MAR 2 6 1982

Docket No.: 50-395

APPLICANT: South Carolina Electric & Gas Company

FACILITY: Virgil C. Summer Nuclear Station

SUBJECT: SUMMARY OF MARCH 23, 1982 MEETING REGARDING READINESS FOR FUEL LOADING AND LOW-POWER TESTING

General

Representatives of the NRC staff met with the applicant to discuss the status of the project, in particular those areas which must be closed out prior to the issuance of a low-power license. The meeting was held at the Virgil C. Summer Nuclear Station. A list of those persons who attended the meeting is included in Enclosure A.

Purpose

The purpose of the meeting was to provide for senior NRC management review of the application prior to issuance of a low-power license.

Discussion

The meeting began with a tour of the plant to selected areas of interest. The following areas were included on the tour:

Turbine Building, 463'
Reactor Building, 463'
Auxiliary Building, 463'
Auxiliary Building, 412'
Control Building, 412'
Control Building, 463', (Relay Room)
Intermediate Building, 436', (CREP & Speed Switches)
Intermediate Building, 412', (Battery Room)
Intermediate Building, 412', (Emergency Feedwater System)
Service Building, 435', (Security Computer)
Service Water Pumphouse
Technical Support Center
Control Room

Following the plant tour the applicant made presentations in a number of areas. T. C. Nichols, Jr., Vice President & Group Executive, Nuclear Operations gave an overview of the applicant's organization for nuclear operations. Enclosure B is an organizational chart showing the relationship of Nuclear Operations to the overall SCE&G organization.

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SURNAME ▶							
DATE ▶							

The next presentation involved the steam generators. The discussion involved vibration problems experienced on similar units in foreign countries. Also discussed were the controls on secondary water chemistry to attempt to preclude the tube degradation experienced on a number of steam generators.

The applicant's next presentation involved fuel load readiness. A summary of that presentation is contained in Enclosure C.

Another presentation was made to describe the applicant's proposed program for design verification. The system selected for this program was the turbine-driven portion of the auxiliary feedwater system. The program and schedule are described in Enclosure D.

The final presentation involved the status of TMI items. The applicant stated that it would complete 30 of 33 TMI items prior to fuel load. A summary of the applicant's presentation is contained in Enclosure E.

Original signed by:
William Kane

W. F. Kane, Project Manager
Licensing Branch No. 1
Division of Licensing

Enclosures:
As stated

cc w/encls.: See next page

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DATE	3/25/82	3/26/82					

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ENCLOSURE A

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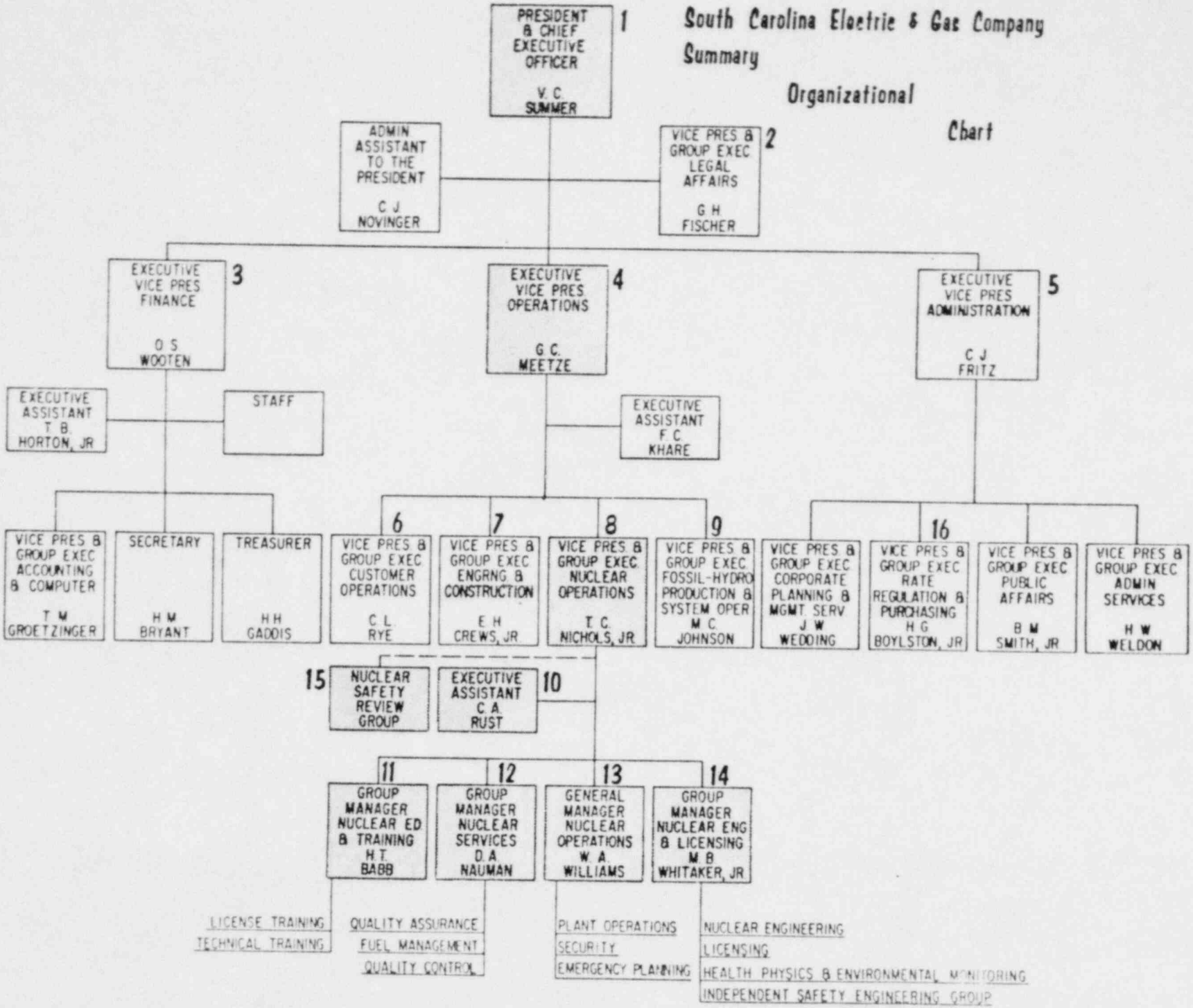
ENCLOSURE B

South Carolina Electric & Gas Company Summary Organizational Chart



ENCLOSURE C

FUEL LOAD READINESS
PRESENTATION TO NRC
MARCH 23, 1982

I. STATION ORGANIZATION AND PROGRAM IMPLEMENTATION

A. ORGANIZATION AND STAFFING

1. STATION FUNCTIONAL ORGANIZATION (ATTACHMENT 1)

SUMMARY OF STAFFING LEVELS (AS OF 3/19/82)

FUNCTIONAL UNIT	AUTH.	ACTUAL	PROCESSING
(1) STATION MANAGER STAFF	3	3	0
(2) OPERATIONS GROUP	72	68	2
(3) TECHNICAL SUPPORT	51	39	4
(4) MAINTENANCE SERVICES	133	90	17
(5) SUPPORT SERVICES	70	47	10
TOTAL	329	247	33

2. CONTRACT SUPPORT TO SUPPLEMENT PERMANENT STAFF

(1) WESTINGHOUSE SERVICE AGREEMENT

(2) MAINTENANCE SERVICE CONTRACT

(3) HEALTH PHYSICS AND CHEMISTRY SUPPORT CONTRACT

(4) DECONTAMINATION/JANITORIAL SUPPORT CONTRACT

B. OPERATOR QUALIFICATION PROGRAM

1. COLD LICENSE PROGRAM (39 SCE&G PLUS 3 WESTINGHOUSE)

(1) TOTAL CANDIDATES	PASSED	FAILED
SRO	24	7
RO	11	4

(2) OPERATIONS GROUP	PASSED	FAILED
SRO	15	5
RO	7	4

2. HOT LICENSE PROGRAM

(1) TOTAL CANDIDATES 24

(2) EXPECTED COMPLETION FEBRUARY, 1983

3. AUXILIARY OPERATOR PROGRAM

(1) TOTAL CANDIDATES 18

(2) EXPECTED COMPLETION SEPTEMBER, 1982

C. NON-LICENSE QUALIFICATION PROGRAM

1. SUPERVISORY STAFF

(1) MAJORITY HAVE RECEIVED KEPNER-TREGOE OR COMPANY SUPERVISOR TRAINING

(2) MAJORITY HAVE RECEIVED SYSTEM OVERVIEW TRAINING

2. TECHNICAL AND CRAFT PERSONNEL

(1) APPROXIMATELY 40% HAVE RECEIVED SYSTEM OVERVIEW TRAINING

(2) SPECIALIZED TRAINING FOR HEALTH PHYSICS, CHEMISTRY, INSTRUMENT TECHNICIAN, ELECTRICIAN, AND MECHANIC HAS BEEN CONDUCTED BY A COMBINATION OF PROGRAMS:

a. VENDOR SCHOOLS (ON AND OFF SITE)

b. WORK AT OPERATING NUCLEAR FACILITIES DURING REFUELING OUTAGES

c. COMPANY-CONDUCTED TRAINING ON SITE

(3) PERFORMANCE QUALIFICATION PROGRAM BASED ON JOB REQUIREMENTS NOW BEING DEVELOPED IN CONJUNCTION WITH INPO TASK ANALYSIS PROGRAM THAT IS IN PROGRESS.

(4) HEALTH PHYSICS CERTIFICATION

a. FOUR OF OUR HEALTH PHYSICS SUPERVISORS ARE CERTIFIED UNDER THE NATIONAL RADIATION PROTECTION TECHNOLOGIST PROGRAM.

b. OUR DIRECTOR OF HEALTH PHYSICS AND ONE HEALTH PHYSICS SUPERVISOR ARE SCHEDULED TO TAKE THE AMERICAN BOARD OF HEALTH PHYSICS CERTIFICATION EXAM IN JULY OF THIS YEAR.

D. PROCEDURE UPGRADE PROGRAM

1. THE FOLLOWING PROCEDURES ARE UNDERGOING EXTENSIVE REWRITE AND UPGRADING DUE TO FUNCTIONAL ORGANIZATION CHANGES, PLANT MODIFICATIONS, TECHNICAL SPECIFICATION CHANGES, AND AUDITS BY OUR OWN STAFF AND THE NRC:

	TITLE	NUMBER	COMPLETION DATE
(1)	ADMINISTRATIVE PROCEDURES	44	4/30/82
(2)	GOP's	16	3/29/82
(3)	SOP's	71	4/05/82
(4)	EOP's	7	3/29/82
(5)	SURVEILLANCE TEST PROCEDURES	655	FL
(6)	INSTRUMENT PROCEDURES	120	FL

E. SECURITY PROGRAM IMPLEMENTATION

1. PERSONNEL SCREENING PROGRAM

(1) ESSENTIALLY COMPLETE FOR ALL SCE&G PERSONNEL

(2) SCREENING FOR 600 CONTRACTOR PERSONNEL HAS BEEN COMPLETED.

2. GENERAL EMPLOYEE/STATION ORIENTATION

(1) COMPLETED FOR APPROXIMATELY 90% OF SCE&G PERSONNEL

(2) 300 CONTRACT PERSONNEL HAVE COMPLETED PROGRAM.

3. SECURITY HARDWARE AND PROGRAM

(1) ESSENTIALLY ALL SECURITY EQUIPMENT HAS BEEN INSTALLED, TESTED, AND FUNCTIONAL WITH THE EXCEPTION OF MINOR PROBLEMS WITH KEY CARD ACCESS DOORS.

(2) TRAINING PROGRAM FOR THE GUARD FORCE HAS BEEN COMPLETED.

(3) SECURITY PROCEDURES HAVE BEEN IMPLEMENTED TO THE EXTENT POSSIBLE CONSISTENT WITH PLANT COMPLETION.

(4) FINAL IMPLEMENTATION OF ENTIRE PROGRAM WILL OCCUR 10 DAYS PRIOR TO FUEL LOAD.

F. STARTUP AND POWER ASCENSION PROGRAM

1. PROGRAM AND PROCEDURE DEVELOPMENT

(1) CONTROLLING PROCEDURES AND SCHEDULE ESSENTIALLY COMPLETE.

(2) PROCEDURE DEVELOPMENT IS ESSENTIALLY COMPLETE WITH 71 OF 76 PROCEDURES APPROVED. THE REMAINING 5 PROCEDURES WILL BE APPROVED BY APRIL 1, 1982.

(3) PROGRAM AND PROCEDURES HAVE BEEN REVIEWED BY NRC REGIONAL OFFICE WITH VERY POSITIVE RESULTS.

2. PROGRAM CONTROL

(1) MANAGED DIRECTLY BY SCE&G PERSONNEL

(2) TEST SUPERVISORS ARE SCE&G PERSONNEL SUPPORTED BY A CONTRACTOR.

II. PLANT COMPLETION STATUS

A. CONSTRUCTION ACTIVITIES

1. CONSTRUCTION ACTIVITIES ARE APPROXIMATELY 99.5% COMPLETE.

2. MECHANICAL SYSTEM COMPLETION

PIPING SUPPORTS

(1) THE AS-BUILT PIPING VERIFICATION ANALYSIS OF APPROXIMATELY 8,700 SAFETY-RELATED SUPPORTS IS ESSENTIALLY COMPLETE.

(2) DESIGN CHANGES RESULTING FROM THE AS-BUILT ANALYSIS HAVE BEEN PHYSICALLY CONFIRMED IN THE FIELD AND FED BACK INTO THE PROGRAM FOR REVERIFICATION.

(3) PRESENTLY, 700 FUEL LOAD RESTRAINING SUPPORTS ARE IN THE FINAL ITERATIVE STAGES OF REVERIFICATION.

(4) MODIFICATIONS RESULTING FROM THE REVERIFICATION HAVE BEEN RELEASED TO CONSTRUCTION AND ARE COMPLETE, EXCEPT FOR APPROXIMATELY 92 SUPPORTS THAT ARE REQUIRED FOR FUEL LOAD.

(5) THE REVERIFICATION EFFORT IS EXPECTED TO BE COMPLETE BY APRIL 16, 1982, FOR THOSE SUPPORTS IN SYSTEMS REQUIRED FOR FUEL LOAD.

(6) THE REMAINING SAFETY-RELATED SUPPORTS ARE EXPECTED TO BE COMPLETE BY MAY 15, 1982.

PIPING SYSTEMS

(1) PRESERVICE INSPECTION PROGRAM IS COMPLETE FOR CLASS 1 SYSTEMS. A FEW MODIFICATIONS ON CLASS 2 SYSTEMS MAY REQUIRE SOME ADDITIONAL EXAMINATIONS, BUT DOES NOT APPEAR TO BE A RESTRAINT TO FUEL LOAD.

(2) ASME SECTION III, N-STAMP PROGRAM HAS BEEN COMPLETED ON 31 OF 39 SYSTEMS. N-STAMPING OF THE REMAINING 8 SYSTEMS IS IN PROGRESS WITH COMPLETION EXPECTED BY APRIL 15, 1982.

3. ELECTRICAL WORK

(1) ALL ELECTRICAL WORK IS ESSENTIALLY COMPLETE WITH THE EXCEPTION OF SOME PERMANENT PLANT LIGHTING WHICH IS IN PROGRESS.

(2) APPROXIMATELY 78 CIRCUITS RESULTING FROM DESIGN CHANGES ARE OUTSTANDING. THIS WORK IS PRIORITIZED AND SHOULD NOT POSE ANY PROBLEMS.

4. BUILDINGS AND STRUCTURES

(1) ALL BUILDINGS AND STRUCTURES ARE COMPLETE EXCEPT FOR POURING FINAL "BLOCKOUTS" FOR CONSTRUCTION OPENINGS.

(2) PENETRATION SEALING IS ESSENTIALLY COMPLETE EXCEPT FOR AREAS WHERE MODIFICATIONS REQUIRE REWORK.

(3) SOME CONSTRUCTION WORK IS STILL IN PROGRESS ON HVAC SYSTEMS, BUT WILL NOT RESTRAIN FUEL LOAD.

5. FINAL PLANT CLEANUP

(1) PAINTING AND FINAL CLEANUP IS AN ONGOING EFFORT CONSISTENT WITH PLANT COMPLETION STATUS.

(2) BASICALLY, OUR PLANT IS IN VERY GOOD CONDITION DUE TO CONSTANT MANAGEMENT ATTENTION, AND DO NOT FORESEE THIS AS A PROBLEM.

B. PREOPERATIONAL TEST PROGRAM

1. ALL REQUIRED PHASE I (INDIVIDUAL COMPONENT AND CIRCUIT TEST) ARE COMPLETE FOR THE PREOPERATIONAL TEST PROGRAM.

2. THE FOLLOWING SUMMARIZES THE STATUS OF THE PHASE II (SYSTEM FUNCTIONAL TEST) PROGRAM:

TOTAL NUMBER OF PROCEDURES	145
PROCEDURES APPROVED	145
TEST STARTED	143
TEST COMPLETED	124
RESULTS APPROVED	114
TO BE COMPLETED PRIOR TO FUEL LOAD	13
TO BE COMPLETED AFTER FUEL LOAD	8

3. THE FOLLOWING SUMMARIZES OUTSTANDING TESTS THAT ARE REQUIRED BEFORE FUEL LOAD. 124 OF THE 137 REQUIRED FOR FUEL LOAD HAVE BEEN COMPLETED WITH 10 OF THESE IN THE RESULTS APPROVAL STAGE. THE REMAINING 13 PRE-OPS TO BE COMPLETED AND TEST RESULTS APPROVED ARE:

(1) 4 ON AIR HANDLING SYSTEMS

(2) 1 ON CVCS SYSTEM

(3) 1 ON HEAT TRACING

(4) 1 ON FUEL HANDLING
(FINAL INDEXING OF BRIDGE)

(5) 1 ON FIRE SYSTEMS

(6) 1 ON POST-ACCIDENT SAMPLING

(7) 1 ON LEAK DETECTION SYSTEM

(8) 1 ON REACTOR COOLANT SYSTEM
(REACTOR VESSEL INTERNALS INSPECTION)

(9) 1 ON SERVICE WATER PUMP FLOW TEST

(10) 1 ON RADIATION MONITORING SYSTEM

4. THE FOLLOWING SUMMARIZES TESTS TO BE COMPLETED AFTER FUEL LOAD:

   (1) 1 ON CONDENSATE SYSTEM

   (2) 1 ON REACTOR COOLANT SYSTEM

   (RTD AND THERMOCOUPLE CROSS CALIBRATION)

   (3) 2 ON SPENT FUEL SYSTEM

   a. SYSTEM FUNCTIONAL TEST

   b. SPENT FUEL LINER LEAK TEST

   (4) 1 ON FINAL THERMAL EXPANSION TEST PROGRAM VERIFICATION

   (5) 1 ON FEEDWATER SYSTEM CHEMICAL ADDITION

   (6) 1 INTEGRATED FIRE AND SECURITY SYSTEM

   (7) 1 REACTOR PROTECTION TIME RESPONSE TEST

5. RESOLUTION AND COMPLETION OF THE ABOVE OUTSTANDING ITEMS DO NOT APPEAR TO BE A RESTRAINT TO FUEL LOAD OR STARTUP AND POWER ASCENSION.

III. SUMMARY AND QUESTIONS

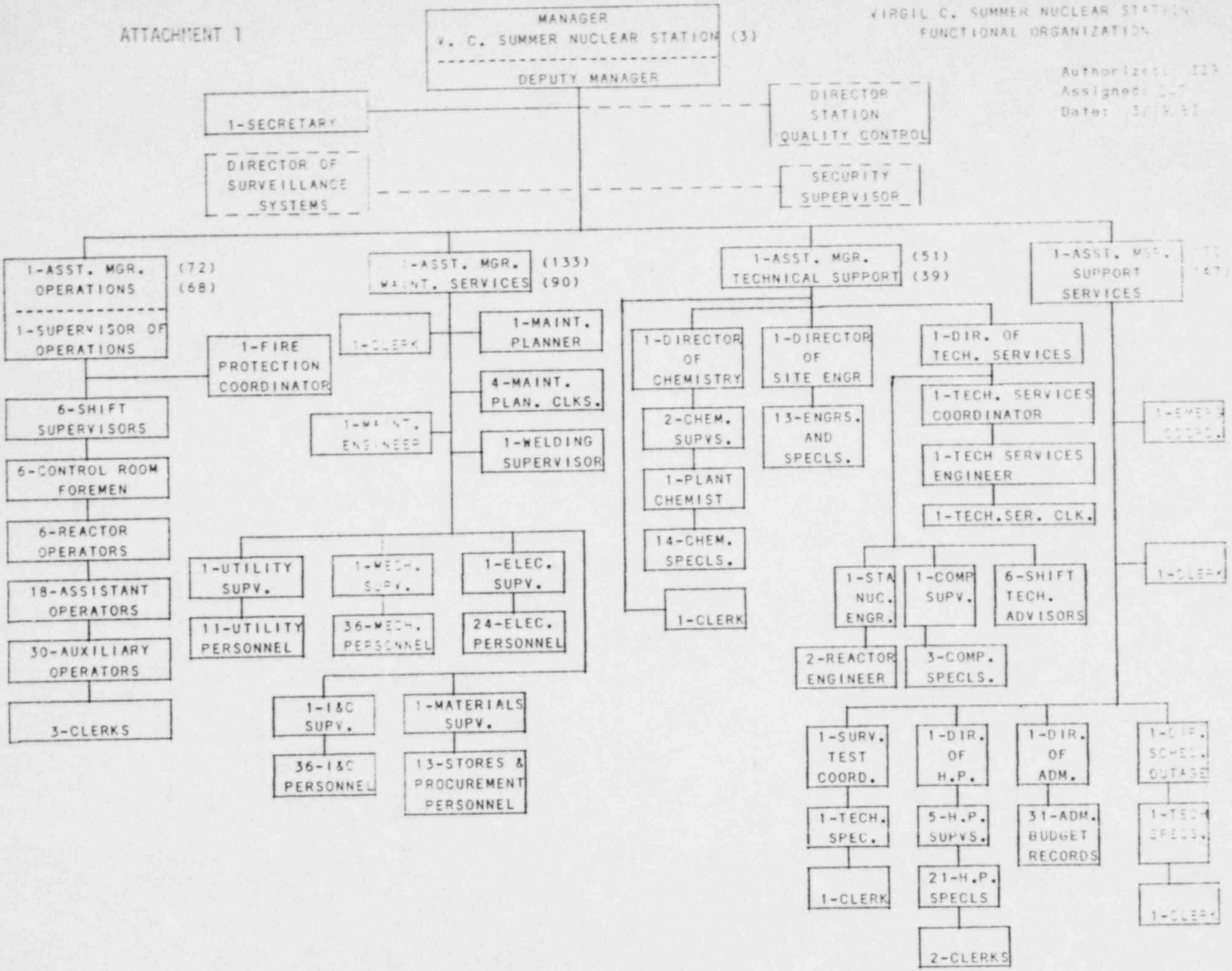
A. OVERALL PLAN TO FUEL LOAD

1. COMPLETE ALL PREOPERATIONAL TEST PROGRAM ITEMS.
2. FINALIZE START-UP AND POWER ASCENSION TEST PROGRAM.
3. PLACE SYSTEMS IN OPERATION AND PERFORM OPERABILITY CHECKS, INCLUDING BASELINE FOR SURVEILLANCE TEST PROGRAM.
4. IMPLEMENT ABSOLUTE CONTROL OF ALL STATION ACTIVITIES UNDER PLANT OPERATIONS PROGRAM.

B. ANSWER ANY REMAINING QUESTIONS.

ATTACHMENT 1

VIRGIL C. SUMMER NUCLEAR STATION
FUNCTIONAL ORGANIZATION



ENCLOSURE D

SCOPE

1. INDEPENDENT DETERMINATION OF THE AS-BUILT CONDITION

2. COMPUTER ANALYSES

3. REVIEW OF STRESSES AND ALLOWABLES

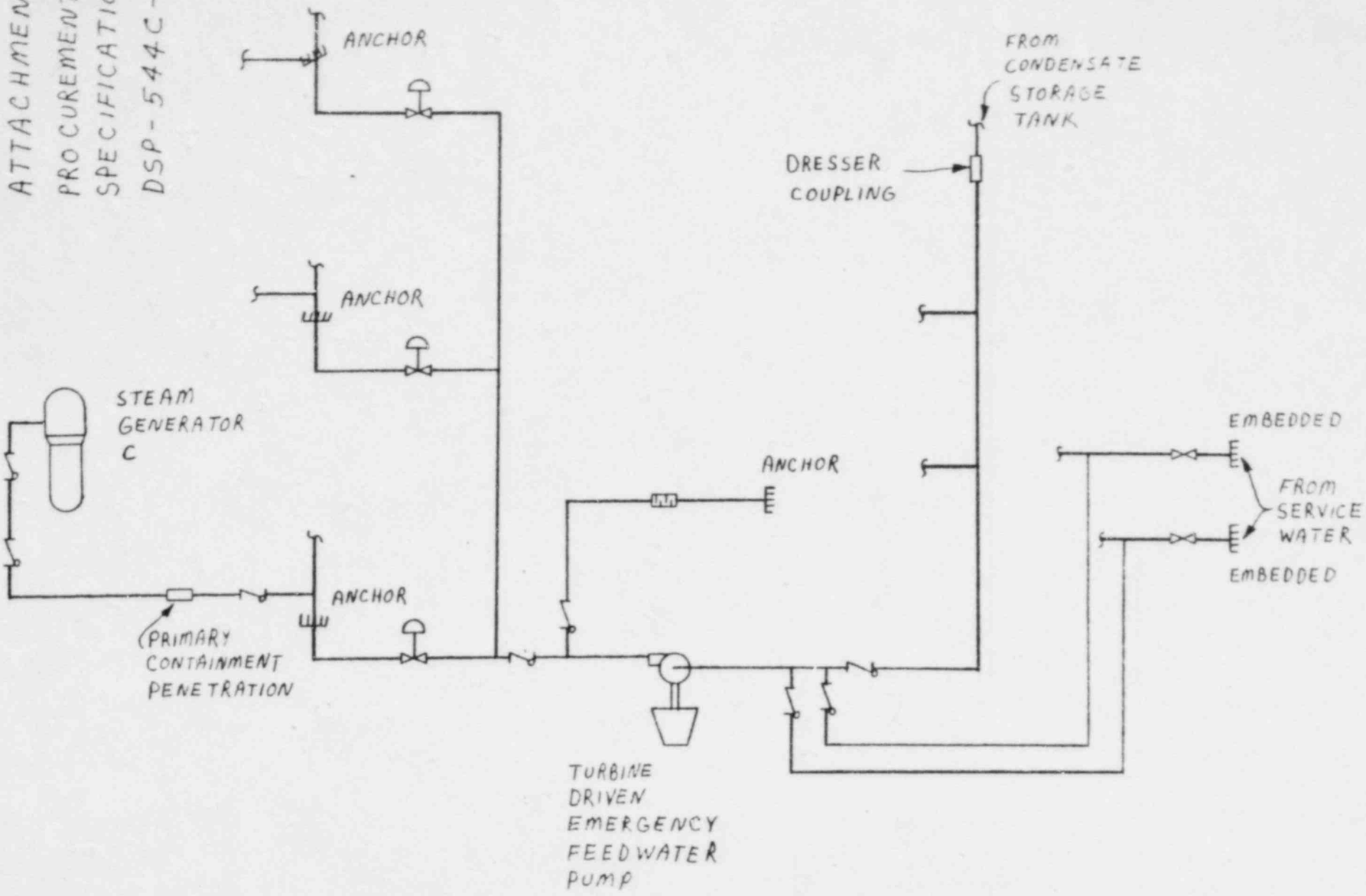
4. COMPARISON OF THE SUPPORT LOADS

5. EVALUATION AND FINAL REPORT

TENTATIVE SCHEDULE FOR INDEPENDENT VERIFICATION

SUBMIT REQUEST FOR QUOTES	MARCH 22, 1982
RECEIVE BID PROPOSALS	APRIL 5, 1982
SELECT PROSPECTIVE CONTRACTOR	APRIL 12, 1982
PREAWARD QA AUDIT	APRIL 19, 1982
AWARD CONTRACT	APRIL 26, 1982
FINAL REPORT	JULY 12, 1982

ATTACHMENT A
PROCUREMENT
SPECIFICATION
DSP-544C-SCEG



ENCLOSURE 1

TMI STATUS

I. NUREG 0737 ITEMS WITH FUEL LOAD REQUIREMENTS - 33

NUREG 0737 ITEMS COMPLETED OR TO BE COMPLETED BY FUEL LOAD - 30

ITEMS NOT COMPLETE

I.C.1	Short Term Accident and Procedure Review
II.D.3	Valve Position Indication
II.F.2	Instrumentation for Detection of Inadequate Core Cooling

II. NUREG 0737 ITEMS WITH FULL POWER REQUIREMENTS - 9

NUREG 0737 ITEMS COMPLETED OR TO BE COMPLETED BY FULL POWER- 9

III. NUREG 0737 ITEMS WITH DATED REQUIREMENTS - 7

NUREG 0737 ITEMS COMPLETED OR TO BE COMPLETED BY REQ. DATE - 5

ITEMS NOT COMPLETE

II.K.3(30)	Small Breaks Loca Methods
III.A.2	Emergency Preparedness

I.C.1 - SHORT TERM ACCIDENT & PROCEDURE REVIEW

SCE&G LETTER TO NRC ON 3-16-82 REQUESTED RELIEF FOR THE ISSUANCE OF THE RESPONSE GUIDELINES. DELAY IS DUE TO ONGOING REVIEW OF THE WESTINGHOUSE OWNER'S GROUP EMERGENCY RESPONSE GUIDELINES BY THE NRC. PLANT PROCEDURES WILL BE REVISED BY FIRST REFUELING.

II.D.3 - VALVE POSITION INDICATION

SCE&G LETTER TO NRC ON 3-12-82 REQUESTED REQUIREMENTS BE MOVED TO FULL POWER FOR THE PRESSURIZER SAFETY VALVES' POSITION INDICATION. LIMIT SWITCHES SHOULD BE INSTALLED BY MAY 1, 1982. QUALIFICATION SHOULD BE COMPLETED IN APRIL 1982 WITH QUALIFICATION REPORTS AVAILABLE IN JUNE 1982.

II.F.2 - INSTRUMENTATION FOR DETECTION OF INADEQUATE CORE COOLING

SCE&G LETTER TO NRC ON 3-16-82 REQUESTED REQUIREMENTS BE MOVED TO FIRST REFUELING OR MAJOR SHUTDOWN AFTER JUNE 1983. IN AN EFFORT TO MEET EARLY TMI NUREG REQUIREMENTS, SCE&G PURCHASED INSTRUMENTATION FOR DETECTION OF INADEQUATE CORE COOLING FROM WESTINGHOUSE. WHEN NUREG 0737 WAS ISSUED EXPANDED QUALIFICATION REQUIREMENTS WERE ISSUED. SCE&G PROCEEDED TO QUALIFY INSTALLED EQUIPMENT OR PURCHASE NEW EQUIPMENT. 16 CORE THERMOCOUPLES, CABLING, REFERENCE JUNCTION BOXES AND CONNECTORS CAN NOT BE FULLY QUALIFIED UNTIL JUNE 1983. THE THERMOCOUPLES WILL REMAIN IN PLACE AS IDENTICAL THERMOCOUPLES ARE BEING QUALIFIED. THE REMAINING EQUIPMENT WILL BE REPLACED.

II.K.3.(30) - Small Break Loca Methods

SCE&G letter to the NRC on 12-31-81 requested the requirement for the revised Westinghouse model for the small break Loca be moved from 1-1-82 to 4-1-82. This agreement was reached by the NRC staff and the Westinghouse Owner's Group of which SCE&G is a member.

III.A.2 - EMERGENCY PREPAREDNESS

A) Meteorology and Dose Assessment -

SCE&G meets NUREG 0654 requirements for fuel load. Presently the backup meteorological tower is scheduled to be operable by July 1, 1982. Barring unforseen difficulties SCE&G should meet all NUREG 0654 requirements required at that time.

Additional dated requirements (9-1-82 and 6-1-83) involving the Class B model cannot be met until the NRC staff provides further guidance regarding the development of Class B models.

B) Shift Manning (Emergency Response) -

NUREG 0654 requires the capability for additional personnel for nuclear plant emergencies. SCE&G cannot meet the 30 minute requirement but can meet 40 minutes.

MAR 26 1982

MEETING SUMMARY DISTRIBUTION

Docket File
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Local PDR
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