Official File Copy

NOV 15 1984

Duke Power Company
ATTN: Mr. H. B. Tucker, Vice President
Nuclear Production Department
422 South Church Street
Charlotte, NC 28242

Gentlemen:

SUBJECT: MEETING SUMMARY - CATAWBA FACILITY, DOCKET NOS. 50-413 AND 50-414

This refers to the management meeting conducted, at our request, at the Catawba facility on October 26, 1984. This meeting was held to brief NRC on the current and planned activities for the Catawba facility.

It is our opinion that this meeting was beneficial and has provided a comprehensive overview of your facility's organization status and goals for the construction and operation at Catawba. The meeting attendance list and handouts are enclosed.

In accordance with Section 2.790 of NRC's "Rules of Practice," Title 10, Code of Federal Regulations, a copy of this letter will be placed in the NRC's Public Document Room.

Should you have any questions concerning this matter, we will be pleased to discuss them.

Sincerely,

/s/ J. P. O'Reilly

James P. O'Reilly
Regional Administrator

Enclosure:
1. Attendance List
2. Catawba Meeting Handouts

cc w/encl:
R. L. Dick, Vice President
- Construction
J. W. Hampton, Station Manager

bcc w/encl: (See page 2)

IE31

NOV 15 1984

bcc w/encl:
James L. Kelley, Chairman
Atomic Safety and Licensing Board
Dr. Paul W. Purdom
Administrative Judge
Dr. Richard F. Foster
Administrative Judge
Robert Guild, Esq.
Palmetto Alliance
Jesse L. Riley
Carolina Environmental Study Group
NRC Resident Inspector
G. Johnson, ELD
Document Control Desk
State of South Carolina

RII	RII	RII
HCDance:jk	VLBrownlee	JAOlshinski
11/13/84	11/13/84	11/13/84

ENCLOSURE 1

Attendance List

Duke Power Company

W. H. Owen, Executive Vice President - Engineering, Construction and Production
H. B. Tucker, Vice President, Nuclear Production
N. A. Rutherford, System Engineer Licensing
R. Sharp, Licensing Engineer
J. W. Hampton, Station Manager

Nuclear Regulatory Commission

N. J. Palladino, Chairman
D. J. Garner, Technical Assistant to Chairman Palladino
J. P. O'Reilly, Regional Administrator
H. C. Dance, Chief, Reactor Projects Section 2A, DRP
P. K. VanDoorn, Senior Resident Inspector, Catawba
P. H. Skinner, Senior Resident Inspector, Catawba

ENCLOSURE 2

1. Catawba Nuclear Station Site Overview and Station Organization Report to Chairman Palladino

2. Catawba Nuclear Station Operations Status Report to NRC Chairman Palladino

3. Catawba Nuclear Station Current Organization Experience

4. Catawba Nuclear Station Remote Shutdown Capabilities to NRC Chairman Palladino

5. Catawba Nuclear Station Diesel Generators Report to Chairman Palladino

6. Overview Main Steam Line Break Superheat Mass Energy Releases

7. Catawba Nuclear Station Report to NRC Chairman Palladino Startup Testing

CATAWBA NUCLEAR STATION

SITE OVERVIEW AND STATION ORGANIZATION

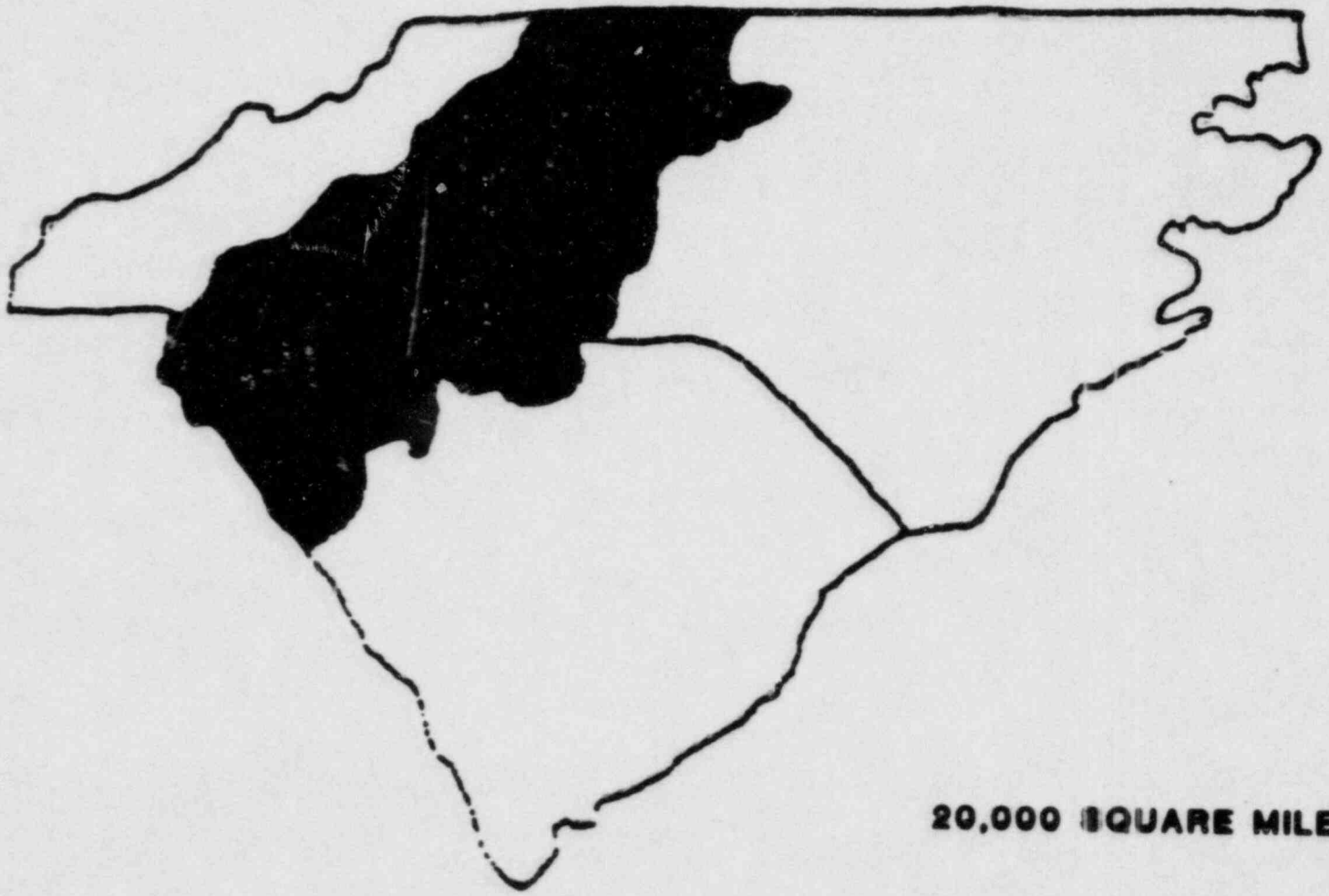
REPORT TO

CHA'RMAN PALLADINO

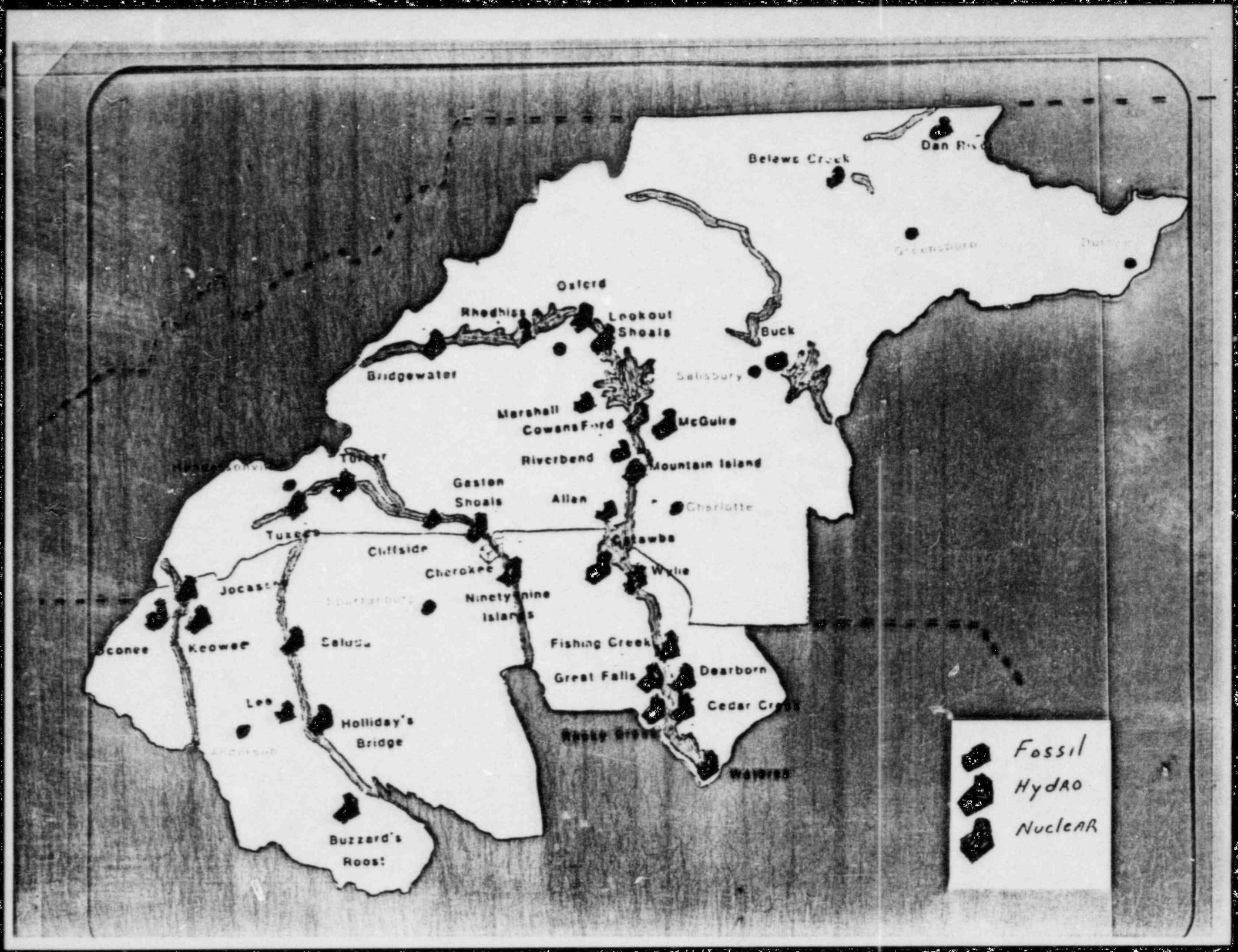
October 26, 1984

J. W. Hampton

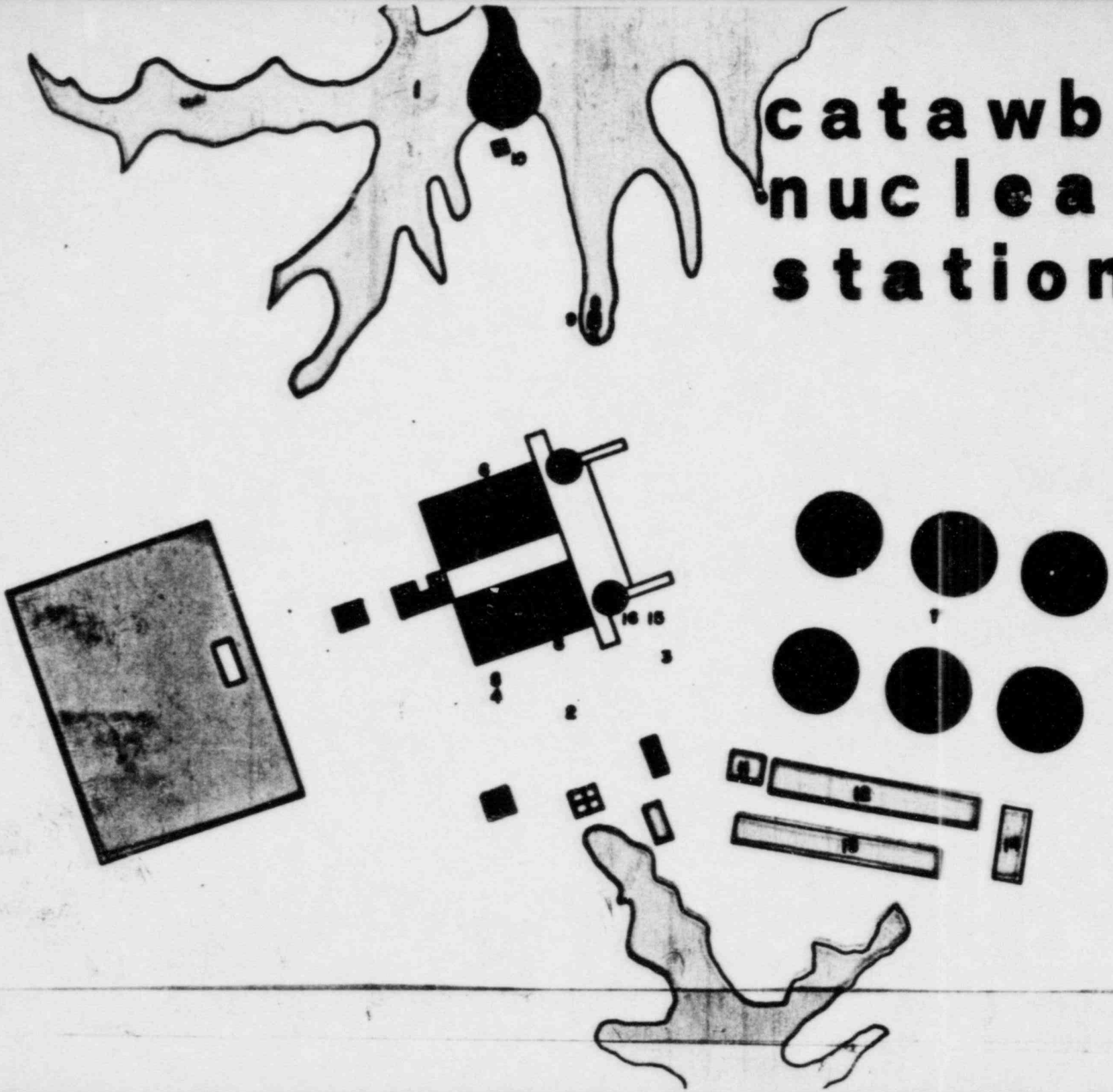
DUKE POWER COMPANY SERVICE AREA



20,000 SQUARE MILES


Belews Creek
Dan River
Greensboro
Durham
Oxford
Rhodhiss
Lookout Shoals
Buck
Bridgewater
Salisbury
Marshall
Cowans Ford
McGuire
Riverbend
Mountain Island
Gaston Shoals
Allen
Charlotte
Tuxedo
Cliffside
Catawba
Cherokee
Wylie
Jocassee
Ninety Nine Islands
Oconee
Keowee
Fishing Creek
Great Falls
Dearborn
Cedar Creek
Lee
Holliday's Bridge
Rocky Creek
Wateree
Buzzard's Roost
Fossil
Hydro
Nuclear

catawba nuclear station



DUKE POWER COMPANY

CATAWBA NUCLEAR STATION

LOCATION: 19 MILES SOUTHWEST OF CHARLOTTE, N.C., 6 MILES NORTH OF ROCK HILL, S.C. IN YORK COUNTY, S.C. ON LAKE WYLIE.

NUMBER OF UNITS: 2

TOTAL FENCED ACRES - 391

PLANT RATING: REACTOR THERMAL OUTPUT, MWT - 3,411 MWT
NET ELECTRICAL OUTPUT, MWE - 1,145 MWE PER UNIT

REACTOR TYPE: PRESSURIZED WATER REACTOR (PWR)

NUCLEAR STEAM SUPPLY SYSTEM MANUFACTURER: WESTINGHOUSE

TURBINE GENERATOR MANUFACTURER: GENERAL ELECTRIC

ENGINEERING: DUKE POWER COMPANY

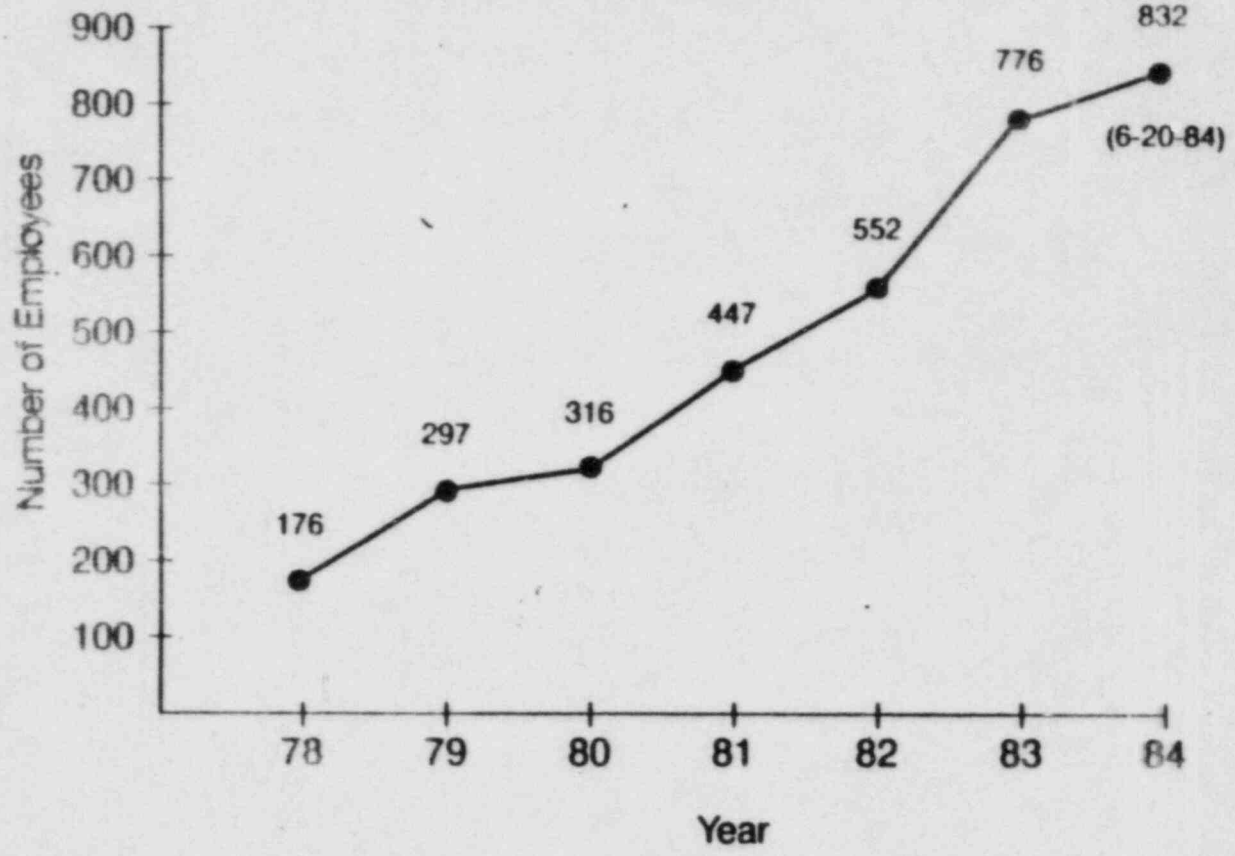
CONSTRUCTION: DUKE POWER COMPANY

DISTINCTIVE FEATURES:

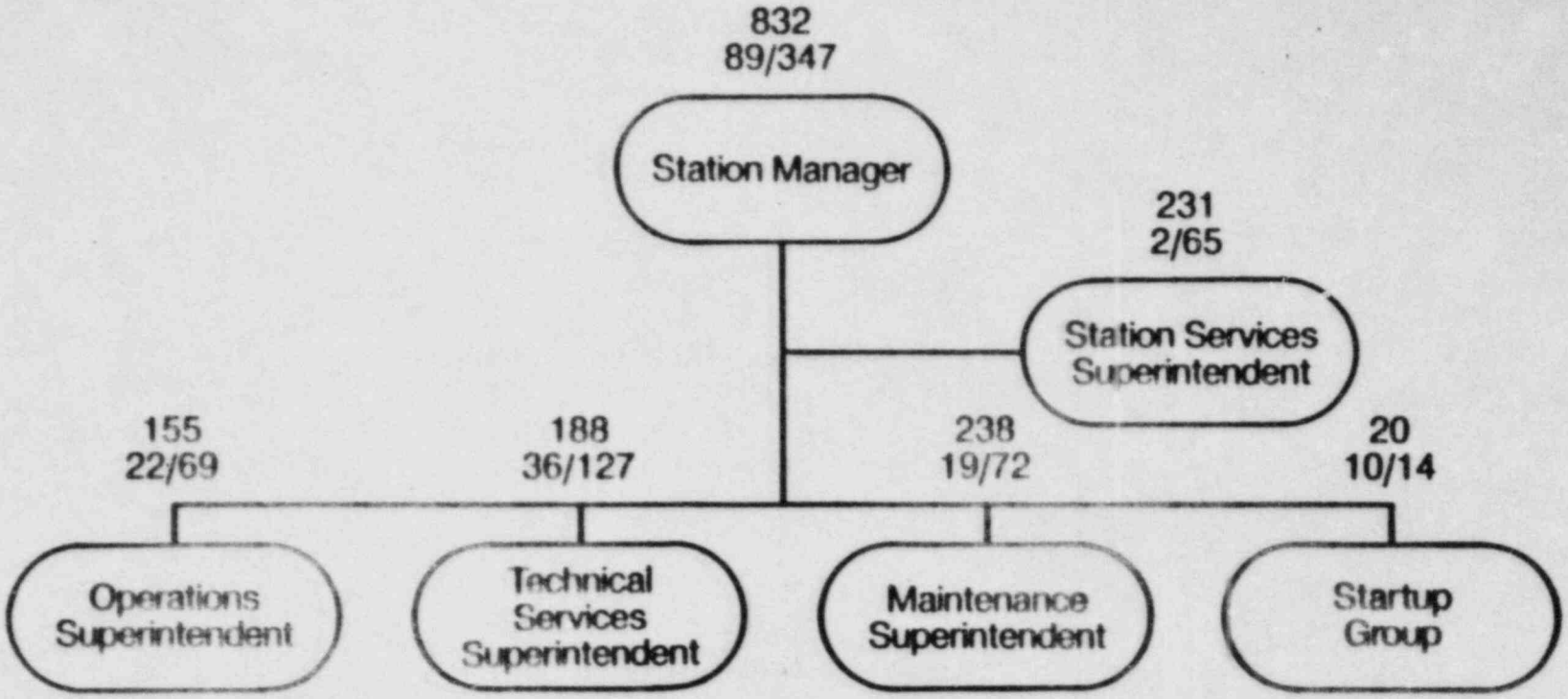
COOLING: MAIN CONDENSERS - TRIPLE PRESSURE, SINGLE PASS CONDENSERS IN A CLOSED CYCLE USING COOLING TOWERS.

CONTAINMENT SYSTEM: FREE-STANDING STEEL STRUCTURE WITH ICE CONDENSER AND A REINFORCED CONCRETE REACTOR BUILDING.

CATAWBA NUCLEAR STATION
STAFFING



SLIDE 2


832
89/347
Station Manager
231
2/65
Station Services Superintendent
155
22/69
188
36/127
238
19/72
20
10/14
Operations Superintendent
Technical Services Superintendent
Maintenance Superintendent
Startup Group

TRAINED AND QUALIFIED PERSONNEL

Years of Experience		
Personnel	Nuclear (DPC)	Nuclear (Navy)
Operations	560	144
Maintenance	852	48
Tech. Serv.	570	22
Startup Group	67	37
Station Serv.	423	6
Totals	2,472	257

Licensed Operators		
Status	SRO	RO
Current	14	8
Projected (End of 1984)	26	16

DUKE POWER COMPANY
CATAWBA NUCLEAR STATION
TRAINING SUMMARY

	BASIC TRNG.[1] TTC/TCS	SYSTEMS TRNG.[2]	OJT MKS & ONS[3]	JOB SPEC. TECH. TRNG.[4]	OTHER[5]	TOTAL TRNG. HOURS[6]
HEALTH PHYSICS	520	208	208	160	145	1,241
INSTRUMENTATION & ELECTRICAL	760	45	119	962	203	2,089
MECHANICAL MAINTENANCE	518	29	257	643	730	2,177
OPERATIONS	1,376	725	972	2,656	106	5,835

CATAWBA NUCLEAR STATION

OPERATIONS STATUS REPORT TO

NRC CHAIRMAN PALLADINO

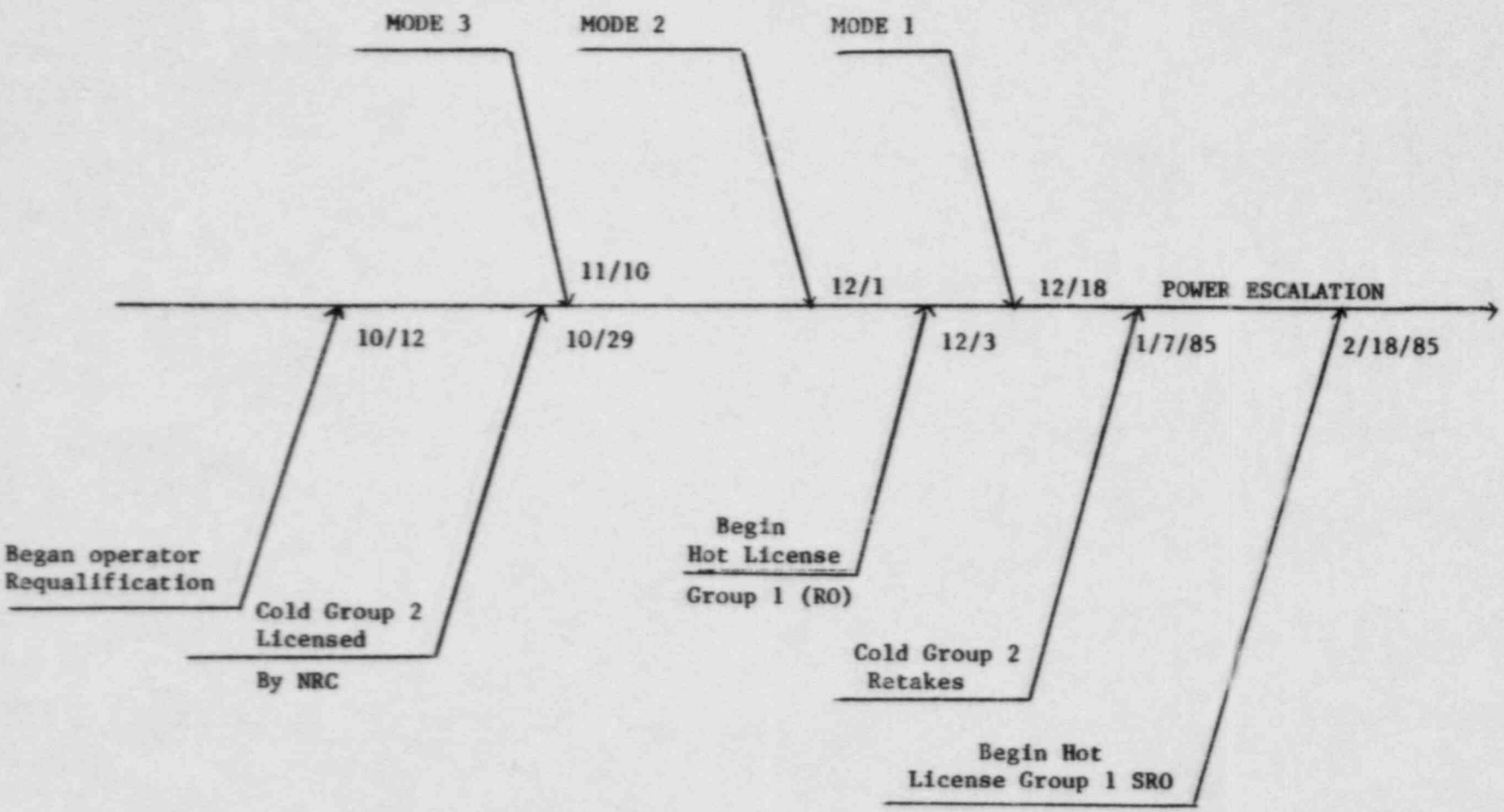
OCTOBER 26, 1984

C. W. GRAVES, JR.

PRESENTATION TOPICS

* CATAWBA MILESTONE SCHEDULE
* OPERATIONS STAFFING
* OPERATOR TRAINING AND LICENSING STATUS

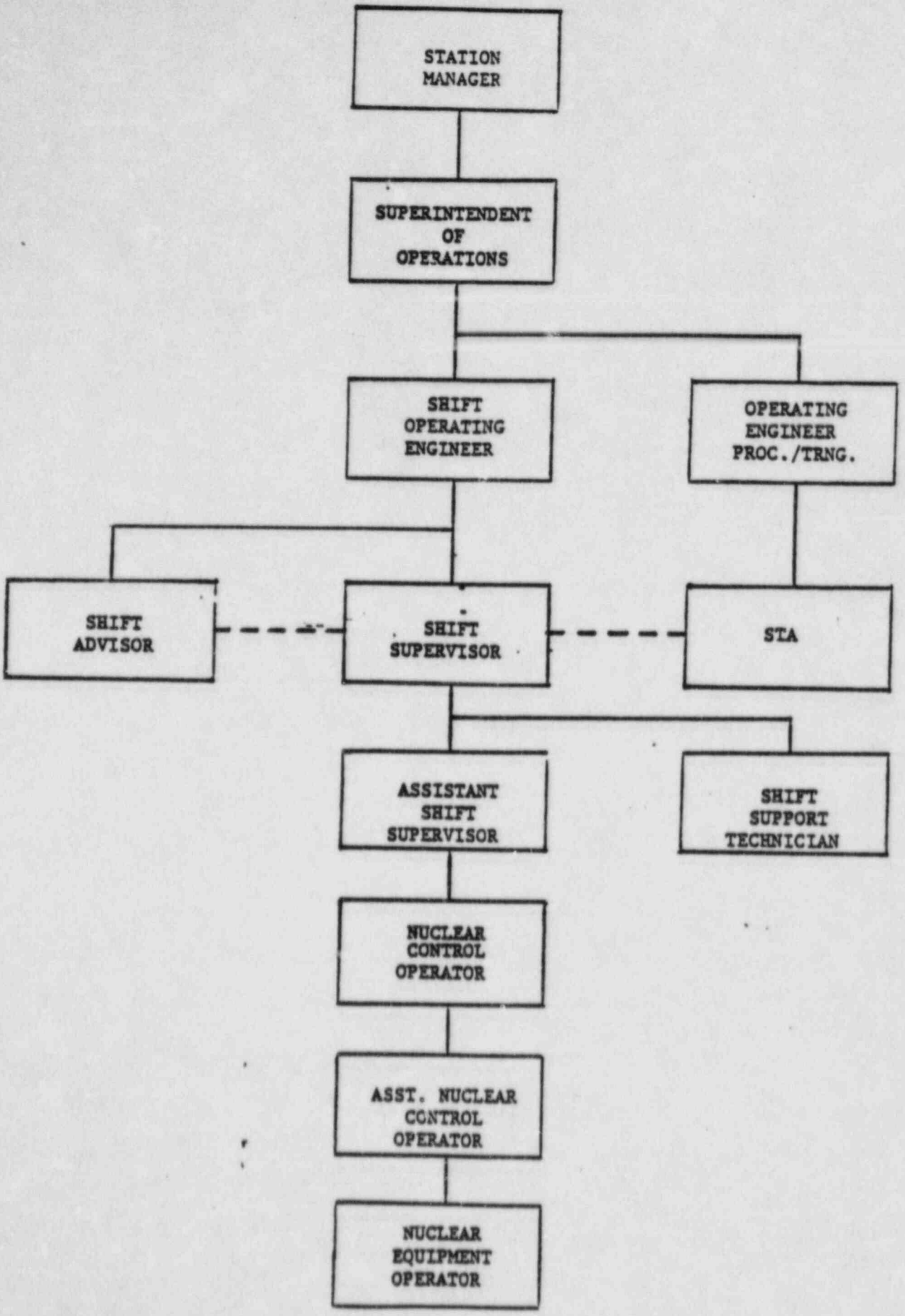
CATAWBA NUCLEAR STATION MILESTONE SCHEDULE

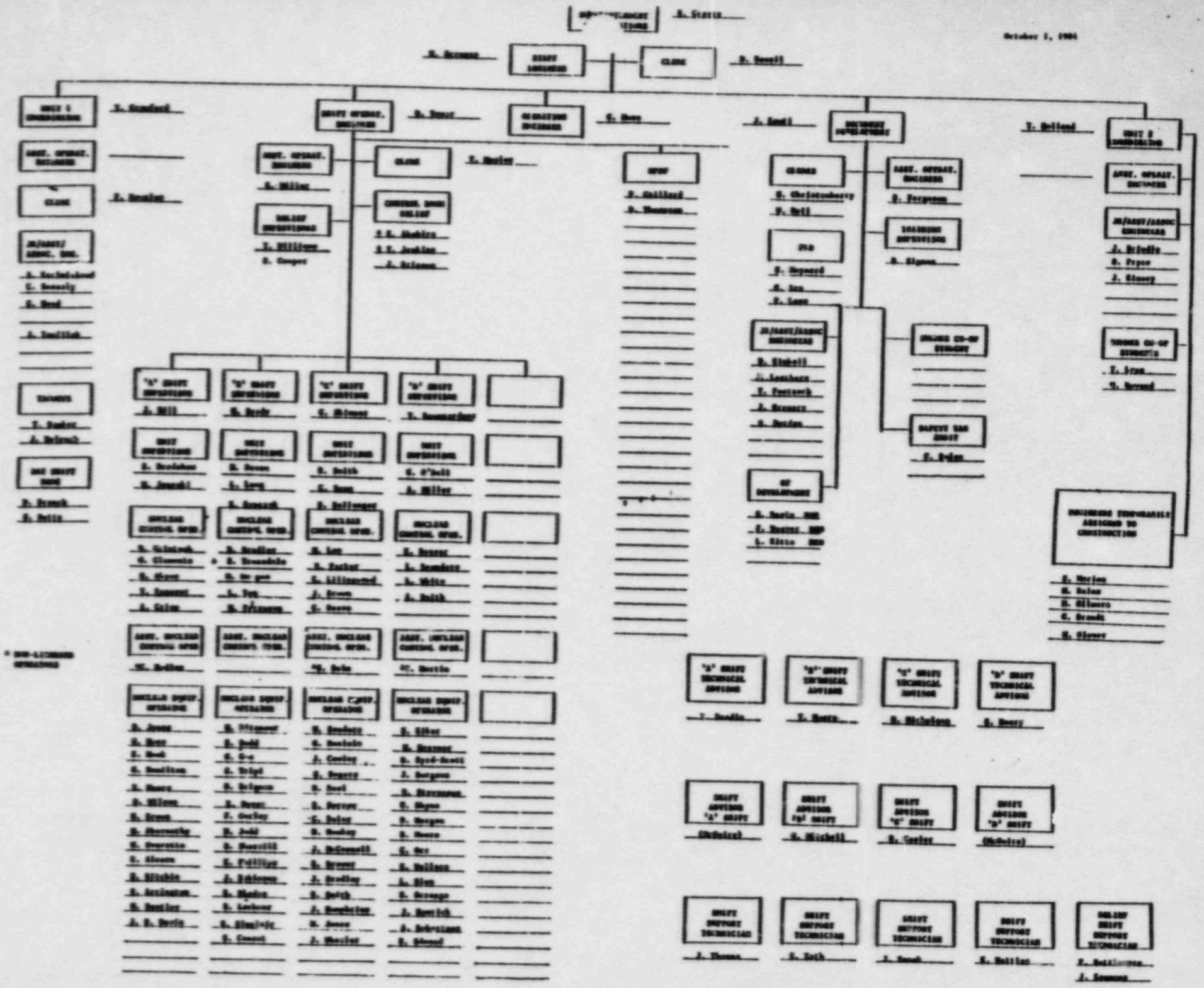


STAFFING LEVEL VS NEED

	AUTHORIZED		CURRENT	
	CATAWBA	McGUIRE	CATAWBA	McGUIRE
SUPERINTENDENT	1	1	1	1
OPERATING ENGR.	4	5	6	5
AST. OPR. ENGR.	5	5	4	4
STAFF ENGR.	1	1	1	0
JR./ASST. ASSOC.	13	9	16	12
SHIFT SUPERVISOR	9	8	7	8
AST. SHIFT SUPV.	21	21	12	15
STA. ENGR.	7	11	7	10
NUCLEAR CONTROL OP.	22	19	20	20
AST. NUC. CONT. OP.	11	11	5	9
NUCLEAR EQUIP. OP.	59	55	67	54
LEARNERS	0	10	1	10
CLERKS	4	5	4	4
SHIFT SUPP. TECH.	6	0	5	5
TEC. ASSOC.	0	1	0	1
SUPPORT TEC.	0	1	0	1
TOTAL	164	163	156	159

CATAWBA NUCLEAR STATION





OPERATOR TRAINING AND LICENSING STATUS

- LICENSE GROUP 1 (26 TOTAL)
  - * WRITTEN EXAMINATION ADMINISTERED MARCH 14, 1984
  - * ORAL EXAMINATION ADMINISTERED ON WEEK OF MAY 7, 1984.
  - * RETAKE EXAMINATIONS WERE COMPLETED JULY 23, 1984
  - * 25 OUT OF 26 LICENSE CANDIDATES PASSED THE EXAMINATIONS

16 SRO'S
9 RO'S
25 TOTAL

LICENSE GROUP 2 (15 TOTAL)

* WRITTEN AND ORAL EXAMINATION ADMINISTERED THE WEEK OF SEPTEMBER 10, 1984.

* RESULTS FROM NRC THE WEEK OF OCTOBER 22, 1984

* 11 OUT OF 15 LICENSE CANDIDATES PASSED THE EXAMINATION

5 SRO'S
6 RO'S
11 TOTAL

* RETAKE EXAMS SCHED'JLED FOR JANUARY 7, 1985

* TOTAL LICENSED PERSONNEL FROM GROUP 1 AND 2

21 SRO'S
15 RO'S
36 TOTAL

FIGURE 10.8.1c

PRODUCTION TRAINING SERVICE TRAINING SEQUENCE FOR CATAWBA NUCLEAR STATION OPERATIONS

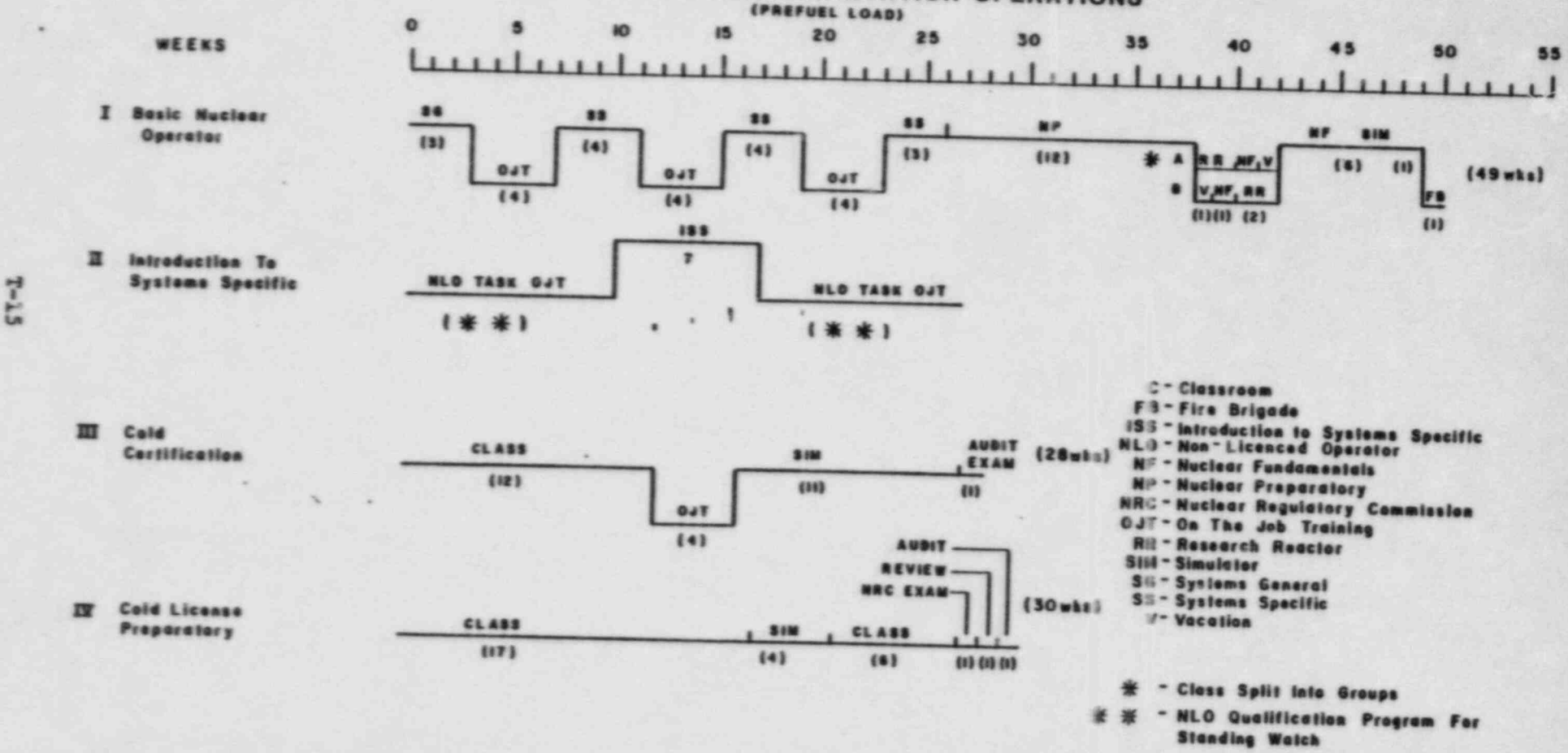
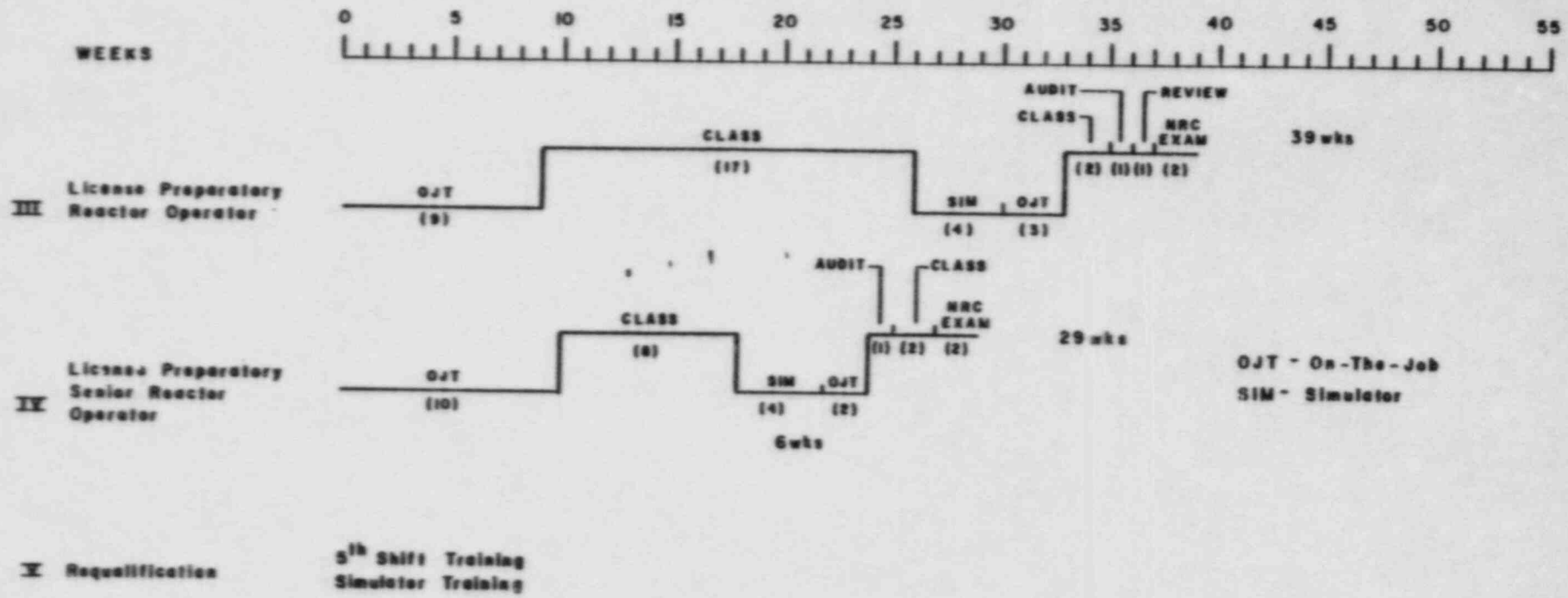


FIGURE 10.6.1d

PRODUCTION TRAINING SERVICE TRAINING SEQUENCE FOR CATAWBA NUCLEAR STATION OPERATIONS

(PROPOSED HOT LICENSE PROGRAM) *



* Will replace cold certification and cold license preparatory when fuel is loaded.

CATAWBA NUCLEAR STATION

OPERATIONS LICENSED OPERATOR STAFFING

POSITION	FUEL LOAD - MODE 5	MODES 1 - 4	
	REQUIREMENTS FOR A TYPICAL SHIFT	REQUIREMENTS FOR A TYPICAL SHIFT	AVAILABLE
SHIFT SUPERVISOR	1	1	1
STA	NONE	1	1
SRO	1	1	1
RO	2	2	2
SHIFT SUPERVISOR/SRO RELIEF	N/A	N/A	2
* STA RELIEF	N/A	N/A	4

* QUALIFIED TO FILL SHIFT SUPERVISOR OR SRO POSITIONS AS WELL.

CATAWBA NUCLEAR STATION
CURRENT ORGANIZATION EXPERIENCE

	MC/ONS/CNS NRC LIC.	TOTAL NUCLEAR EXPERIENCE (YRS)	MONTHS HOT PARTICIPATION	YEARS/DUKE
"A" SHIFT				
J. Hill	SRO	9.0	3.5	8.6
S. Bradshaw	SRO	5.4	3.25	9.5
T. Beadle	SRO	2.7	3.0	6.5
D. McIntosh	RO	4.4	3.0	5.8
G. Clements	RO	4.0	3.25	7.3
B. Harris	SRO	8.6	36.0	13.8
	TOTAL	34.10	52.00	51.50
"B" SHIFT				
M. Brady	SRO	8.1	4.0	13.7
M. Ravan	SRO	7.0	3.0	6.8
T. Moore	SRO	2.3	3.0	5.3
M. Morgan	RO	6.3	3.75	6.8
D. Bradley	RO	4.4	3.25	5.6
G. Mitchell	SRO	11.6	54.0	11.6
	TOTAL	39.70	71.00	49.80
"C" SHIFT				
C. Skinner	SRO	10.0	3.0	9.6
R. Smith	SRO	7.1	2.1	7.1
N. Nicholson	SRO	2.3	3.0	5.3
C. Reese	RO	1.7	3.0	3.3
R. Parker	RO	4.4	3.0	5.6
R. Casler	SRO	11.6	54.0	11.2
	TOTAL	37.10	69.10	42.10
"D" SHIFT				
T. Baumgardner	SRO	7.5	3.5	17.4
C. O'Dell	SRO	6.4	4.0	6.8
R. Henry	SRO	4.8	3.0	4.4
K. Beaver	RO	5.0	3.0	6.0
A. Smith	RO	4.5	3.0	5.6
D. Craig	SRO	8.9	36.0	10.2
	TOTAL	37.10	52.50	50.40
RELIEF/STAFF				
D. Tower	SRO	6.0	1.8	9.4
C. Muse	SRO	8.0	14.0	12.1
B. Ferguson	SRO	2.7	3.0	10.4
J. Brisson	RO	4.8	3.8	6.0
	TOTAL	21.50	22.60	37.90

CATAWBA NUCLEAR STATION

REMOTE SHUTDOWN CAPABILITIES

NRC CHAIRMAN PALLADINO

OCTOBER 26, 1984

D. P. KIMBALL

PRESENTATION TOPICS

- INTRODUCTION - CONTROL HIEARCHY
  - CONTROL ROOM
  - AUXILIARY SHUTDOWN COMPLEX
  - STANDBY SHUTDOWN FACILITY
- DEFINITIONS
  - LOSS OF CONTROL ROOM
  - FUNCTIONS FOR MAINTAINING HOT STANDBY
- SHUTDOWN FLOW CHART
- AUXILIARY SHUTDOWN COMPLEX CAPABILITIES
- STANDBY SHUTDOWN FACILITY CAPABILITIES

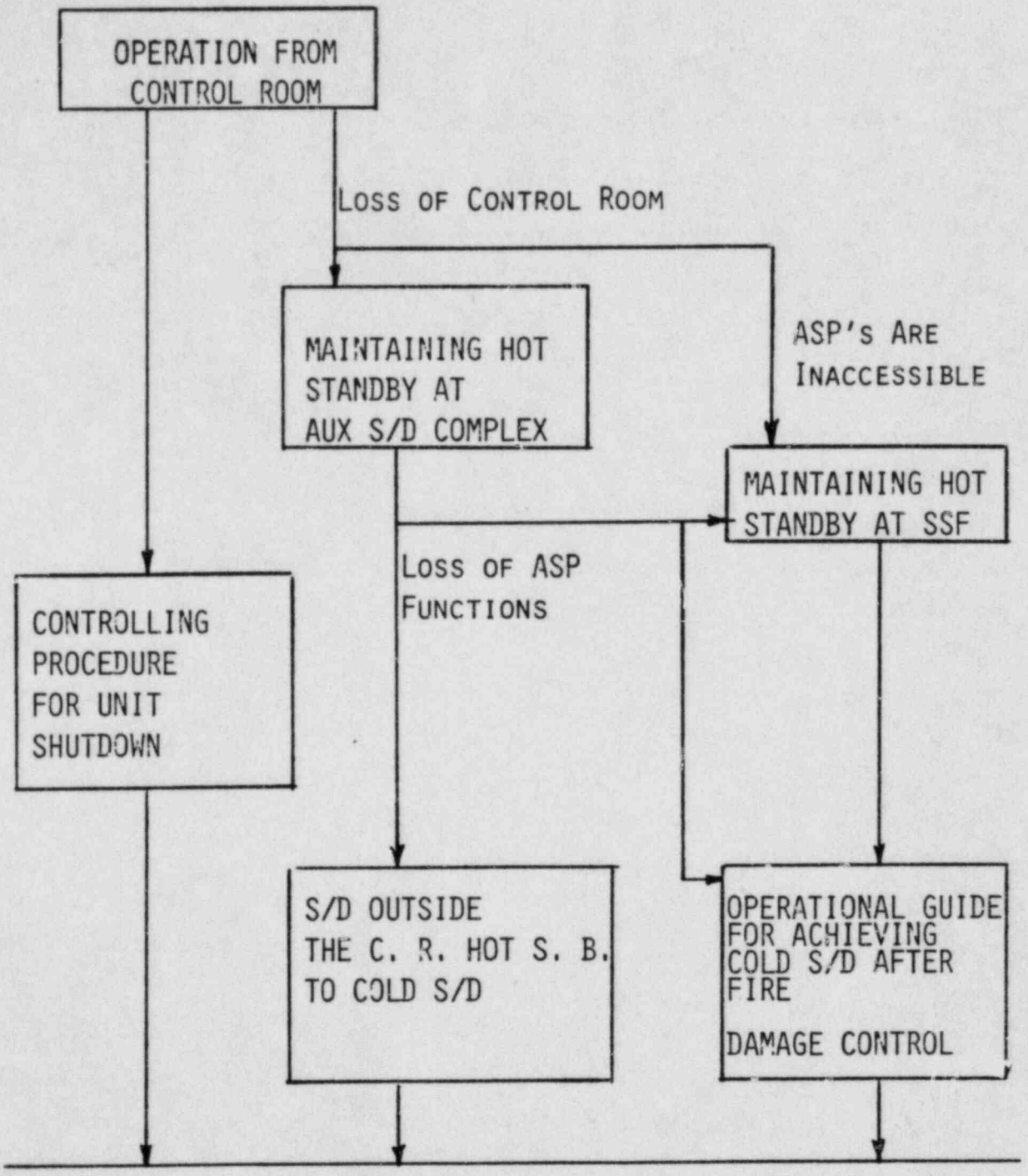
DEFINITIONS

- LOSS OF CONTROL ROOM IS ANY EVENT THAT EITHER
  - RENDERS THE CONTROL ROOM UNINHABITABLE

    OR
  - RENDERS THE CONTROL ROOM INCAPABLE OF MAINTAINING HOT STANDBY

- MAINTAINING HOT STANDBY REQUIRES THE ABILITY TO MAINTAIN
  - PRIMARY SIDE INVENTORY
  - PRIMARY SIDE CIRCULATION
  - SECONDARY SIDE INVENTORY
  - HEAT REMOVAL CAPABILITY

SHUTDOWN FLOW CHART



AUXILIARY SHUTDOWN COMPLEX

- CAPABILITY
  - ACHIEVE AND MAINTAIN HOT STANDBY FROM ANY CONDITION
  - TAKE THE PLANT TO COLD SHUTDOWN
- CONTROL LOCATIONS
  - AUXILIARY SHUTDOWN PANELS
  - AUXILIARY FEEDWATER PUMP TURBINE CONTROL PANEL
  - DIESEL GENERATOR CONTROL PANELS
  - MISCELLANEOUS VALVES AND EQUIPMENT LOCATED THROUGHOUT THE PLANT IN THE FOLLOWING SYSTEMS
    - REACTOR COOLANT
    - CHEMICAL AND VOLUME CONTROL
    - RESIDUAL HEAT REMOVAL

- CONTROL FROM THE AUXILIARY SHUTDOWN COMPLEX IS GAINED BY TAKING SWITCHES ON THE LOCAL PANELS TO THE LOCAL POSITION

- ONCE THESE SWITCHES ARE TAKEN TO LOCAL, ANY FAILURE OF CONTROL ROOM CONTROLS WILL NOT AFFECT AUXILIARY SHUTDOWN COMPLEX CAPABILITIES

- CONTROLS ON AUXILIARY SHUTDOWN PANELS THAT PROVIDE CAPABILITY TO MAINTAIN HOT STANDBY

  - AUXILIARY FEEDWATER PUMPS FOR SECONDARY INVENTORY

  - STEAM GENERATOR POWER OPERATED RELIEFS FOR HEAT REMOVAL

  - CENTRIFUGAL CHARGING PUMPS AND BORIC ACID PUMPS FOR MAKEUP AND PRIMARY INVENTORY CONTROL

  - NORMAL AND EXCESS LETDOWN

  - PRESSURIZER COMPONENTS FOR PRESSURE CONTROL

    - POWER OPERATED RELIEFS

    - HEATERS

    - SPRAY VALVES

  - LOOP TEMPERATURE INDICATIONS

- ADDITIONAL CONTROLS ON AUXILIARY SHUTDOWN PANELS THAT PROVIDE THE CAPABILITY TO GO TO COLD SHUTDOWN
  - RESIDUAL HEAT REMOVAL PUMPS AND VALVES
  - COMPONENT COOLING PUMPS AND VALVES
  - NUCLEAR SERVICE WATER PUMPS

STANDBY SHUTDOWN FACILITY (SSF)

- CAPABILITY
  - ALTERNATE AND INDEPENDENT MEANS TO ACHIEVE AND MAINTAIN HOT STANDBY FOLLOWING A FIRE OR SECURITY EVENT
  - MAINTAIN HOT STANDBY FOR A MINIMUM OF 3½ DAYS
  - PROVIDE IT'S OWN SOURCE OF AC (DIESEL GENERATOR) AND DC (BATTERIES) POWER
- CONTROL FROM THE STANDBY SHUTDOWN FACILITY IS GAINED BY
  - TRANSFER OF AN ESSENTIAL MOTOR CONTROL CENTER TO SSF POWER
  - REPOSITIONING TWO MULTI-PIN CONNECTORS TO THE "SSF CONTROL" POSITION

- TRANSFERRING TO SSF CONTROL WILL AUTOMATICALLY ISOLATE
  - ALL FOUR STEAM GENERATORS BY CLOSING
    - MAIN STEAM ISOLATIONS
    - MAIN FEED ISOLATION BYPASSES
    - BLOWDOWN VALVES
    - STEAM GENERATOR PORV'S
  - THE REACTOR COOLANT SYSTEM BY CLOSING
    - PRESSURIZER PORV'S
    - PRESSURIZER SPRAY VALVES
    - SAMPLE VALVES
    - LETDOWN VALVES

- CONTROLS AT THE STANDBY SHUTDOWN FACILITY THAT PROVIDE THE CAPABILITY TO MAINTAIN HOT STANDBY
  - AUXILIARY FEEDWATER TURBINE DRIVEN PUMP FOR SECONDARY INVENTORY
  - STEAM GENERATOR SAFETIES FOR HEAT REMOVAL
  - STANDBY MAKEUP PUMP FOR PRIMARY MAKEUP AND REACTOR COOLANTY PUMP SEAL WATER
  - REACTOR VESSEL HEAD VENTS FOR PRIMARY INVENTORY CONTROL
  - PRESSURIZER HEATERS FOR PRESSURE CONTROL
  - CORE EXIT AND T-COLD TEMPERATURE INDICATION

- PROCEDURES ARE IN PLACE THAT WILL TAKE THE PLANT TO COLD SHUTDOWN FROM THE STANDBY SHUTDOWN FACILITY USING LOCAL MANUAL CONTROL OF THE FOLLOWING SYSTEMS
  - REACTOR COOLANT SAMPLING
  - CHEMICAL AND VOLUME CONTROL
  - COMPONENT COOLING
  - NUCLEAR SERVICE WATER
  - RESIDUAL HEAT REMOVAL
- THESE PROCEDURES CAN ALSO BE USED FOR DAMAGE CONTROL WHILE OPERATING FROM LOCATIONS OTHER THAN THE STANDBY SHUTDOWN FACILITY

CATAWBA NUCLEAR STATION

DIESEL GENERATORS

REPORT TO

CHAIRMAN PALLADINO

OCTOBER 26, 1984

W. W. McCOLLOUGH

TDI ENGINE PROGRAM TIMETABLE

August 1983	Shoreham failure
March 1984	1A Extended run completed (>800 hrs.)
April - July 1984	1A Inspected
July 1984	1B Extended run completed (>750 hrs.)
July - September 1984	1B Inspected
August 1984	1A Tested for return-to-service
September - October 1984	1B Tested for return-to-service

ACTIONS RESULTING FROM INSPECTION PROGRAM

1. Operating procedure changes to limit load.

2. Replaced suspect components.

   a. Weld repaired cylinder heads.

   b. Push rods.

   c. Type AN piston skirts.

3. Modify turbocharger prelube system and turbocharger to intercooler connections.

4. Increase Operating and Maintenance surveillance.

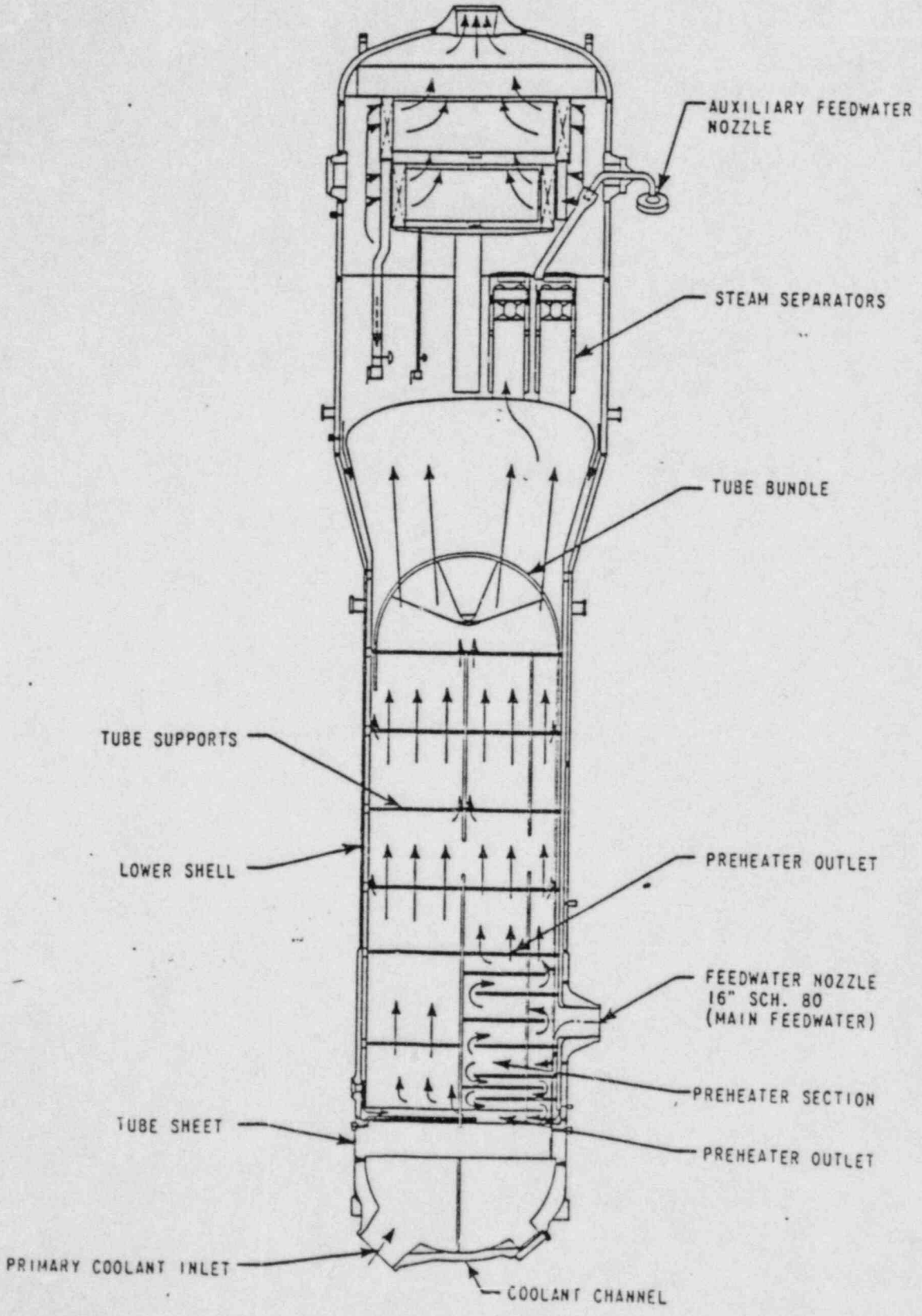
5. Rewriting purchase specifications to require increased Q.A. inspections.

OVERVIEW

MAIN STEAM LINE BREAK

SUPERHEAT MASS ENERGY RELEASES

- ISSUE FIRST IDENTIFIED BY NRC/CSB REVIEW OF WESTINGHOUSE MSLB METHODOLOGY
- SUPERHEAT ADDITION CAUSED BY SG TUBE BUNDLE UNCOVERY DURING MSLB
- POTENTIAL IMPACT ON EQ ANALYSIS INSIDE AND OUTSIDE CONTAINMENT


AUXILIARY FEEDWATER NOZZLE
STEAM SEPARATORS
TUBE BUNDLE
TUBE SUPPORTS
LOWER SHELL
PREHEATER OUTLET
FEEDWATER NOZZLE 16" SCH. 80 (MAIN FEEDWATER)
PREHEATER SECTION
TUBE SHEET
PREHEATER OUTLET
PRIMARY COOLANT INLET
COOLANT CHANNEL

CATAWBA NUCLEAR STATION

MSLB IN CONTAINMENT

CHRONOLOGY

December, 1982	-NRC/CSB Draft SER for Catawba required additional analysis to address the effects of steam generator tube bundle uncovery
March 19, 1984	-Duke, Westinghouse, and NRC Staff met to discuss results of W analysis
March 28, 1984	-Proposed plan for resolution submitted
July 20, 1984	-Duke, TVA, Westinghouse and NRC Staff met to discuss reanalysis of MSLB's inside and outside containment
August 22, 1984 September 25, 1984	-NRC Staff and Consultants visit to Catawba
September 14, 1984	-Duke, Westinghouse, NRC Staff meeting to discuss results of reanalysis
October 8, 1984	-Justification for Interim Operation (JIO) submitted
October 23, 1984	-NRC Staff and Consultants visit Catawba

MSLB INSIDE CONTAINMENT

MITIGATING FEATURES

- PRELIMINARY FRACTURE MECHANICS EVALUATION CONCLUDED THAT THE MAXIMUM CRACK OPENING AREA FOR MSLB WOULD NOT RESULT IN TUBE BUNDLE UNCOVERY

- ICE CONDENSER DRAINS ACT AS SPRAY HEADER TO REDUCE LOWER COMPARTMENT TEMPERATURE

- MOST SAFETY-RELATED EQUIPMENT IN THE LOWER CONTAINMENT IS LOCATED IN DEAD-ENDED COMPARTMENTS

MSLB INSIDE CONTAINMENT

PROPOSED RESOLUTION

- CONTAINMENT ANALYSIS REVISED TO INCLUDE:
  - -SUPER HEAT FOLLOWING TUBE BUNDLE UNCOVERY
  - -ICE CONDENSER DRAINS

- PEAK CONTAINMENT TEMPERATURE IS BELOW ORIGINAL FSAR ANALYSIS

- REVIEW OF EQUIPMENT IN LOWER CONTAINMENT DEMONSTRATED THAT REQUIRED SAFETY FUNCTIONS WOULD BE COMPLETED EVEN IF QUALIFICATION TEMPERATURE WERE EXCEEDED

- WESTINGHOUSE PERFORMING FULL SCALE DRAIN FLOW TESTS

- WESTINGHOUSE TO PERFORM A MULTI-NODE CONTAINMENT ANALYSIS

CATAWBA NUCLEAR STATION

MSLB IN DOGHOUSE

CHRONOLOGY

May 11, 1984	-Impact of revised MSLB on Doghouse identified
June 8, 1984	-Reported to Region II under 50.55e
July 9, 1984	-Preliminary 50.50e report submitted
September 4, 1984	-Final 50.55e report - concluded that plant safety would not be adversely affected by MSLB in the Doghouse
September 28, 1984	-Duke, Westinghouse, NRC Staff meeting to discuss results of reanalysis
October 8, 1984	-Justification for Interim Operation (JIO) submitted

MSLB OUTSIDE CONTAINMENT

MITIGATING FEATURES

- PRELIMINARY FRACTURE MECHANICS EVALUATION CONCLUDED THAT THE MAXIMUM CRACK OPENING AREA FOR MSLB WOULD NOT RESULT IN TUBE BUNDLE UNCOVERY

- MAIN STEAM LINE PIPING INSIDE THE DOGHOUSE IS CONSIDERED A "BREAK EXCLUSION AREA" IN ACCORDANCE WITH SRP SECTION 6.6

MSLB OUTSIDE CONTAINMENT

PROPOSED RESOLUTION

- ANALYSIS DEMONSTRATED THAT ALL SAFETY FUNCTIONS REQUIRED TO MITIGATE THE MSLB WOULD BE COMPLETED PRIOR TO THE DOGHOUSE TEMPERATURE EXCEEDING THE QUALIFICATION TEMPERATURE OF THE EQUIPMENT IN THE DOGHOUSE

- ANALYSIS CONCLUDED THAT VALVES WOULD NOT CHANGE POSITION AS A RESULT OF THE QUALIFICATION TEMPERATURE BEING EXCEEDED

CATAWBA NUCLEAR STATION

REPORT TO NRC CHAIRMAN PALLADINO

STARTUP TESTING

October 26, 1984
J. W. Cox

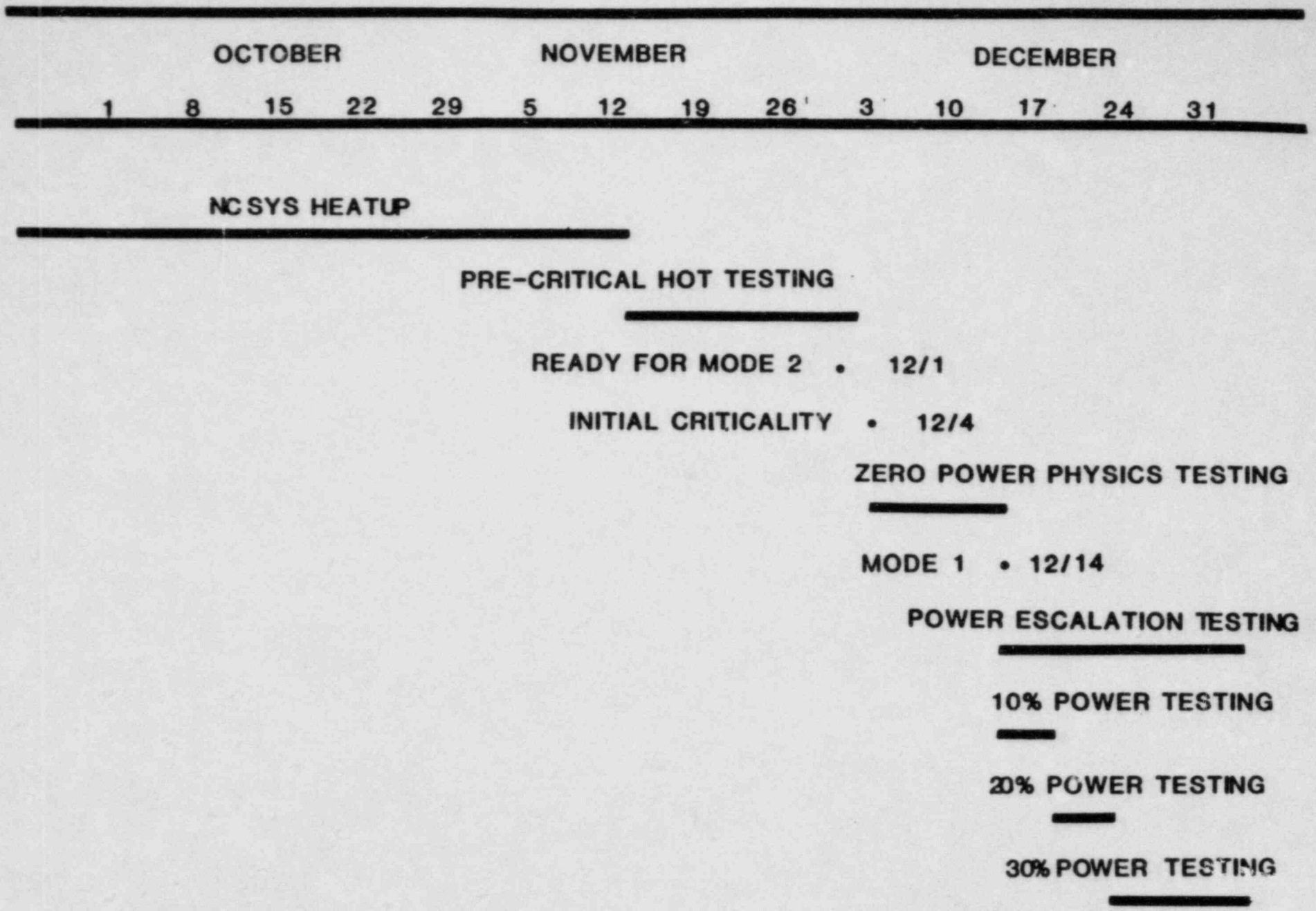
CATAWBA NUCLEAR STATION

UNIT #1

TESTING MILESTONE TARGETS

. Steam Generator Hydrostatic Test	April 1983	(A)
. reactor Coolant System Hydrostatic Test	June 1983	(A)
. Hot Functional Testing	Nov. - Dec. 1983	(A)
. Containment Integrated Leak Rate Testing	January 1984	(A)
. License Issuance	July 1984	(A)
. Fuel Loading Complete	July 1984	(A)
. Mode 5	August 1984	(A)
. Mode 4 (> 200°F)	September 1984	(A)
. Mode 3 (> 350°F)	November 1984	
. Mode 2 (Initial Criticality)	December 1984	
. Mode 1 (> 5% Power)	December 1984	
. 100% Power	March 1985	

CATAWBA NUCLEAR STATION UNIT 1 POST-FUEL LOAD MAJOR EVENTS SUMMARY



10/25/84 RLS

PRECRITICAL HOT TESTING

- Containment Air Release and Addition Test
- Thermal Expansion Test
- Auxiliary Feedwater Pump Test
- Incore T/C and RTD Cross Calibration
- Reactor Coolant System Leak Test
- Moveable Incore Detector Test
- Pressurizer Functional Test
- Reactor Coolant System Flow Test
- Rod Drive Timing (Hot)
- Rod Drop Time Measurement (Hot)
- Reactor Coolant System Flow Coastdown Test
- Rod Position Indication Test
- Control Rod Alignment Test

ZERO POWER PHYSICS TESTING

- UNIT LOAD STEADY STATE
- PROCESS AND EFFLUENT MONITOR TEST
- NUCLEAR INSTRUMENTATION CALIBRATION
- BIOLOGICAL SHIELD SURVEY
- BORON ENDPOINT MEASUREMENT
- TEMPERATURE COEFFICIENT MEASUREMENT
- CORE POWER DISTRIBUTION
- ROD WORTH MEASUREMENT
- STUCK ROD WORTH MEASUREMENT
- PSEUDO ROD EJECTION TEST
- NATURAL CIRCULATION TEST

POWER ESCALATION TESTING

5% POWER

- Initial Turbine Synchronization
- Steam Dump Checkout

20% POWER

- Steam Generator Water Hammer Test
- Nuclear Instrumentation Calibration
- Unit Load Steady State Test
- NSSS Thermal Power Output Test
- Station Blackout Test
- Loss of Control Room Test

30% POWER

- NSSS Thermal Output Test
- Unit Load Steady State Test
- Biological Shield Survey Test
- Nuclear Instrumentation Calibration
- Rod Control System At Power Test
- Pressurizer Level Control Test
- Core Power Distribution Test
- Pseudo Ejected Rod Test
- Doppler Only Power Coefficient Test
- Unit Load Transient Test

POWER ESCALATION TESTING

50% POWER

- Support System Verification Test
- Biological Shield Survey
- Unit Load Steady State Test
- Nuclear Instrumentation Calibration
- NSSS Thermal Output Power Test
- Process and Effluent Monitor Test
- Core Power Distribution Test
- Below Bank Rod Test
- Doppler Only Power Coefficient Test
- Unit Load Transient Test

75% POWER

- Turbine Trip Test (68%)
- Biological Shield Survey
- Post Transient Survey
- Unit Load Steady State Test
- NSSS Thermal Output Test
- Nuclear Instrumentation Calibration
- Core Power Distribution Test
- Doppler Only Power Coefficient Test
- Unit Load Transient Test

POWER ESCALATION TESTING

90% POWER

- Unit Load Steady State Test
- NSSS Thermal Output Test
- Nuclear Instrumentation Calibration
- Core Power Distribution Test
- Feedwater Temperature Test
- Doppler Only Power Coefficient Test

100% POWER

- Support System Verification Test
- Biological Shield Survey
- NSSS Thermal Output
- Process and Effluent Monitor Test
- Nuclear Instrumentation System Calibration
- Unit Load Steady State Test
- Core Power Distribution Test
- Unit Load Transient Test
- Large Load Rejection Test
- Unit Loss of Electrical Load Test
- Post Transient Survey
- Reactor Coolant System Precision Flow Measurement Test

CATAWBA NUCLEAR STATION

UNIT #2

TESTING MILESTONE TARGETS

. Steam Generator Hydrostatic Test	October 1984
. Reactor Coolant System Hydrostatic Test	February 1985
. Hot Functional Testing	May 1985
. Containment Integrated Leak Rate Test	July 1985
. Fuel Loading	November 1985
. 100% Power	July 1986