. Nuclear Regulation Commission
Washington, D.C. 20555

File: X3BC35
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NRC DOCKET NUMBERS 50-424 AND 50-425
CONSTRUCTION PERMIT NUMBERS CPPR-108 AND CPPR-109
VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 AND 2
REQUEST FOR SUPPLEMENTAL INFORMATION
DRAFT REVIEW COPY OF FSAR CHAPTER 13, REV. 1

Dear Mr. Denton:

As a result of a teleconference with members of your staff on April 1, 1985, changes to the subject document, transmitted to you by the referenced letter, have been made as indicated in the attachment. These changes will appear in Amendment 16 to the FSAR.

If your staff requires any additional information, please do not hesitate to contact me.

Sincerely,

J. A. Bailey
Project Licensing Manager

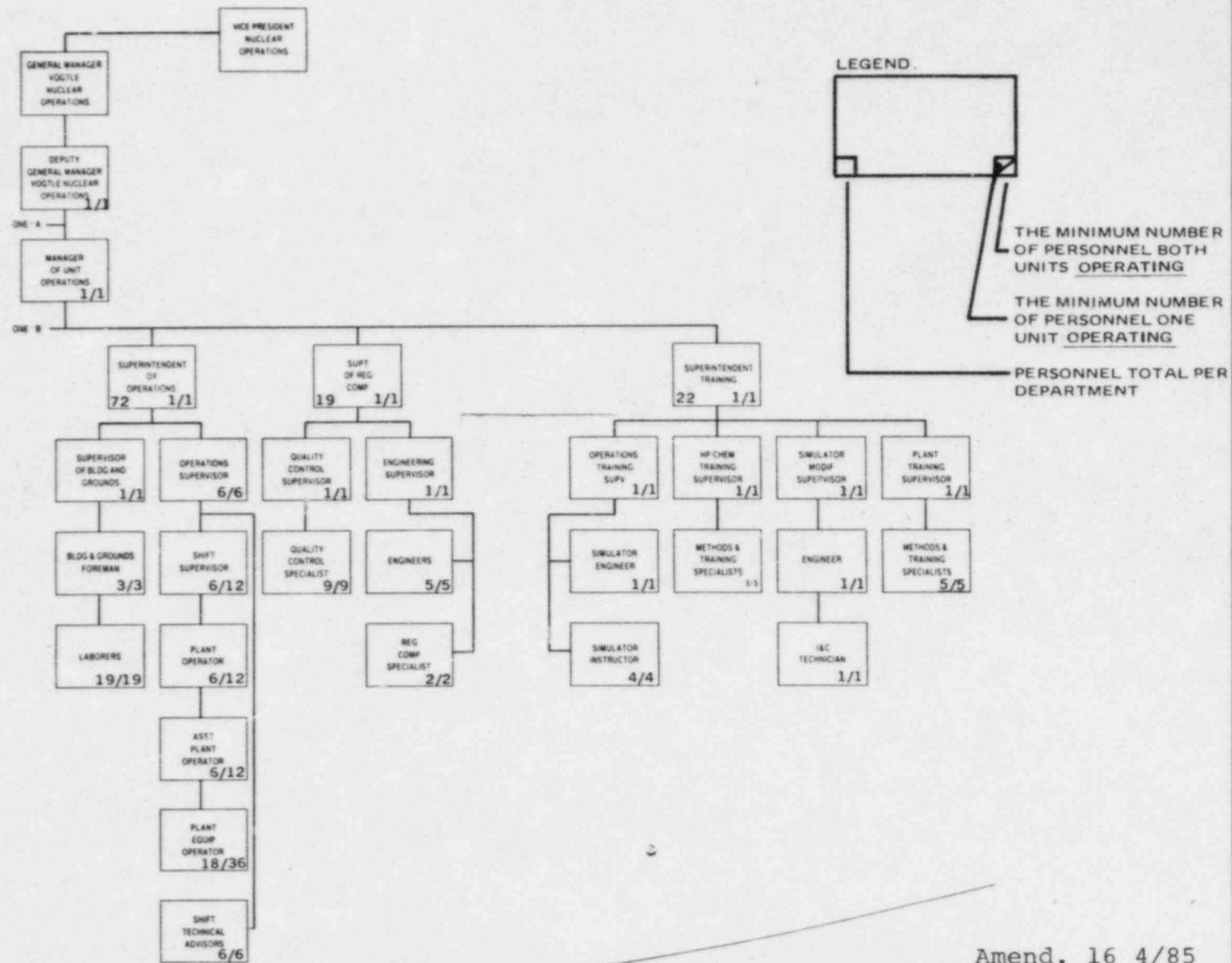
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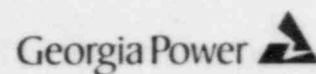
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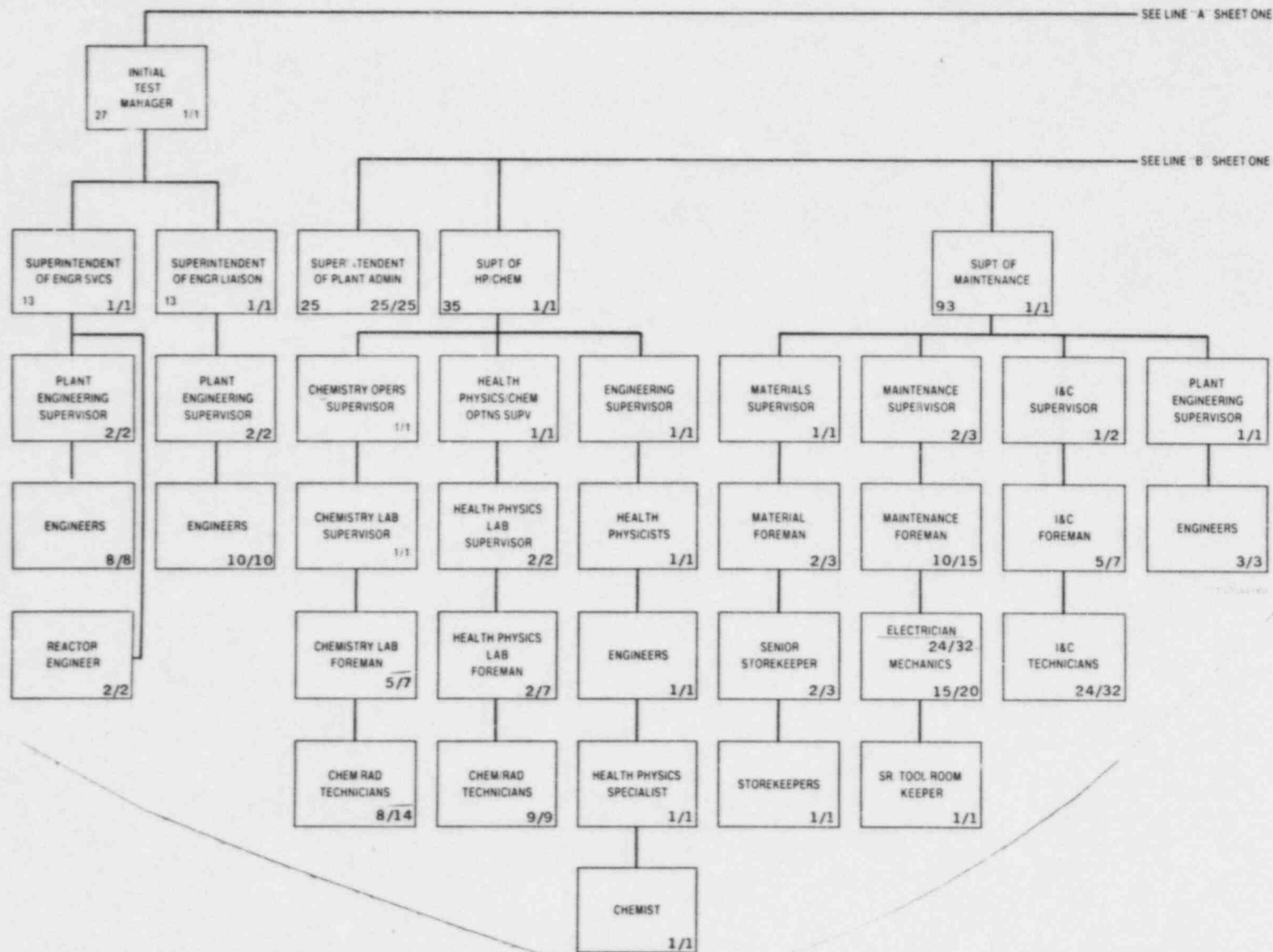
Amend. 16 4/85



VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

PLANT ORGANIZATION

FIGURE 13.1.2-1 (SHEET 1 OF 3)



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Georgia Power



VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

PLANT ORGANIZATION

FIGURE 13.1.2-1 (SHEET 2 OF 3)

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the objectives of the course completed and the course being waived. If the already completed course of instruction did not meet all required objectives, these additional topics may be taught and course completion may be granted.

- Completion of an examination by the trainee which is equivalent to a course final comprehensive examination. The examination may be written or oral and must be retained as a record of successful course completion.

13.2.1.1.1 Nuclear Power Plant Theory

Training shall be provided in relevant aspects of nuclear power plant theory as required by 10 CFR 55 and NUREG 0737, paragraph

(1.A.2.1, enclosure 2. The amount of training required is estimated in tables 13.2.1-1 through 13.2.1-5.

13.2.1.1.2 VEGP Systems

Training shall be provided in VEGP systems ~~and procedures~~ as required by 10 CFR 55, as indicated in tables 13.2.1-1 through 13.2.1-5.

13.2.1.1.3 VEGP License and Technical Specifications

Training shall be provided in VEGP license and technical specifications as required by 10 CFR 55, as indicated in tables 13.2.1-1 through 13.2.1-4.

13.2.1.1.4 Fuel Handling and Core Alterations

Training shall be provided in fuel handling and core alterations as required by 10 CFR 55, as indicated in tables 13.2.1-1 through 13.2.1-4.

13.2.1.1.5 Control Room Operations

Training shall be provided in control room operations as required by 10 CFR 55, as indicated in tables 13.2.1-1 through 13.2.1-5. The training shall be accomplished by utilizing a combination of classroom instruction and hands-on operating practice on the VEGP plant-referenced simulator. The training will prepare the candidate for the NRC simulator portion of the operating examination.

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14. Loss of normal feedwater or normal feedwater system failure.
- *15. Loss of all feedwater (normal and emergency).
16. Loss of protective system channel.
17. Mispositioned control rod or rods (or rod drops).
18. Inability to drive control rods.
19. Conditions requiring use of emergency boration.
20. Fuel cladding failure or high activity in reactor coolant or offgas.
21. Turbine or generator trip.
22. Malfunction of automatic control system(s) which affects reactivity.
23. Malfunction of reactor coolant pressure/volume control system.
24. Reactor trip.
25. Main steam line break (inside or outside containment).
26. Nuclear instrumentation failure(s).

B. Knowledge of Systems

Each licensed operator will demonstrate, in the performance of his duties, his satisfactory understanding of the operation of systems and apparatus and his knowledge of operating procedures in each area for which he is licensed.

Any licensed operator who has been inactive for 4 or more months, before resuming licensed activities, will demonstrate adequate knowledge of current plant operations. This shall be accomplished by a review of applicable plant and procedure changes made during the period the operator was inactive, followed by an evaluation by either a certified instructor on the VEGP simulator, the superintendent-operations, manager of unit operations, deputy general manager, ^{or} ~~and~~ general manager. An unsatisfactory result on the evaluation

instructor is not involved in the preceding requalification program, he may renew his certification by preparing for and taking or ~~conducting~~ ^{written} a comprehensive audit examination. Instructors who fail to complete these annual instructor requalification requirements will not teach integrated plant response to licensed students until they renew their certification.

TABLE 13.2.1-1 (SHEET 3 OF 3)

<u>Description</u>	<u>Type</u>	<u>Minimum Integral Duration</u>
Mitigating core damage	Classroom or self-study	1 day
Incore instrumen- tation		
Excore instrumen- tation		
Vital instrumen- tation		
Primary chemistry		
Radiation monitor- ing		
Gas generation		
Observation training including walkthrough	VEGP	
Prior to achieving 20% power (a)	VEGP	3 weeks
After achieving (b) 20% power	VEGP	3 months
Review and audit		1 week

a. Applicants who have previously been Nuclear Regulatory Commission licensed or certified will complete 3 weeks of VEGP walkthrough training.

b. Applicants who have previously held an SRO license will not be required to complete the 3 months of observation training. They will complete 3 weeks VEGP walkthrough training instead.

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TABLE 13.2.1-2 (SHEET 1 OF 3)

LICENSED SENIOR OPERATOR ONSITE TRAINING SYLLABUS - PERSONNEL
WITH OTHER THAN PWR LICENSE OR NRC CERTIFICATION
(ANY SUPERVISOR OR STAFF POSITION)

<u>Description</u>	<u>Type</u>	<u>Minimum Integral Duration</u>
Nuclear power plant theory	Classroom or self-study	1 week
Fundamentals of reactor theory		
General core design		
Radiological safety and radiation hazards		
Heat transfer, fluid flow, and thermodynamics		
Fluids and matter		
Fluid statics		
Fluid dynamics		
Heat transfer by conduction, convection, and radiation		
Change of phase - boiling		
Burnout and flow instability		
Reactor heat transfer limits		
VEGP systems and e procedures e	Classroom or self-study	4 weeks
Procedures for design and operating changes		
Reactor coolant system mechanical design		
Reactivity control mechanisms and indications		

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TABLE 13.2.1-2 (SHEET 2 OF 3)

<u>Description</u>	<u>Type</u>	<u>Minimum Integral Duration</u>
Reactor safety systems	Classroom or	4 weeks
Emergency and reserve systems	self-study	
Containment and shielding		
Radiation monitoring system		
Auxiliary systems		
Radioactive waste		
VEGP license and technical specifications	Classroom or self-study	1 week
License conditions and limitations		
Design limitations		
Fuel handling and core alterations	Classroom or self-study	3 days
Facilities and procedures		
Control room operations	<u>Classroom</u>	<u>Simulator</u>
General operating characteristics	X	X
Specific operating characteristics	X	X
Load changes	X	X
Operating limitations	X	X
Standard, emergency, and plant procedures	X	X
Control manipulation		X
Transients		X

5 weeks
(including 100 h
VEGP/simulator)

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TABLE 13.2.1-5 (SHEET 3 OF 3)

<u>Description</u>	<u>Type</u>	<u>Minimum Integral Duration</u>
Observation training ⁽²⁾ including walkthrough training	VEGP	3 months
Review and audit		1 week

a. Prior to achieving 20 percent, applicants for cold licenses will complete observation training at a comparable licensed commercial nuclear power plant for a period of 6 weeks. In addition, applicants will have at least 6 weeks of VEGP shift experience which includes walkthrough training.

13.2.2 TRAINING FOR NONLICENSED PLANT STAFF

The VEGP staff will consist of individuals with significant differences in previous education, training, and experience. The training programs have been formulated to provide the required training based upon the individual's prior experience. Personnel will either meet the minimum education and experience recommendation of ANSI/ANS 18.1-1971 or complete a qualification program which will demonstrate their ability to perform the specific tasks. The organization conducting the training for the nonlicensed plant staff is the same as that for the licensed plant staff and is shown in figure 13.2.1-1.

13.2.2.1 Training Program

A training program has been established for each VEGP organizational group. At the time of fuel load, personnel assigned to a particular group will complete the initial training before performing independent tasks or will meet the minimum education and experience required by ANSI/ANS 18.1-1971. The training programs will be the same before and after initial fuel load. ~~On-the-job training will be used to supplement the indicated classroom instruction as necessary to prepare individuals for their assigned responsibilities.~~

Individual specific training requirements may be waived on a case-by-case basis with adequate justification and approval of the superintendent of nuclear training.

Specific criteria must be met prior to approval of a waiver. Waivers will be granted only if one of the conditions listed below has been satisfied.

- A previous course of instruction has been completed which contained the same topics and was at least the duration of the course being waived. The course may have been completed at VEGP or another facility. For example, a trainee who completes a course of instruction at Plant Hatch meeting the above criteria would not be required to repeat the course at VEGP.
- A previous course of instruction has been completed which contained all of the objectives of the course being waived. This would be determined by comparison of the objectives of the course completed and the course being waived. If the already completed course of instruction did not meet all required objectives, these additional topics may be taught and course completion may be granted.

- Completion of an examination by the trainee which is equivalent to a course final comprehensive examination. The examination may be written or oral and must be retained as a record of successful course completion.

Training programs for the following organizational groups have been established:

Health physics/radiochemistry	13.2.2.1.1
Instrumentation and controls	13.2.2.1.2
Mechanical maintenance	13.2.2.1.3
Electrical maintenance	13.2.2.1.4
Shift technical advisor	13.2.2.1.5
Nonlicensed operator	13.2.2.1.6
Licensed operator	13.2.1
Training (instructor qualification)	13.2.2.1.7
General employee training	13.2.2.1.8
Fire team training	13.2.2.1.9
Quality control	13.2.2.1.10
Engineering and technical support	13.2.2.1.11

The syllabus for each training program, including the duration and the organizational group receiving the training, is described in the following subsection or paragraphs.

13.2.2.1.1 Health Physics/Radiochemistry Training Program

A. Initial Training

Technicians who meet the education and experience requirements of ANSI/ANS 18.1-1971 will complete general employee training ~~at pressurized water reactor (PWR) systems, balance of plant (BOP) systems, and mitigating core damage training normally within 12 months after assignment to the position.~~ Those who do not meet the above requirements must complete initial training in order to demonstrate their ability to perform the specific tasks.

and on-the-job training as described below prior to being assigned independent tasks

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
General employee badge and health physics training	6-10 h ^(a)
Industrial safety and first aid	4 h
New employee fire training	2 h
General pressurized water reactor systems	1 week
General balance of plant systems	1 week
Nuclear physics fundamentals	2 weeks
Radiation protection	1 week
Chemistry fundamentals	1 week
Mitigating core damage (commensurate with responsibilities)	2 h
On-the-job training	1 week

1 week →
move over

B. Continuing Training

One of the following listed programs or other specific programs as requested by the health physics superintendent will be conducted annually. Personnel who have not completed the offered course will normally attend.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
Advanced health physics	1 week
Analytical chemistry	1 week
Radiochemistry	1 week
Corrosion	16 h

C. Annual Regualification Training or Exemption Testing

Health physics/chemistry technicians will complete annual regualification training or exemption testing to make them aware of and review important changes made to plant emergency and disaster, radiation protection, security, and respirator procedures.

D. Initial Foreman Qualifications (and Student Engineers)

Foremen who meet the requirements of ANSI/ANS 18.1-1971 will complete General Employee Training, ~~PWR systems, BOP systems, and mitigating core damage training as~~ and on-the-job training as

- a. Duration depends on whether the individual attends additional radiation worker training as described in paragraph 13.2.2.1.8.A.

*prior to performing
independent duties.*

described above under initial training ~~within 12 months~~
~~after assignment to the position.~~ Those who do not meet
the above requirements must complete initial training
and progress through most of the continuing training
courses in order to demonstrate their ability to perform
the specific tasks.

E. Continuing Foremen Training

One of the listed continuing training programs or other
specific programs as requested by the health physics
superintendent will be presented annually. Foremen will
normally attend these continuing training sessions
unless they have already completed the offered course.

F. Health Physics/Chemistry Supervisor Qualifications and Training

The health physics/chemistry supervisors will have the
qualifications required of health physics/chemistry
foremen and will normally attend a similar continuing
training program.

G. Incumbents and New Employees

Personnel with experience that exceeds Nuclear
Regulatory Commission (NRC) commitments may fill a
position in the career path provided that the health
physics/chemistry superintendent certifies that the
employee's experience qualifications exceed the
position requirements. The training department may
also accept prior training or experience to fill
specific course requirements.

13.2.2.1.2 Instrumentation and Controls Training Program

A. Initial Training

Technicians who meet the education and experience
requirements of ANSI/ANS 18.1-1971 will complete general
employee training ~~in PWR systems, BOP systems, and~~
~~mitigating core damage training normally within 12~~
~~months after assignment to the position.~~ Those who do
not meet the above requirements must complete initial
training in order to demonstrate their ability to
perform the specific tasks.

*and on-the-job training as described below prior
to being assigned independent tasks.*

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<u>Curriculum Outline</u>	<u>Approximate Duration</u>
General employee badge and health physics training	6-10 h (Q)
Industrial safety and first aid	4 h
New employee fire training	2 h
General pressurized water reactor systems	1 week
General balance of plant systems	1 week
Process fundamentals	1 week
Mitigating core damage (commensurate with responsibilities)	2 h
On-the-job training	1 week

B. Continuing Training

One of the following listed programs or other specific programs as requested by the maintenance superintendent will be conducted annually. Personnel who have not completed the offered course will normally attend.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
Electronics review	1 week
Test equipment	2 days
Process instrumentation	1 week
Process control systems	1 week

C. Annual Regualification Training or Exemption Testing

Instrumentation and controls technicians will complete annual regualification training or exemption testing to make them aware of and review important changes made to plant emergency and disaster, radiation protection, security, and respirator procedures.

D. Initial Foremen Training (and Student Engineers)

Foremen who meet the requirements of ANSI/ANS 18.1-1971 will complete General Employee Training ~~at PWR systems,~~

- a. Duration depends on whether the individual attends additional radiation worker training as described in paragraph 13.2.2.1.8.A.

and on-the-job training
~~BOP systems) and mitigating core damage training as~~ *prior to performing independent duties.*
 described above under initial training ~~within 12 months~~
~~after assignment to the position.~~ Those who do not meet
 the above requirements must complete initial training
 and progress through most of the continuing training
 courses in order to demonstrate their ability to perform
 the specific tasks.

E. Continuing Foremen Training

One of the listed continuing training programs or other specific programs as requested by the maintenance superintendent will be presented annually. Foremen will normally attend these sessions unless they have already completed the offered course.

F. Instrumentation and Controls Maintenance Supervisor Qualifications and Training

The maintenance supervisors will have the qualifications required of maintenance foremen and will normally attend a similar continuing training program. After initial appointment to the position, the new supervisor will complete the following training.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
Electrical, pressure vessel, and piping codes and standards (including nondestructive testing review)	3 days

G. Incumbents and New Employees

Personnel with experience that exceeds NRC commitments may fill a position in the instrumentation and controls career path, provided the maintenance superintendent certifies that the employee's experience qualifications exceed the position requirements. The training department may also accept prior training or experience to fill specific course requirements.

13.2.2.1.3 Mechanical Maintenance Training Program

A. Initial Training

Maintenance personnel who meet the education and experience requirements of ANSI/ANS 18.1-1971 will complete general employee training ~~of PWR systems, and BOP systems training normally within 12 months after~~ assignment to the position. Those who do not meet the above requirements must complete initial training in order to demonstrate their ability to perform the specific tasks.

And on-the-job training as described below prior to being assigned independent tasks.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
General employee badge training	6-10 h ^(Q)
Industrial safety and first aid	4 h
New employee fire training	2 h
General pressurized water reactor systems	1 week
General balance of plant systems	1 week
Maintenance fundamentals	1 week
Mechanical fundamentals	1 week
On-the-job training	1 week

B. Continuing Training

One of the following listed programs or other specific programs as requested by the maintenance superintendent will be conducted annually. Personnel who have not completed the offered course will normally attend.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
Theory and maintenance of pumps and valves	1 week
Power transmission devices	2 days
Shop fundamentals	1 week
Crane safety and operation	3 days
Shaft alignment	2 days
Motor-operated valves	3 days

- a. Duration depends on whether the individual attends additional radiation working training as described in paragraph 13.2.2.1.8.A. ~~er~~

C. Annual Regualification Training or Exemption Testing

Mechanics will complete annual regualification training or exemption testing to make them aware of and review important changes made to plant emergency and disaster, radiation protection, security, and respirator procedures.

D. Initial Foremen Training (and Student Engineers)

and on-the-job training as described

prior to being performing independent duties.

Foremen who meet the requirements of ANSI/ANS 18.1-1971 will complete General Employee Training, PWR systems, and BOP systems training as described above under initial training, within 12 months after assignment to the positions. Those who do not meet the above requirements must complete initial training and progress through most of the continuing training courses in order to demonstrate their ability to perform the specific tasks.

E. Continuing Foremen Training

One of the listed continuing training programs or other specific programs as requested by the maintenance superintendent will be presented annually. Foremen will normally attend those continuing training programs unless they have completed the offered course.

F. Maintenance Supervisor Qualifications and Training

The maintenance supervisors will have the qualifications required of maintenance foremen and will normally attend a similar continuing training program. After initial appointment to the position, the new supervisor will complete the following training.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
Electrical, pressure vessel, and piping codes and standards (including nondestructive testing review)	3 days

G. Incumbents and New Employees

Personnel with experience that exceeds NRC commitments may fill a position in the mechanical career path provided that the maintenance superintendent certifies that the employee's experience qualifications exceed

the position requirements. The training department may also accept prior training or experience to fill specific course requirements.

13.2.2.1.4 Electrical Maintenance Training Program

A. Initial Training

Maintenance personnel who meet the education and experience requirements of ANSI/ANS 18.1-1971 will complete general employee training, PWR systems, and BOP systems training normally within 12 months after assignment to the position. Those who do not meet the above requirements must complete initial training in order to demonstrate their ability to perform the specific tasks.

and on-the-job training as described below prior to being assigned independent tasks

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
General employee badge training	6-10 h ^(a)
Industrial safety and first aid	4 h
New employee fire training	2 h
General pressurized water reactor systems	1 week
General balance of plant systems	1 week
Maintenance fundamentals	1 week
Direct current fundamentals	1 week
Alternating current fundamentals	2 weeks
Electrical safety, drawings, and test equipment	1 week
On-the-job training	1 week

B. Continuing Training

One of the following listed programs or other specific programs as requested by the maintenance superintendent will be conducted annually. Personnel who have not completed the offered course will normally attend.

- a. Duration depends on whether the individual attends additional radiation worker training as described in paragraph 13.2.2.1.8.A.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
Protection devices, control devices, and motor control centers	3 days
ac/dc motors and generators	4 days
Solid state theory	3 days
Batteries, chargers, and inverters	1 day
Pyrotronics fire detectors	1 day
Motor-operated valve maintenance	1 day
Switchgear and breaker maintenance	3 days
Amp lugging	1 day

C. Annual Requalification Training or Exemption Testing

Electricians will complete annual requalification training or exemption testing to make them aware of and review important changes made to plant emergency and disaster, radiation protection, security, and respirator procedures.

D. Initial Foremen Qualifications (and Student Engineers)

Foremen who meet the requirements of ANSI/ANS 18.1-1971 will complete general employee training ~~and PWR systems, and BOP systems training as described above under initial training within 12 months after assignment to the position.~~ Those who do not meet the above requirements must complete initial training and progress through most of the continuing training courses in order to demonstrate their ability to perform the specific tasks.

and on-the-job training as described above under initial training prior to performing independent duties.

E. Continuing Foremen Training

One of the listed continuing training programs or other specific programs as requested by the maintenance superintendent will be presented annually. Foremen will normally attend continuing training programs unless they have previously completed the offered course.

F. Maintenance Supervisor Qualifications and Training

The maintenance supervisors will have the qualifications required of maintenance foremen and will normally attend a similar continuing training program. After initial appointment to the position, the new supervisor will complete the following training.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
Electrical, pressure vessel, and piping codes and standards (including nondestructive testing review)	3 days

G. Incumbents and New Employees

Personnel with experience that exceeds NRC commitments may fill a position in the electrical career path provided that the maintenance superintendent certifies that the employee's experience qualifications exceed the position requirements. The training department may also accept prior training or experience to fill specific course requirements.

13.2.2.1.5 Shift Technical Advisor Training Program

A. Education Requirements

Shift technical advisors will have a bachelor's degree in a scientific or engineering discipline.

B. Training Program

The candidate holds or has held an NRC senior reactor operators license for that type of reactor, or the candidate completes a Georgia Power Company (GPC) shift technical advisor training program described in table 13.2.2-1. *In either case, the STA shall receive specific training in the response and analysis of the plant for transients and accidents.*

C. Experience Requirements

The candidate will have 1 year of power plant experience and will have performed reactor operator or senior reactor operator duties for that type of reactor, or the candidate will receive 1 month of on-the-job training as an extra shift technical advisor.

D. Requalification Training for Shift Technical Advisors

Shift technical advisors will attend the same requalification program as NRC-licensed operators. Persons not actively performing the shift technical advisor functions for a period of 4 months or longer shall, prior to assuming responsibilities of the position, as a minimum receive training to ensure they are cognizant of facility/procedure changes that occurred during their absences.

Persons not performing the shift technical advisor function for a period of 6 months or longer shall, prior to assuming the responsibilities of the position, undergo an individual requalification program.

13.2.2.1.6 Nonlicensed Operator Training Program

A. Initial Training

After the start of fuel load, all personnel assigned to perform independent plant equipment manipulations will either complete this initial training program, be qualified to the shift technical advisor level or certified to the senior reactor operator level, or have experience which is equivalent to the following program.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
General employee badge and health physics training	6-10 h ^(a)
Industrial safety and first aid	4 h
New employee fire training	2 h
Nuclear power plant fundamentals	1 week
Power plant components	1 week
VEGP systems	4 weeks
On-the-job training	1 week

B. Continuing Training

After completing initial qualifications, the nonlicensed operator will complete qualification on the plant systems on which he was not initially qualified. Normally, the nonlicensed operator will qualify on all systems outside the control room and containment during the individual's first 3 years in the plant operations department.

C. Annual Requalification Training or Exemption Testing

Nonlicensed operators will complete annual requalification training or exemption testing to make them aware of and review important changes made to plant emergency, radiation protection, security, and respirator procedures.

(see table goes here.)

D. Nonlicensed Operator Progression

After completing a license training program, many operators will progress to licensed positions. The licensed training programs are described in subsection 13.2.1.

13.2.2.1.7 Instructor Qualification Program and Certified Instructor Regualification Program

This program has been outlined in paragraph 13.2.1.3.3 for all training instructors. In addition to these requirements, the fire protection training instructor shall also meet the requirements outlined in paragraphs 13.2.2.1.9.D and 9B.C.3.d(2).

13.2.2.1.8 General Employee Training (Badge Training)

A. General Training

including temporary personnel
All personnel who are granted unescorted access to ~~the~~ VEGP's protected area will receive the following training or, if they have completed a similar program at another plant or facility, will be tested to verify satisfactory knowledge of VEGP procedures.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
General description of VEGP facilities, general VEGP procedures and instructions, station emergency plans, industrial safety program, fire protection program, security program, and quality assurance program	4 h

- moves to preceding page.*
- a. Duration depends on whether the individual attends additional radiation worker training as described in paragraph 13.2.2.1.8.A.

Radiation health and safety will meet the intent of Regulatory Guide 8.8 for personnel who enter restricted areas. Regulatory Guide 8.27 and 8.29 are being used to develop the radiation protection portion of general employee training. Material discussed in Regulatory Guide 8.29, Appendix A, will be covered except for Sections 17, 18, 22, 23, 24, 28, 29, and 31, since these sections would be of little value to personnel in determining their risk from exposure to occupational radiation.

2 h

close up

Curriculum Outline

Approximate Duration

Radiation worker training
Additional radiation work practices training will be provided for those personnel who are required to work in radiation-controlled areas without escort.

4h

Respiratory protection training for personnel required to work in areas of high airborne radioactivity concentration.

2h

B. Annual Exemption Testing

All personnel will complete annual requalification training or exemption testing to ensure that they have retained satisfactory knowledge of VEGP procedures.

13.2.2.1.9 Fire Brigade Training

A. Initial Training

Personnel assigned to any fire brigade will complete training in the following areas as designated by FSAR appendix 9B before being assigned as active brigade members.

E. General Employee Fire Training

Fire protection training for plant employees who are allowed unescorted access will include instructions in the following areas:

1. Appropriate fire protection administrative controls.
2. Fire barrier and fire barrier penetration seals.
3. Response to fire alarms.
4. Action and responsibility upon discovery of fires.

The capability to evacuate the plant facilities will be evaluated annually. This evaluation may be conducted coincidentally with emergency plan exercises or drills.

13.2.2.1.10 Quality Control Training Program

A. Initial Training

Quality control inspectors who meet the requirements to be certified Level I in accordance with ANSI N45.2.6-1978 will complete general employee training as described below. Those who do not meet the above requirements must complete initial training in order to demonstrate their ability to perform the specific tasks.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
General employee badge training	6 h
Industrial safety and first aid	4 h
New employee fire training	2 h
General pressurized water reactor systems	1 week
General balance of plant systems	1 week
Quality control codes, standards, and procedures	3 days
Visual inspection	1 week

B. Continuing Training

After completing initial qualification, quality control personnel will usually attend annually a program to improve their quality control skills or a program from the electrical, mechanical, or instrumentation and controls schools.

C. Annual Regualification Training or Exemption Testing

Quality control specialists will complete annual regualification training or exemption testing to review important changes to plant emergency, radiation protection, security, and respirator procedures.

D. Incumbents and New Employees

Personnel with experience that exceeds NRC commitments may fill a position in the quality control career path provided the general manager certifies that the employee's experience qualifications exceed the position requirements. The training department may also accept prior training or experience to fill specific course requirements.

13.2.2.1.11 Engineering and Technical Support

A. Initial Orientation Training

Professional personnel who do not have prior nuclear power plant experience will complete the following orientation program normally during the first 6 months at VEGP.

<u>Curriculum Outline</u>	<u>Approximate Duration</u>
General employee badge and health physics training	6 h
Industrial safety and first aid	4 h
New employee fire training	2 h
Reactor theory, health physics, and primary systems	1 day
Primary systems, emergency systems, heat removal systems, and radiation waste and monitoring systems	1 day

13.2.2.4 Initial Position ^{Job} ~~Task~~ Analysis

The training programs described in section 13.2 are the result of the initial position ^{Job} ~~task~~ analysis for VEGP staffing. The training organization will use a combination of plant equipment reviews by instructors, training committee reviews by plant supervisors, and instruction reviews by students to obtain feedback to update our training plans or the position ~~task~~ ^{job} analysis. Georgia Power Company stresses the use of this feedback to meet our overall training objective to train for job proficiency.

13.2.2.5 Training Program Syllabus

The VEGP training organization is described in subsection 13.2.1 and figure 13.2.1-1. Georgia Power Company will use the same training programs to qualify its personnel both before and after the initial fuel loading. Almost all programs in this section are considered formal or "classroom" programs. A formal program consists of instruction in the classroom, laboratory, simulator, and field which is supervised by an instructor. Specifically, the shift technical advisor program (paragraph 13.2.2.1.5) and the training (instructor qualification) program (paragraph 13.2.2.1.7) use some on-the-job training before the individuals in these organizational groups are permitted to perform job tasks.

13.2.2.6 Reactor Operations Experience Training

Reactor operations experience training will be provided as outlined in paragraph 13.2.1.2 by using the VEGP simulator, preoperational test program, and observation of other light-water reactors.

13.2.2.7 Differences in Training Programs

The difference in the training programs for individuals based on the extent of previous nuclear power plant experience is described in paragraph 13.2.2.1.

13.2.2.8 Fire Protection Training Program

A description of the fire protection training program used for fire brigade members is described in paragraph 13.2.2.1.9.

13.2.2.9 Training Program Effectiveness


Training program effectiveness is evaluated by either written, oral, or practiced demonstration examinations for each employee.

Figure 13.2.2-1 is a schedule showing the start of each portion of the nonlicensed plant staff training program in relation to the schedule for preoperation tests, fuel load, and expected time for license examination. Since all of the training programs in this section are used for both units before and after fuel load, after a particular program is started, that program will be available for use any time there is a need to qualify additional personnel. At the time of fuel load, sufficient VEGP personnel will be qualified in each organizational group to meet the staffing requirements of subsection 13.1.2.

If fuel loading is delayed, the continuing and requalification training programs as described in this subsection will be implemented to ensure personnel job proficiency.

	JAN 81 TO JUNE 84		JUL 84 TO DEC 84		JAN 85 TO MAR 86		APR 86 TO JUL 86		JUL 86 TO SEP 86	
GENERAL SYSTEMS TRAINING		FSAR Submittal		Preoperational Testing Unit 1		License Exams Unit 1 (Group I)		Preoperational Testing Unit 2 License Exams Unit 1 (Group II)		Fuel Load and Criticality Unit 1
Health Physics/Radio- Chemistry					25					
Instrument and Control			20		4					
Mechanical Maintenance			15							
Electrical Maintenance			10		14				2	
Reactor Engineering										
DISCIPLINE-SPECIFIC FUNDAMENTALS										
Health Physics/Radio- Chemistry							25			
Instrument and Control					24					
Mechanical Maintenance					15					
Electrical Maintenance					24				2	
Reactor Engineering										
CONTINUING TRAINING										
Health Physics/Radio- Chemistry									25	
Instrument and Control									24	
Mechanical Maintenance									15	
Electrical Maintenance									24	

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VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

TRAINING FOR NONLICENSED
VEGP STAFF

FIGURE 13.2.2-1 (SHEET 1 OF 2)

	JAN 81 TO JUNE 84		JUL 84 TO DEC 84		JAN 85 TO MAR 86		APR 86 TO JUL 86		JUL 86 TO SEP 86	
GENERAL SYSTEMS TRAINING		FSAR Submittal		Preoperational Testing Unit 1		License Exams Unit 1 (Group I)		Preoperational Testing Unit 2 License Exams Unit 1 (Group II)		Fuel Load and Criticality Unit 1
Training Instructors	5		3		5		2			
General Employee					200		107			
Quality Control	2		6		1					
Engineering & Technical Support	10		10							1e
DISCIPLINE SPECIFIC FUNDAMENTALS										
Training Instructors	5		3		5		2			
Quality Control										
Engineering & Technical Support	10		10		9					
CONTINUING TRAINING (enrolled)										
Training Instructors					13		2			
General Employee					200		107			
Quality Control					9					

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TRAINING FOR NONLICENSED
VEGP STAFF

FIGURE 13.2.2-1 (SHFET 2 OF 2)