BOSTON EDISON COMPANY

PILGRIM NUCLEAR POWER STATION

Power Ascension Program

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POWER ASCENSION PROGRAM

Table of Contents

			Page
I.		Introduction	1
II.		Power Ascension Logic Plan	2
	A.	Bases for Logic Plan	2
	B.	Summary Description of Power Ascension	5
III.		Management Assessment Points and NRC Approval Points	9
	A.	Sources of Assessment Point and Approval Point Requirements	9
	B.	Description of Power Ascension Assessment Points	10
	C.	Description of Approval Points	17
IV.		Startup Organization	19
	A.	Operations Section	19
	B.	Post-Refueling/Modification Outage Test Organization	20
	C.	Nuclear Organization Support for Operations	21
	D.	Oversight and Assessment Team	21
V.		Management Assessment Process	22
	A.	Readiness Assessment for Initial Criticality	22
	B.	Oversight and Assessment of Power Ascension	23
	C.	Performance Assessments at Assessment Points	25

D. Assessment During Normal Operation/Observation Periods 28

Glossary of Acronyms 29

Figure 1

Figure 2

Figure 3

I. Introduction

This document describes the Power Ascension Program for the restart of Pilgrim Nuclear Power Station (PNPS) from the current outage (RFO-7). The Power Ascension Program is the final phase of the PNPS Restart Plan and is the mechanism by which Boston Edison will demonstrate the effectiveness of its programs, plans and actions. This program description should be read in conjunction with the Restart Plan, dated July 30, 1987 and the Readiness for Restart Self Assessment report dated May 26, 1988, to understand the scope of programs, plans and actions undertaken by Boston Edison to assure safe and reliable restart and continued operation.

The program description is organized to describe the Power Ascension Program in the following sequence:

- Logic Plan
- Management Assessment Points and NRC Approval Points
- Startup Organization
- Management Assessment Process

The management assessment description includes the mechanism for Boston Edison's process for confirming readiness for intial criticality and for oversight and assessment during power ascension. This assessment process includes close monitoring and evaluation of personnel and plant performance by Boston Edison nuclear managers, with personal observation by senior nuclear managers.

II. Power Ascension Logic Plan

Boston Edison has developed a power ascension logic plan for the testing, restart and power ascension from RFO-7. The bases for this logic plan and the sequence of power ascension steps and associated tests are described in this section. The management assessment process, including the management Assessment Points, is integrated into the logic plan.

A. Bases for Logic Plan

The power ascension logic plan is based on and complies with the PNPS Technical Specifications. In addition, the plan considers prior power ascension experience at PNPS, specific testing requirements for the work accomplished in RFO-7, personnel and equipment performance evaluation, Nuclear Regulatory Commission (NRC) Approval Points and prior relevant nuclear industry experience.

Both testing and training will be conducted primarily at four test condition power levels. Three intermediate test condition power levels are nominally within plus or minus 5% of power level at 25, 50 and 75%. The fourth test condition power level is 95 to 100%.

Power ascension experience from prior PNPS refueling outages is incorporated into the power ascension logic plan. The plan is similar to the sequence of power ascension that was proven successful in RFO-6. In addition, checklists for plant operational condition changes, which were first used to track the completion of designated RFO-6 milestones leading to restart during the recirculation pipe

replacement work, have been expanded and refined for use during the approach to criticality and during RFO-7 power ascension.

Several specific hardware performance problems led directly to the plant shutdown that resulted in RFO-7. Therefore, in the course of power ascension, special tests will be conducted to verify proper operation of that hardware under certain plant operating conditions. These special tests are to confirm:

(1) the main steam isolation valves' ability to open with normal differential pressure across them;

(2) the adequacy of the monitoring method and procedure in the event of leakage from the reactor to low pressure portions of the Residual Heat Removal System; and

(3) that main steam isolation valves remain open during reactor depressurization after the mode switch has been shifted from "Run" to "Startup".

An additional test unique to this startup is a shutdown-from-outside-the-Control Room which will be conducted after successful performance of the three special tests.

The power ascension program includes management assessment periods at each test condition power level. Each assessment period ends in an Assessment Point, during which management can systematically review earlier performance evaluation results, assure itself that corrective actions taken as a result of performance evaluations have been effective, and determine that the plant and its staff are ready to proceed with a period of normal operation/observation with the level of supervision and oversight more typical of that which will be in place during normal operations.

These normal operation and observation periods will include reactivity changes and plant evolutions as appropriate for new operator required training, for establishing proficiency and familiarity with plant characteristics during steady state operations, for additional confirmation of satisfactory equipment operation, and for self assessment of performance.

The process for conducting performance evaluations of PNPS personnel and equipment and the process for performing management assessments of the results of those performance evaluations at each Assessment Point and subsequent normal operation/observation periods, are described in Section V.

In response to the NRC request in the August 27, 1986 letter on the subject of Confirmatory Action Letter (CAL) 86-10, Boston Edison proposes five NRC Approval Points, each of which require oral approval from NRC Region I for continuation of the power ascension. These Approval Points are described in Section III.

Finally, Boston Edison has continued to consider prior relevant nuclear industry experience with restart and power ascension programs. Boston Edison also has considered the specific plant circumstances under which other restart and power ascension programs were developed and conducted, to distinguish those features in other plants' programs which should apply to PNPS restart from those features which were plant-specific and should not apply.

B. Summary Description of Power Ascension

A sequence of power ascension steps and associated tests brings the plant from approach-to-criticality to 100% power. This sequence is depicted in Figures 1 and 2. Figure 1 is a diagram of the testing, training, assessment and power ascension step.

A portable auxiliary boiler has been successfully used to perform HPCI and RCIC testing at 150 psig. HPCI and RCIC overspeed tests satisfactorily completed using the auxiliary boiler have been deleted from the initial power ascension sequence depicted in Figure 1. Figure 2 is a plot of approximate power levels during the specified tests, assessments, operator proficiency periods and training.

As illustrated in Figure 1, the PNPS reactor will be taken critical following Boston Edison and NRC approval of restart. As the plant is slowly heated and pressure is increasing, a number of routine startup tests and checks of plant equipment and special operator training will be conducted. Some of these tests, instrument calibrations, and checks are indicated in Figure 1.

During initial reactor heatup, the main steam isolation valves will be tested to verify that they open with normal differential pressure across the valves. This test is designed to verify correction of one of the plant hardware problems addressed in CAL 86-10.

Beginning with initial reactor heatup and continuing throughout the power ascension, Boston Edison will monitor the low pressure portions of the Residual Heat Removal system for in-leakage from the reactor. This action addresses a second hardware problem from CAL 86-10.

The reactor will be operated below 5% for plant system tightness and system operability verification under hot plant conditions and for portions of the Special Post Startup Training Program prior to requesting NRC approval to proceed to the next higher power test condition for programmed testing.

At approximately 25% reactor power, Boston Edison will initiate a normal shutdown, shift the mode switch to "Startup" and decrease reactor pressure to about 800 psig to confirm that the main steam isolation valves remain open during reactor depressurization after the mode switch is shifted from "Run" to "Startup". This test addresses the third problem addressed in CA 86-10.

Following successful completion of testing and after Management Assessment Point 1, Boston Edison will conduct approximately thirty days of normal operation for observation, for new operator required training, for establishing proficiency and familiarity with plant characteristics during normal plant operations, and for additional self assessment.

After completion of the normal operation/observation period, followed by NRC approval to raise power level above the 25% power test condition, the required shutdown-from-outside-the Control Room-test will be conducted.

Following recovery from the shutdown test, the scram setpoint will be raised to the 70% power level and reactor power will be gradually increased to approximately 50% as normal testing and calibration are conducted. Boston Edison management will again assess performance of the plant and personnel at this point, followed by a second normal

operation/observation period for new operator required training, for enhancing operator proficiency and familiarity with plant characteristics, and for self assessment.

Following NRC approval to go above the 50% power test condition, the scram setpoint will be raised to the 95% power level to permit the reactor to be brought to approximately 75% power. During this time, reactor engineering tests comparable to those performed at the 50% power test condition, as well as turbine valve tests and main steam isolation valve tests, will be conducted. Boston Edison management will assess the performance of the plant and personnel at this point, followed by a third normal operation/observation period for new operator required training, for enhancing proficiency, and familiarity with plant characteristics and for self assessment, before permitting the power ascension to continue. Upon satisfactory completion of testing at the 75% power test condition, and when management confirms that operator training requirements have been met satisfactorily, operating crews may make the transition from a four to a six section watch rotation.

Following NRC approval to go above the 75% power test condition, the scram setpoint will be raised to its normal 120% level and the reactor will be brought to approximately 100% power. Routine reactor engineering tests will be conducted at this power level to complete the power ascension process. Boston Edison management will assess the performance of the plant and personnel, confirming satisfactory completion of the Power Ascension Program and the effectiveness of the

programs, plans and actions for continued operation. This assessment will be followed by the fourth period of normal operation/observation.

This sequence of restart tests for startup from RFO-7 is documented in PNPS Nuclear Operations Department Temporary Procedure 87-114. Major elements of the procedure are the summary description, the cross-reference of the tests, and the Restart Program Checklist. The summary description of the tests is intended for general information. The specific details or criteria for actually conducting the listed tests will be incorporated in the individual PNPS operating procedures which are referenced in Temporary Procedure 87-114. The Restart Program Checklist will be used to document acceptable completion of tests.

Figure 1, the Power Ascension Plan, will be used by the Startup Test Manager to develop the daily testing and power ascension schedules. The daily testing and power ascension schedules will be approved by the Operations Section Manager. The power ascension testing will be coordinated with the Master Surveillance Tracking Program using the Plan of the Day. The Plan of the Day is approved by the Plant Manager.

The startup test organization will function fully during the testing periods associated with each of the power level test conditions, and will be on standby during the normal operation/observation periods for operator training, self assessment and equipment observation, but will remain on-call to function as needed.

III. Management Assessment Points and NRC Approval Points

Boston Edison will assess personnel and equipment performance at several points during the power ascension. The process for assessment prior to initial criticality and resulting actions will have been completed prior to requesting restart and is discussed in Section V.A. The sources of Boston Edison Assessment Point and NRC Approval Point requirements, the actual Assessment Points, and the proposed Approval Points for power ascension are described in this section.

A. Sources of Assessment Point and Approval Point Requirements

In the course of its self assessment, Boston Edison's senior nuclear management has identified a need for a number of predetermined Assessment Points for review of personnel and equipment operational performance. These Assessment Points occur at logical intervals in the power ascension sequence. Senior management approval will be obtained before power ascension will be permitted to continue beyond each Boston Edison management Assessment Point.

The NRC, in its August 27, 1986 letter, requested that the PNPS Power Ascension Program include "hold points at appropriate stages such as criticality, completion of mode switch testing, and at specific milestones during ascension to full power." In response to this request, Boston Edison proposes five NRC Approval Points which would require oral authorization from NRC Region I before PNPS can continue power ascension.

B. Description of Power Ascension Assessment Points

Four Boston Edison Assessment Points are planned during the Power Ascension Program. The purpose of these Assessment Points is to confirm readiness to proceed with normal operation/observation periods for operator training and self assessment and the next period of power ascension. The first assessment point using the process described in Section V will occur at the 25% power test condition. Examples of the types of activities that will be conducted during each of the assessment periods are described. At each Assessment Point, management will review results of observations, performance evaluations, and any corrective actions taken for personnel, equipment and procedures during the preceding period of power ascension. Further, management will identify additional corrective actions as required.

Assessment Point 1

The first Assessment Point will be after recovery from testing to confirm that the main steam isolation valves remain open during reactor depressurization after the reactor mode switch is shifted from "Run" to "Startup", and prior to a period of normal operation/observation for operator training, proficiency and self assessment. Assessment Point 1 appears in Figure 1.

During the period between initial criticality and Assessment Point 1, operational training, personnel and equipment performance will be

evaluated. The types of activities and tests that will be undertaken during this period include the following:

- o Reactor vessel heat-up, and the bringing of equipment on line to support increased power, including the conduct of operations, maintenance, technical and radiological control duties;
- o System tightness and operability tests under hot plant conditions;
- o HPCI and RCIC testing at 150 psig requiring coordination of activities by the operations, maintenance and radiological controls personnel;
- o Operator in sequence criticals;
- o Reactor water level instrumentation checks; and
- o SRM/IRM overlap checks.

Evaluations of activities such as those described above will enable management to assess the performance of personnel in a variety of disciplines, as well as the working interface and coordination between the disciplines.

Management will conduct this formal assessment and determine readiness to proceed with operator training, establishing proficiency and additional self assessment with power level at the 25% power test condition. This range was selected for calibration of the nuclear instrumentation. The "Management Assessment" period of 8 to 12 days is depicted in Figure 1 and in Figure 2. Subsequent to this assessment period, newly licensed Reactor Operators (individuals receiving licenses after May 1987) on each operating crew are scheduled to receive approximately thirty days of normal operation/observation to gain operating experience to satisfy new license requirements and enhance their proficiency. This operating

experience will include reactivity changes for training and other planned evolutions such as equipment startup and shutdown.

Assessment Point 2

The second Assessment Point will be after the reactor engineering tests at the 50% power test condition prior to a period of normal operation/observation for operator training, proficiency enhancement and additional self assessment, and moving the scram setpoint above the 70% power level. Assessment Point 2 appears in Figure 1.

Between Assessment Points 1 and 2, a number of tests and plant activities, such as bringing equipment on line to support increasing power, will provide an opportunity for evaluation of equipment and personnel performance. The types of activities and tests that will be undertaken during this period include the following

- Shutdown-from-outside-the Control Room test, requiring shutdown of the reactor from the dedicated Alternate Shutdown Panels in the Process Buildings while maintaining a qualified crew of operators in the Control Room.
- Assessment of plant operation between 25% and 50% power which will place the plant in an increasingly stable configuration by virtue of the following conditions:
  - (1) Condensate system will be fully in service;
  - (2) Both feedwater regulator valves will be in automatic;
  - (3) RPV level control will be in three element control;
  - (4) Power level will still be within bypass valve capability between 25% and 30% power levels;
  - (5) 4Kv busses will be transferred to the unit auxiliary transformer with the startup transformer as backup;
  - (6) APRM's will be on scale providing total core coverage;

(7) Power level will be high enough for a heat balance;

(8) Drywell will be inerted and differential pressures established;

(9) Electrical pressure regulator will be in service providing tighter automatic pressure control with the mechanical pressure regulator in backup; and

(10) Chemistry controls in place will be much tighter than during startup.

The "Management Assessment" period immediately prior to Assessment Point 2 is shown in Figure 1 and in Figure 2. The duration of this assessment period will be adjusted based on performance observed. Similarly the duration of the following period of normal operation/observation for operator training, proficiency enhancement and additional self assessment will be determined during the "Management Assessment" and will be adjusted based on the results of self assessment during the training period.

Assessment Point 3

Boston Edison has selected a third Assessment Point after completion of the reactor engineering tests at the 75% power test condition prior to the third period of normal operation/observation for operator training, proficiency enhancement and additional self assessment and movement of the scram setpoint above 95% power. Assessment Point 3 is depicted in Figure 1.

Many of the plant activities between Assessment Points 2 and 3 are virtually identical to those between Points 1 and 2 because the reactor engineering tests conducted at the 75% power test condition are largely a repetition of those conducted at the 50% power test condition. During this period, additional plant equipment will be placed in service as necessary to support the higher power levels. The types of activities that will be conducted during this period include the following:

- Placing the additional condensate demineralizer units in service;
- Operation of the Augmented Offgas System;
- Placing the third reactor feedwater pump in service;
- Routine surveillances and preventive maintenance, chemistry analyses and radiological surveys, and
- Condenser thermal backwash.

The "Management Assessment" period immediately prior to Assessment Point 3 is depicted in Figure 1 and in Figure 2. The duration of this

assessment period will be adjusted based on performance observed.

Training requirements for new operators are planned to be completed by this time. A period of normal operation/observation at around 75% power will follow Assessment Point 3. The purpose of this period is to gain operator experience and proficiency with the plant in its full power configuration and for additional self assessment. When operator training requirements are confirmed to have been met, and with management concurrence, this period may also be used to make the transition from a four to a six section operator watch rotation. The duration of this period will be determined during the "Management Assessment" and will be adjusted based on the results of self assessment during the training period.

Assessment Point 4

At nominal 100% power, the final series of reactor engineering tests and calibrations in the Power Ascension Program will be performed. Evaluation conducted between Assessment Points 3 and 4 will largely focus on routine operating activities such as coordination of surveillances, anticipation and correction of problems, and the conduct of routine and preventive maintenance. In addition, operating activities such as recirculation flow adjustments and control rod manipulations to counteract xenon buildup and achieve 100% power provide an opportunity to evaluate the coordination between operations personnel and reactor engineers.

Results from these reactor engineering tests, as well as the additional performance evaluations, will be assessed by Boston Edison senior management at the fourth Assessment Point, which will be followed by the fourth period of normal operation/observation for additional self assessment. Boston Edison management will assess the performance of the plant and personnel, confirming satisfactory completion of the Power Ascension Program and the effectiveness of the programs, plans and actions for continued operation. The results of this final assessment will be formally provided to the NRC to support close-out of Confirmatory Action Letter 86-10.

C. Description of Approval Points

As shown in Figure 2, Boston Edison proposes five NRC Approval Points.

In accordance with CAL 86-10, dated April 12, 1986, the first NRC Approval Point is immediately prior to criticality.

The second NRC Approval Point is proposed where the plant has been brought to criticality and is being held to power levels below 5% in order to conduct testing, conduct portions of the Special Post Restart Training Program, and verify plant system tightness and operability under hot plant conditions.

NRC Approval Points two through five will be preceded by a recommendation from PNPS line management, with the concurrence of the oversight and assessment team, that it is ready for the NRC to consider approval of continuation of power ascension to the next programmed test condition.

The third NRC Approval Point is proposed after recovery from testing to verify that the main steam isolation valves remain open during reactor depressurization after the reactor mode switch is shifted from "Run" to "Startup," after the normal operation/observation period for training and proficiency enhancement and prior to commencement of the shutdown-from-outside-the-Control Room test. NRC letter dated August 27, 1986 on the subject of Confirmatory Action Letter 86-10 suggested one NRC Approval Point after mode switch testing. The third NRC Approval Point is proposed

to also include the opportunity to observe the subsequent normal operation/observation period before granting approval.

The fourth NRC Approval Point is proposed after completion of reactor engineering tests, the normal operation/observation period for operator training and proficiency enhancement at the 50% power test condition and before the scram setpoint is adjusted above the 70% level.

The fifth NRC Approval Point prior to full power operation is proposed after completion of the reactor engineering tests and the normal operation/observation period for operator training and proficiency enhancement at the 75% power test condition and prior to movement of the scram setpoint above the 95% level. At this point, results from the reactor engineering tests and operator training can be reviewed to confirm readiness to complete power ascension.

At 100% power after completion of engineering tests and calibrations and concurrent with normal operations/observation Boston Edison management will assess the performance of the plant and personnel, confirming satisfactory completion of the Power Ascension Program and the effectiveness of the programs, plans and actions for continued operation. The results of this final assessment will be formally provided to the NRC to support close-out of Confirmatory Action Letter 86-10.

IV. Startup Organization

The PNPS startup organization for return to operation from RFO-7 is comprised of four elements as follows:

(1) the Operations Section;

(2) the post-refueling/modification outage test organization;

(3) the Nuclear Organization support for operations; and

(4) the oversight and assessment team.

The first three elements are the normal line organizations that would support restart from any complex and extended PNPS outage. The fourth element is Boston Edison's management oversight processes to increase observation and evaluation of major evolutions during power ascension, to conduct periodic management assessments of evaluations performed throughout this period, and to confirm readiness to proceed.

A. Operations Section

The Operations Section is the normal line organization for restart from an outage such as RFO-7. Plant startup from any protracted and complex outage requires that additional people be available on shift to properly execute both the routine and outage-specific tests, as well as to respond to operational problems that may occur after a long shutdown. In recognition of these factors, Boston Edison has elected to utilize a four-shift rotation for the operators. The four-shift rotation will enable assignment of the necessary number of operators, without incurring excessive and unscheduled overtime. The four-shift

rotation will also enable assignment of an experienced SRO, designated as the "Assistant Watch Engineer" to provide field oversight and on-the-job training for the equipment operators.

The actual operating organization as depicted in Figure 3 consists of the Operations Section Manager and, in descending order, his Chief Operating Engineer, the Watch Engineers for each shift, and the shift operating crews. They report to the Plant Manager.

At the completion of Assessment Point 3 and when a sufficient number of Reactor Operators are fully qualified, a transition to a six section watchbill may be implemented. This six section watchbill is intended to provide a nominal 40 hour work week for each operating crew and address watchstanding, training and extended absence coverage.

B. Post-Refueling/Modification Outage Test Organization

Boston Edison is following its normal practice to use a post-refueling/modification outage test organization for restart from a complex outage. The shaded boxes on the chart in Figure 3 show this organization. Boston Edison's experience is that this test organization's support to the Operations Section has contributed to the successful control of startup from an extended and complex outage. The Technical Section Manager is the Startup Test Manager during restart and power ascension. As such, he is responsible for directing and coordinating the efforts of the Shift Test Coordinators, Reactor Engineers, Computer Engineers, Test Engineers and Turbine Test

Engineers, for preparation of daily power ascension test schedules, and for independent review of test results.

The test organization will be fully functional during the periods of testing, and will be in a standby but on-call status during post Assessment Point normal operation/observation and training periods.

C. Nuclear Organization Support for Operations

The restart from RFO-7 will be achieved with the normal plant support functions, e.g., Nuclear Engineering, Quality Assurance/Quality Control, Security, Fire Protection, Radiological Protection, Planning/Scheduling, Technical Support and other nuclear organization functions. Due to the complexity of this outage, there will be a Shift Maintenance Representative, as shown on Figure 3, assigned to provide 24 hour coverage for maintenance coordination.

D. Oversight and Assessment Team

During restart and power ascension from RFO-7, an additional organization will provide oversight of power ascension. A description of the oversight and assessment team is provided in Section V.B.

V. Management Assessment Process

The management assessment process during restart and power ascension will focus on management, operational, plant and equipment performance. Senior Boston Edison Nuclear Organization managers will personally observe major evolutions during restart and power ascension and will assess personnel and equipment performance at each of the four designated Assessment Points to confirm readiness for continued operations. The team will also oversee PNPS line management functions during post Assessment Point periods of normal operation/observation.

As used in this program, the following terms are defined:

evaluation — processes used by peer evaluators, line management and individual members of the oversight and assessment team throughout the Power Ascension Program to observe specific activities and evaluate the performance.

assessment — processes used by the line management or oversight and assessment team during the designated assessment periods prior to each Assessment Point to review the results of prior PNPS activities, including prior performance evaluations, and to decide whether the personnel and plant are ready for continued operation.

A. Readiness Assessment for Initial Criticality

The RRSA has been completed. Based upon the status of actions arising from this assessment, senior management will decide when to recommend restart to the Boston Edison Board of Directors. Finally, after Board of Directors approval, Boston Edison will submit a request for restart to the NRC.

B. Oversight and Assessment of Power Ascension

Seven senior level managers in the Nuclear Organization will serve as the oversight and assessment team during power ascension. These senior managers will observe personnel and equipment performance during the Power Ascension Program and will perform assessments at each of the Assessment Points to confirm readiness for continued operations. The team members are:

(1) the Senior Vice President-Nuclear;

(2) the Vice President-Nuclear Engineering;

(3) the Director, Special Projects;

(4) the Nuclear Engineering Manager;

(5) the Quality Assurance Manager;

(6) the Station Director; and

(7) the Special Assistant to the Senior Vice President-Nuclear.

Direct support to the oversight and assessment team in performing assessments of plant and personnel performance will be provided by peer evaluators. In the area of operations, for example, individuals assigned as peer evaluators have current or previous BWR Senior Reactor Operator licenses or certifications. These individuals will be assigned to shift rotation to act as operations observers, team leaders for other peer evaluators assigned to that shift, and report the results of their observations and evaluations to the line organization and to the oversight and assessment team.

Other peer evaluators will be assigned to support observations in areas such as radiological controls (health physics), chemistry, technical support, security, fire protection and maintenance to support the oversight and assessment team as necessary. These peer evaluators will observe specific plant evolutions or support activities of interest and report the results of their observations and evaluations to the line management through the peer evaluator team leader, and to the oversight and assessment team. This performance evaluation process is designed to retain the flexibility to respond to changing conditions. The number and experience of the peer evaluators will be adjusted by the oversight and assessment team based on the evolution to be observed and the trend in observations.

Senior management assessment during the Power Ascension Program, and evaluation of plant and operator activities by peer evaluators will be comprehensive during the assessment periods preceding defined Assessment Points during power level test conditions. Senior management assessment and evaluation during the normal operations/observation periods for new operator required training, operator proficiency enhancement and additional self assessment subsequent to each of the formal Assessment Points will continue, but will be done on an audit basis to confirm the validity of conclusions drawn during the more intense testing and assessment periods, and will provide a unique opportunity for observing line management and crew performance in an environment more typical of normal operating conditions.

C. Performance Assessments at Assessment Points

The process for performance assessment by the oversight and assessment team at each of the four Assessment Points during power ascension will consist of the following five elements:

(1) performance standards to guide the evaluations;

(2) guidelines for follow-up and feedback of lessons learned;

(3) training on the standards and guidelines for follow-up and feedback;

(4) performance evaluations and assessments by line management; and

(5) performance evaluations by the oversight and assessment team including peer evaluations.

Performance standards have been developed for each of the disciplines that will be evaluated. These standards will be used by the evaluators as a basis for comparison of actual performance to predetermined goals to ensure consistency throughout the evaluation and assessment process. Guidelines for follow-up and feedback of lessons learned have been developed, and these cover the criteria for determining the immediacy of feedback as well as the lines of communication for feedback.

The standards developed address the following types of concerns:

(1) Is plant equipment operating safely and reliably?

(2) Are assessment and feedback of lessons learned effective?

(3) Is the organization functioning as a team?

(4) Is management oversight effective and is management knowledgeable about current plant and organizational conditions?

(5) Are problems identified, addressed and resolved in a timely and appropriate manner?

(6) Has the staff provided proper oversight of operations activities to ensure safe and reliable operation?

(7) Do the operators receive adequate and timely technical support?

(8) Is the interface between the maintenance, radiological controls, and operations personnel working properly to ensure adequate maintenance support for plant evolutions?

(9) Have the management tools such as procedures, computer programs, etc., provided the guidance and information necessary to support plant evolutions?

(10) Are off-normal conditions anticipated, recognized and resolved in a timely and appropriate manner?

These standards and guidelines, as well as the results of the evaluations, will be available at the PNPS site.

The pre-restart training of the peer evaluators involved in this evaluation and assessment process included a combination of selected activities that are dependent upon the individual's assignment/area of expertise. These activities included the following:

- Formal Classroom Instruction
- Simulator Familiarization/Lab Exercises
- On-site Field Activities (e.g., Surveillance Testing, Equipment Maintenance/Testing, System Walkthroughs, etc.)

This training and critique process has familiarized these individuals with the applicable standards and guidelines to assure a consistent basis for the evaluations. The specific plant evaluations generated during this training program, provided Boston Edison senior

management with an additional mechanism for assessing the readiness of plant personnel for initial criticality and power ascension. During power ascension, any new individuals assigned to this evaluation process will also receive training on these standards and guidelines.

Performance evaluations during restart and power ascension will be conducted on two parallel tracks. Line management will evaluate performance as part of their normal management functions, including use of the PNPS Management Monitoring Program. The oversight and assessment team will perform independent evaluations with input from peer evaluators and monitor line management functions.

During the assessment period immediately prior to each Assessment Point, the oversight and assessment team will review the results of the evaluations performed thus far. These assessments are designed to confirm satisfactory personnel and equipment performance to that point in the Power Ascension Program and the readiness of the personnel and plant for continued safe and reliable operation.

D. Assessment During Normal Operation/Observation Periods

During the post Assessment Point periods of normal operation/observation, station line management will continue operation and assess station and personnel performance, directing corrective actions as necessary, and carrying out other normal line management functions typical of a normal operating environment. The oversight and assessment team will continue to monitor line management and station performance during these periods, but at a frequency more typical of a normal operating environment.

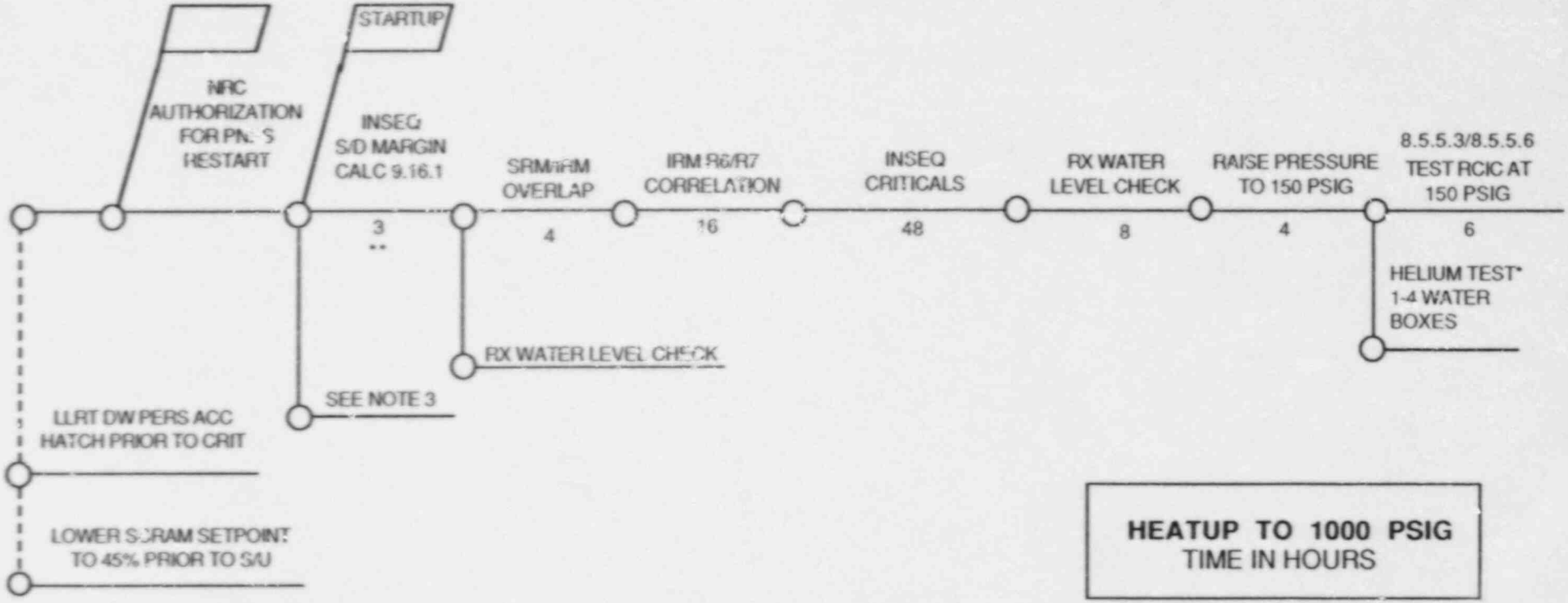
The Boston Edison recommendation to proceed with the next stage of power ascension (a prerequisite for NRC approval at each of the proposed NRC Approval Points), will be made by line management and will be monitored and concurred with by the oversight and assessment team.

GLOSSARY OF ACRONYMS

ADS	AUTOMATIC DEPRESSURIZATION SYSTEM
ASP	ALTERNATE SHUTDOWN PANEL
ACC	ACCESS
AWE	ASSISTANT WATCH ENGINEER
APRM	AVERAGE POWER RANGE MONITOR
CAL	CALIBRATION
CALC	CALCULATION
CHAMB	CHAMBER
CIV	COMBINED/INTERCEPT VALVE
COMP	COMPUTER
CRD	CONTROL ROD DRIVE
CRIT	CRITICALITY
CS	CORE SPRAY SYSTEM
CTP	CORE THERMAL POWER
DET	DETECTION
DW	DRYWELL
ENG	ENGINEERING
EPIC	EMERGENCY AND PLANT INFORMATION COMPUTER
EPR	ELECTRIC PRESSURE REGULATOR
FUNCT	FUNCTIONAL
FW	FEEDWATER
GEN	GENERATOR
HPCI	HIGH PRESSURE COOLANT INJECTION
INSEQ	INSEQUENCE
IRM	INTERMEDIATE RANGE MONITOR
LLRT	LOCAL LEAK RATE TEST
LPCI	LOW PRESSURE COOLANT INJECTION
LPRM	LOCAL POWER RANGE MONITOR
LSTG	LARGE STEAM TURBINE GENERATOR
MGMT	MANAGEMENT
MSIV	MAIN STEAM ISOLATION VALVE
NRC	NUCLEAR REGULATORY COMMISSION
O/S	OVERSPEED
OD	ON DEMAND
OPER	OPERATING PROCEDURE
PCIOMR	PRECONDITIONING INTERIM OPERATING MANAGEMENT RECOMMENDATION
PERS	PERSONNEL
PNPS	PILGRIM NUCLEAR POWER STATION
RCIC	REACTOR CORE ISOLATION COOLING
REG	REGULATOR
RM	ROOM
RRSA	RESTART READINESS SELF ASSESSMENT
Rx	REACTOR

S/D	SHUTDOWN
S/U	STARTUP
SDOCR	SHUTDOWN OUTSIDE CONTROL ROOM
SJAE	STEAM JET AIR EJECTOR
SRM	STARTUP RANGE MONITOR
STM	STEAM
SV	STOP VALVE
TP	TEMPORARY PROCEDURE
TEMP	TEMPERATURE
TIP	TRAVERSING INCORE PROBE
TSI	TURBINE SUPERVISORY INSTRUMENTATION
TURB	TURBINE

POWER ASCENSION PLAN



NOTE:

1. HPCI & RCIC TESTING SATISFACTORILY COMPLETED WITH AUXILIARY BOILER MAY BE DELETED.
2. THIS IS A PLAN FROM WHICH DAILY SCHEDULES WILL BE DEVELOPED. THESE DAILY SCHEDULES WILL TAKE INTO CONSIDERATION PLANT AND EQUIPMENT STATUS.
3. MONITOR RHR PRESSURE IN-SYSTEM LEAKAGE FROM PRESSURIZATION THROUGHOUT POWER ASCENSION

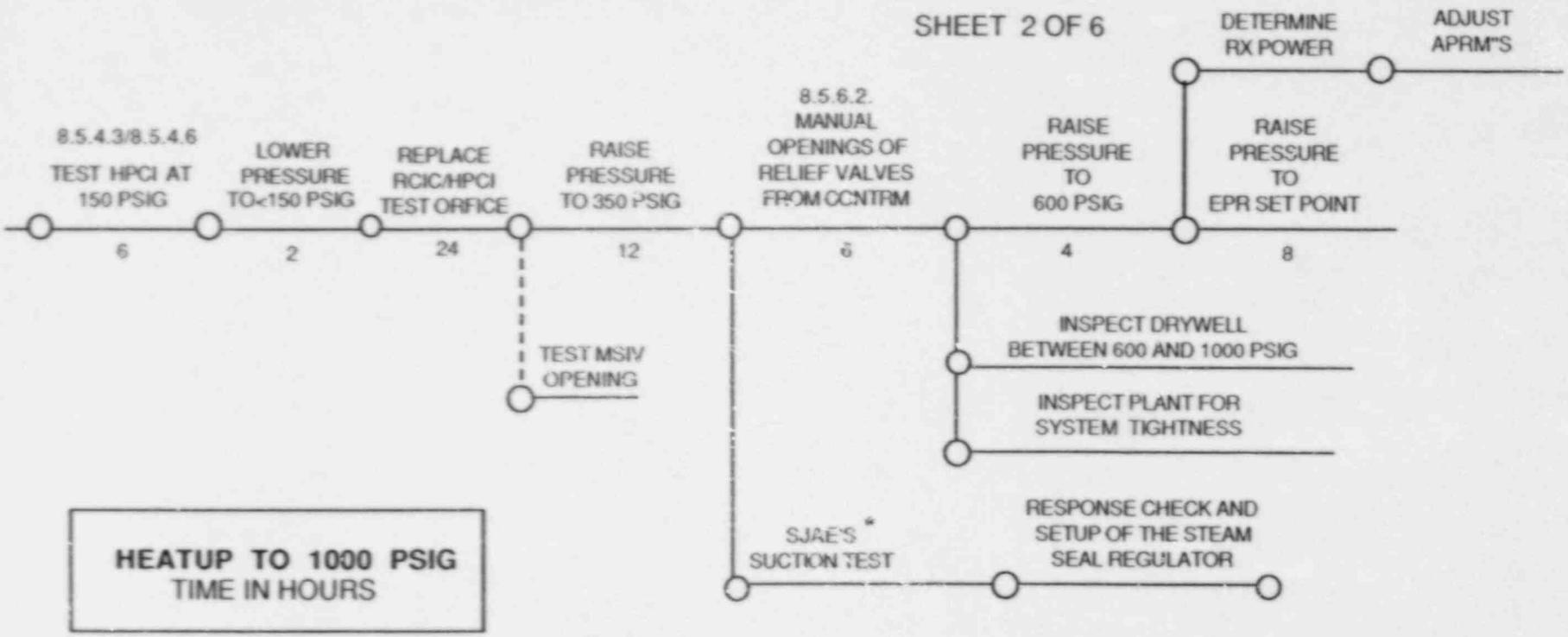
* NOT A MANDATED TEST

** THIS MAY NOT BE PERFORMED IF SHUTDOWN MARGIN HAS PREVIOUSLY BEEN DEMONSTRATED

Figure 1

POWER ASCENSION PLAN

SHEET 2 OF 6



HEATUP TO 1000 PSIG
TIME IN HOURS

NOTE:

1. HPCI & RCIC TESTING SATISFACTORILY COMPLETED WITH AUXILIARY BOILER MAY BE DELETED.
2. THIS IS A PLAN FROM WHICH DAILY SCHEDULES WILL BE DEVELOPED. THESE DAILY SCHEDULES WILL TAKE INTO CONSIDERATION PLANT AND EQUIPMENT STATUS.
3. MONITOR RHR PRESSURE IN-SYSTEM LEAKAGE FROM PRESSURATION THROUGHOUT POWER ASCENSION

* NOT A MANDATED TEST

** THIS MAY NOT BE PERFORMED IF SHUTDOWN MARGIN HAS PREVIOUSLY BEEN DEMONSTRATED

Figure 1

POWER ASCENSION PLAN

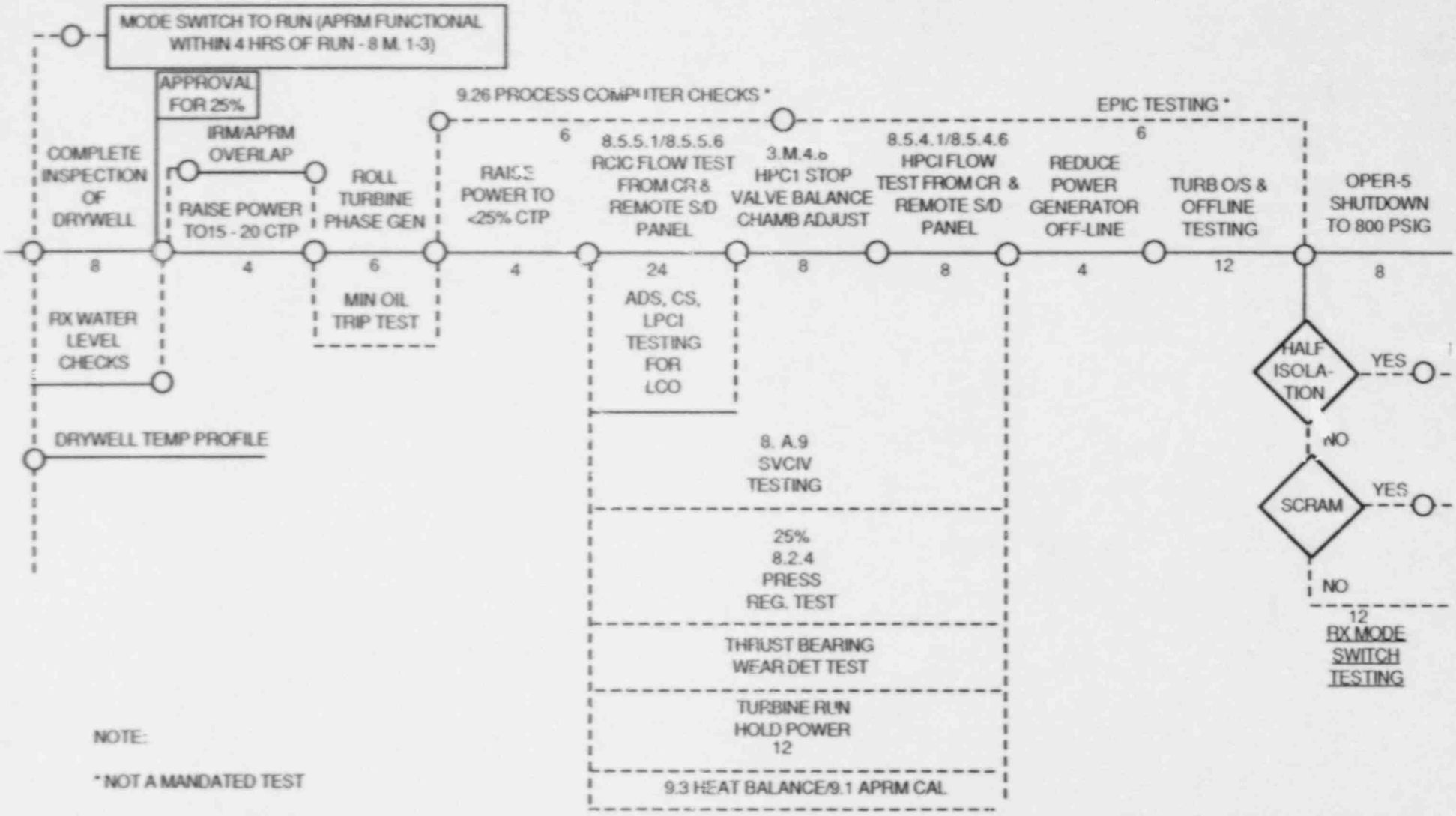
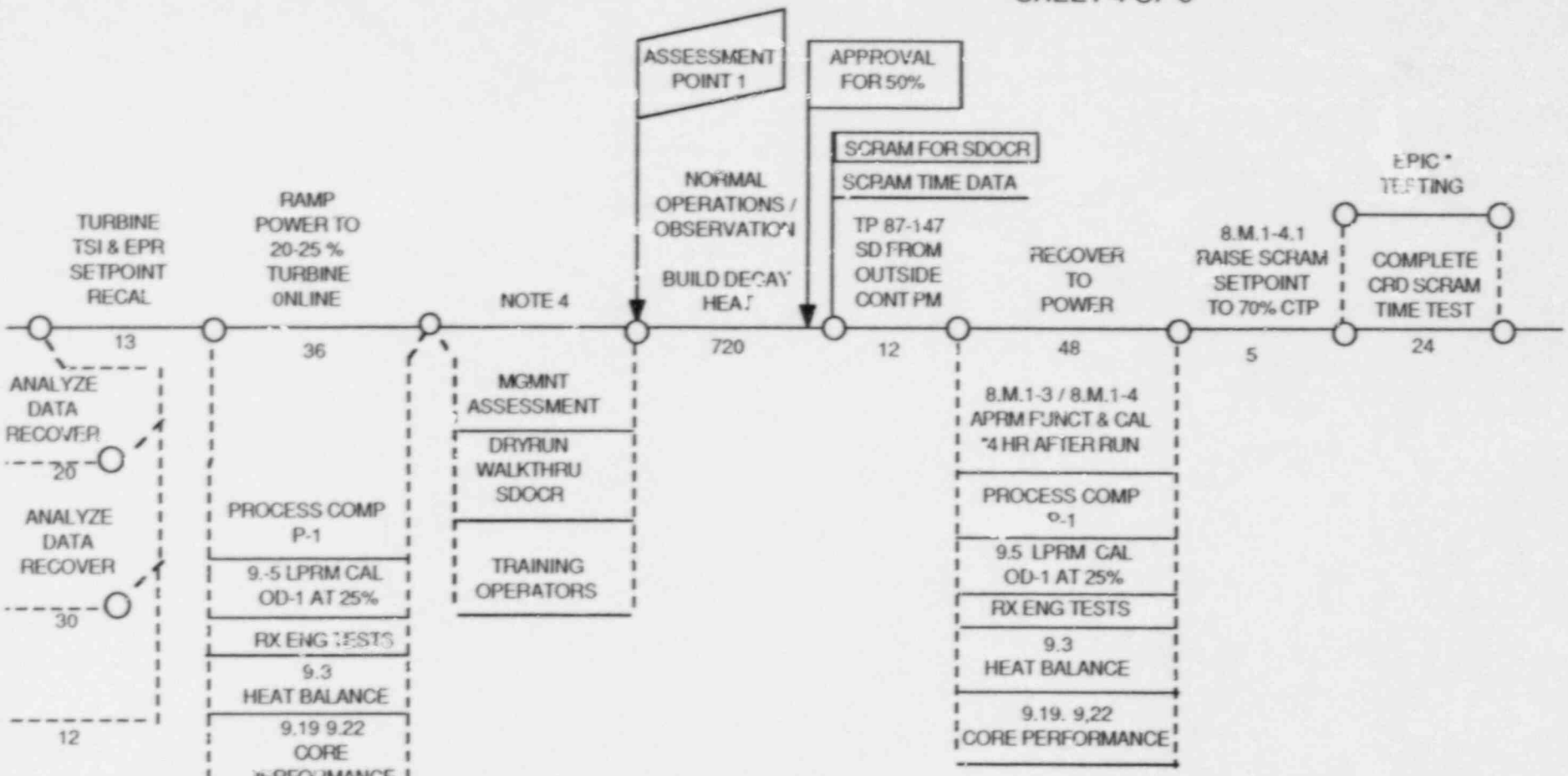


Figure 1

POWER ASCENSION PLAN



NOTE:

4. FIVE FULL SHIFTS OF OPERATION FOR EACH OF THE FOUR WATCH SECTIONS

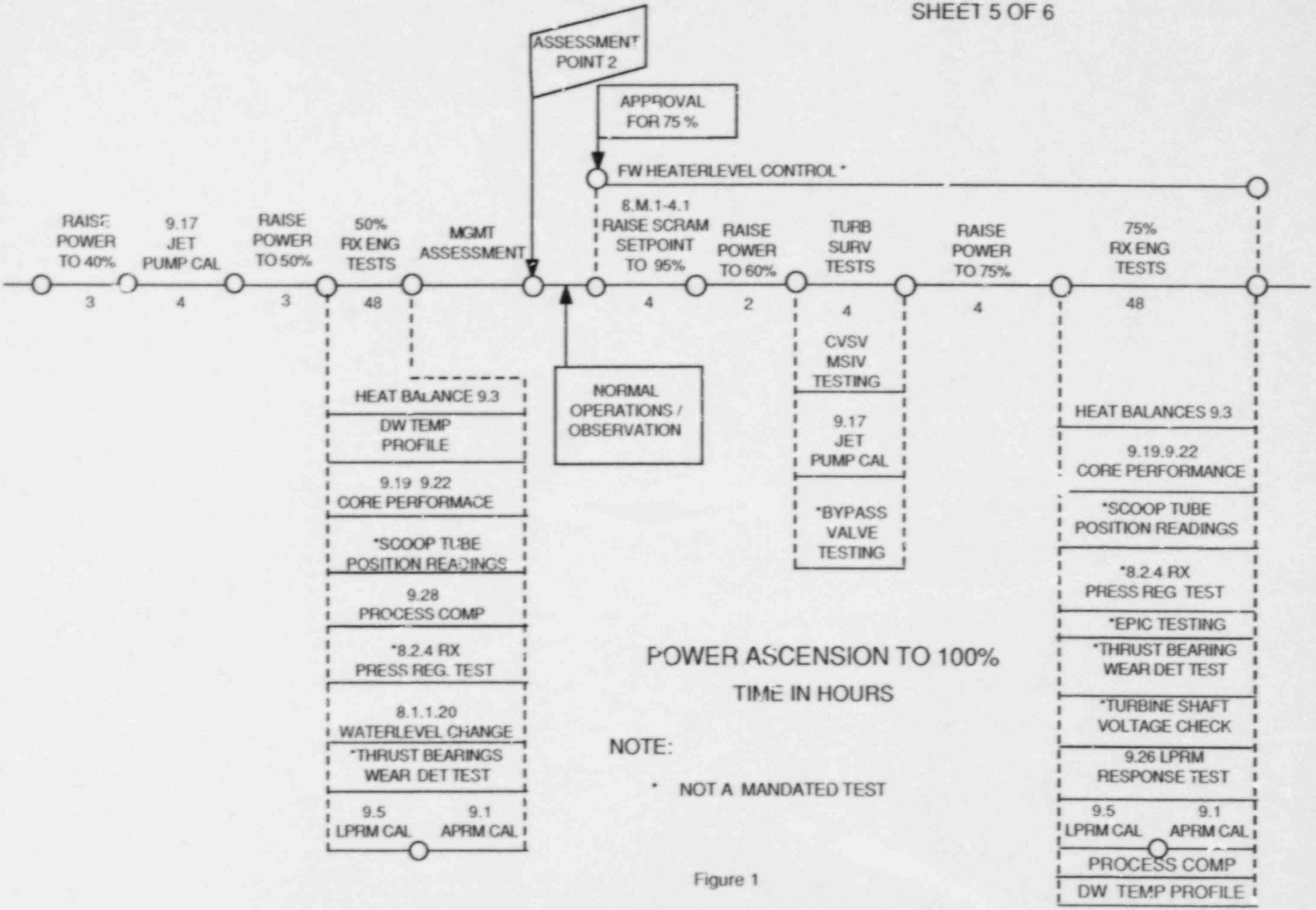
* NOT A MANDATED TEST

TESTING - 1000 PSIG TO 25%
TIME IN HOURS

Figure 1

POWER ASCENSION PLAN

SHEET 5 OF 6



POWER ASCENSION TO 100%

TIME IN HOURS

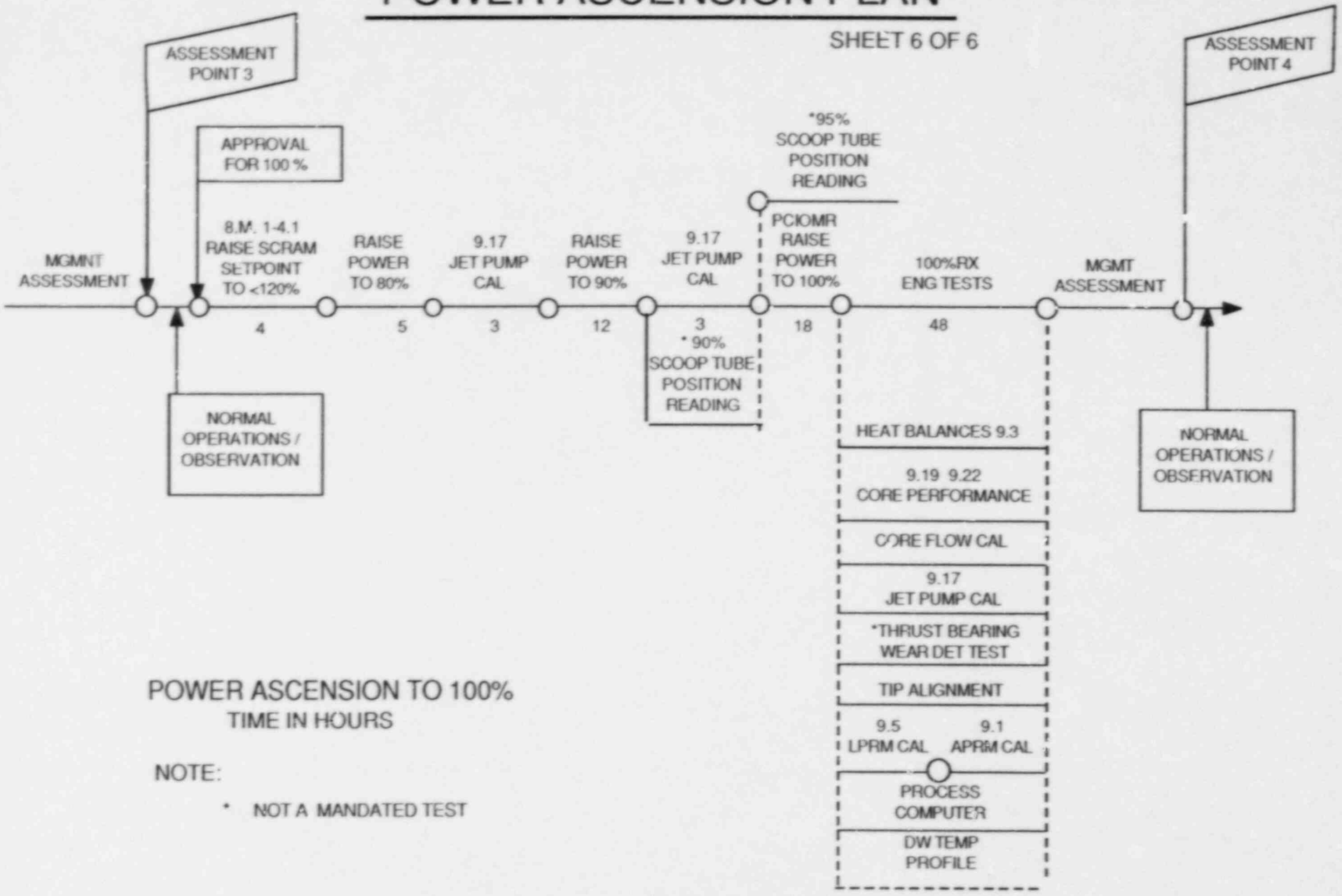
NOTE:

* NOT A MANDATED TEST

Figure 1

POWER ASCENSION PLAN

SHEET 6 OF 6



POWER ASCENSION TO 100%
TIME IN HOURS

NOTE:

* NOT A MANDATED TEST

Figure 1

POWER ASCENSION PLAN

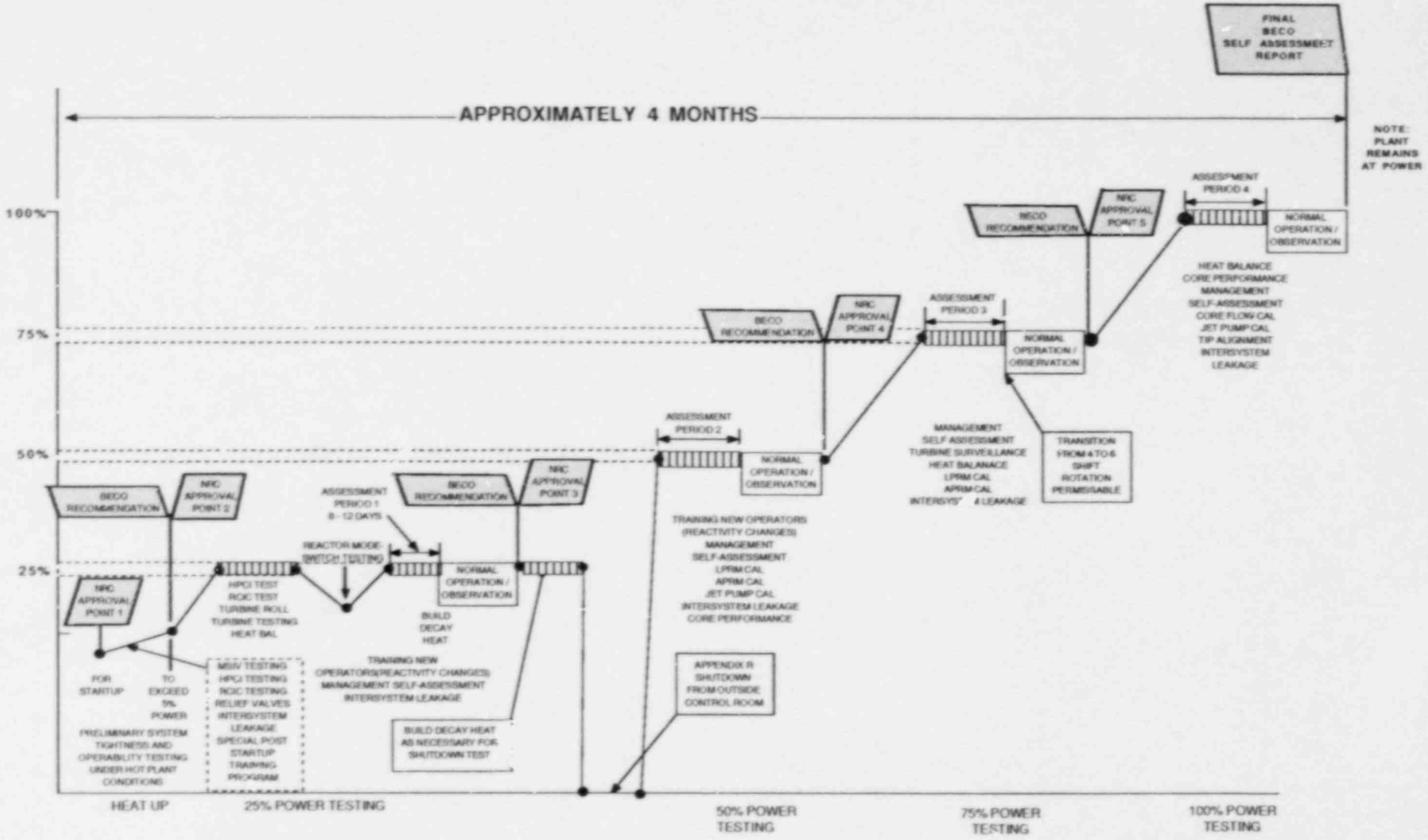
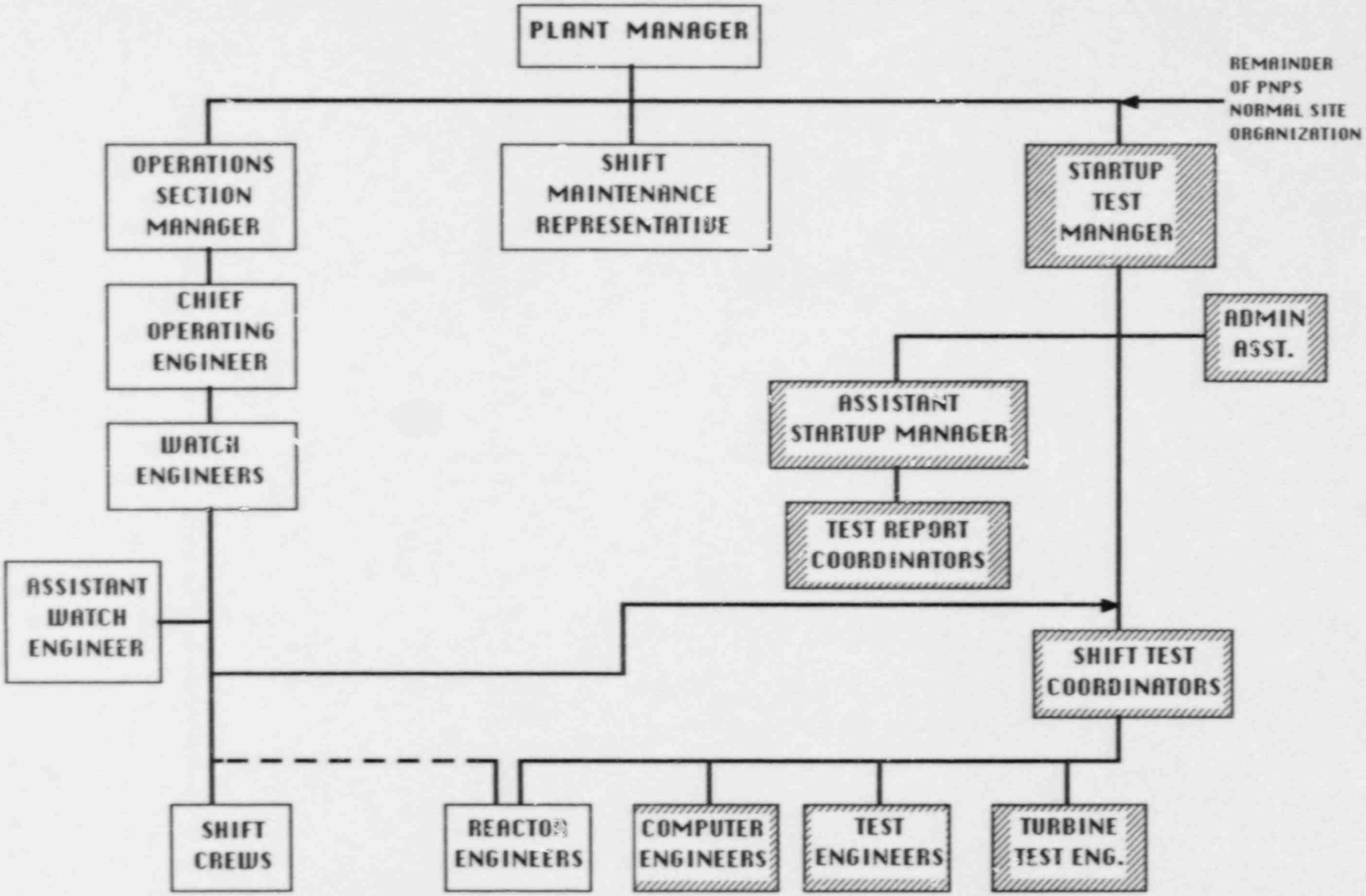


FIGURE 2

PILGRIM NUCLEAR POWER STATION STARTUP ORGANIZATION



NOTE: INDICATES PERSONNEL ASSIGNMENT FOR POST-OUTAGE TESTING

FIGURE 3