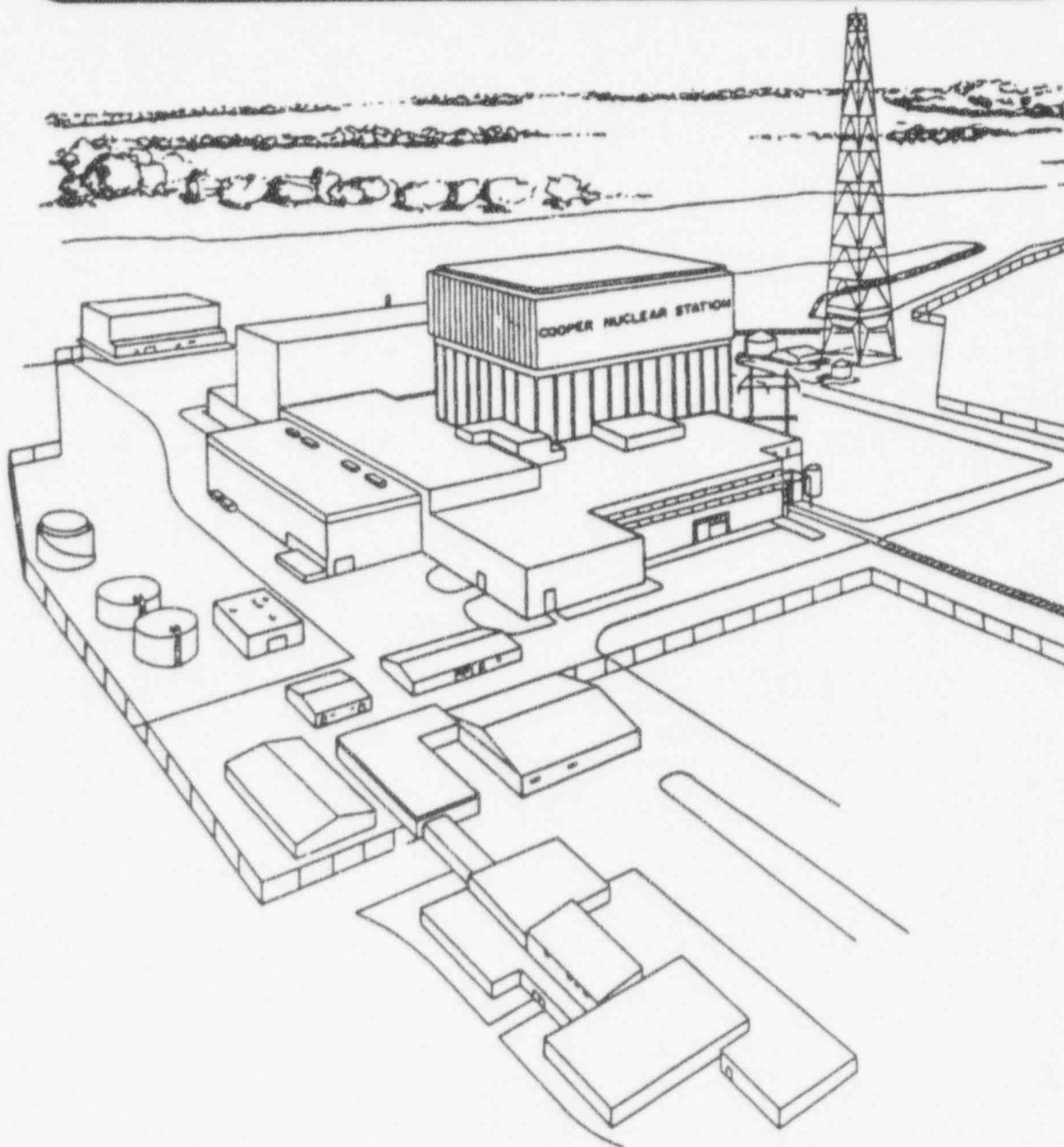


# Cooper Nuclear Station

STARTUP AND POWER  
ASCENSION PLAN (SHUTDOWN 94-03)



REVISION 2

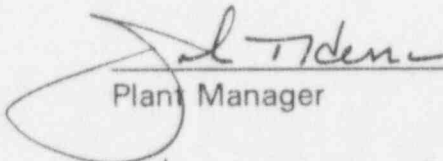
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# COOPER NUCLEAR STATION

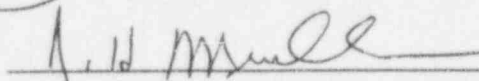
## STARTUP AND POWER ASCENSION PLAN

Revision 2

APPROVED BY:

  
\_\_\_\_\_  
Plant Manager

1-12-95  
Date

  
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Site Manager

1/13/95  
Date

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ATTACHMENT 1 - STARTUP ORGANIZATION CHART

ATTACHMENT 2 - POWER ASCENSION SCHEDULE \*

\* NOTE: Final, official revision will be issued prior to plant startup.

## **1. PURPOSE**

The purpose of this document is to establish management's expectations for the safe and controlled restart of Cooper Nuclear Station from shutdown 94-03 that commenced May 25, 1994. This will be accomplished through the following objectives:

- Establish a shift-management and support organization to augment and support the normal shift staff that will assist in conducting a safe and error-free startup. This plan defines responsibilities and accountability of the startup organization during the startup and power ascension.
- Provide a rapid-response maintenance and technical support capability to resolve emergent issues in a timely manner so that safe startup and power ascension are not impeded.
- Conduct startup and surveillance testing in a safe and efficient manner to ensure that system and component operability support startup and power ascension.

## **2. SCOPE**

This plan addresses the activities that will ensure that plant operation, material condition, personnel performance, organizational responsiveness, and the functioning of administrative and work control processes are fully ready for a safe and reliable startup. The development and approval of this plan are part of the criteria on which the evaluation for startup is based. This plan consists of the following major elements:

- Startup Organization
- Startup Readiness
- Power Ascension Overview

The overall responsibility for the successful execution of this plan rests with the Plant Manager.

## **3. STARTUP ORGANIZATION**

This section describes the shift organization and additional staffing (Attachment 1), their responsibilities, and the lines of communication used during preparations for and the conduct of startup and power ascension. As a minimum, the staffing shall be available from the time the Reactor Mode Switch is placed in the "Start & Hot Standby" position until management determines that the startup and power ascension phase is satisfactorily completed.

### 3.1. MANAGEMENT OVERSIGHT

An experienced Management Representative shall be assigned on-shift to provide 24-hour coverage throughout startup and power ascension. He is the direct representative of the CNS Plant Manager and is responsible for maintaining an overall perspective of the startup process. He is the senior CNS manager on shift, and the on-shift organizations report directly to him, including the Shift Supervisor. He will be informed of any significant restraints or potential schedule impacts and take appropriate action to resolve them to meet our objectives of a safe and error-free plant startup. In addition, he will assure that plant material condition is not degraded during the startup. If necessary, the Management Representative will make the decision to delay the startup, reduce power or shutdown to make necessary repairs, keeping the Plant Manager and Site Manager informed of these decisions. Additional responsibilities include:

- Ensuring that on-shift and support personnel are aware of and meet management's expectations on achieving a safe and error-free plant startup.
- Fostering and supporting a questioning attitude by ensuring concerns expressed by plant personnel are acknowledged and addressed in a timely manner.
- Allocating personnel and resources as needed to support the startup and power ascension schedule.
- Apprising the Plant Manager of all off-normal and emerging issues that may impact plant startup and power ascension.
- Conducting a shift briefing with the on-shift managers who report to him shortly following the operations shift turnover.

### 3.2 STARTUP ON-SHIFT STAFFING AND ORGANIZATION

#### 3.2.1 Operations Shift Crews

The duty Shift Supervisor reports directly to the on-shift Management Representative during the period that the Startup and Power Ascension Plan is in effect. He is in charge of plant configuration and control at all times as specified in CNS Procedure 0.2, *Station Organization and Responsibility*. The temporary staffing established to augment the normal operating staff during the startup and power ascension is structured specifically to support the command and control authority of the Shift Supervisor and Control Room Supervisor through the Management Representative.



Shift staffing for startup and power ascension is increased over normal levels. Additional staffing includes a Licensed Operator and two or more Station Operators. Their responsibilities during this period are as follows:

- The Licensed Operator is dedicated to verifying control board manipulations and control rod movements with a specific focus on reactivity control. This operator is to provide independent verification assistance to the duty crew and will manipulate controls only under the direction of the duty crew.
- At least two additional Station Operators will be assigned, as available, at the direction of the on-shift crew. They will also be assigned, as necessary, to support the Work Control Center.

### **3.2.2 Work Control Center**

The Work Control Center will be continuously manned during the startup and power ascension. The Center will manage the normal work activities including initial MWR/CR screening and validation, prioritization and scheduling, coordination of clearances and system lineups through the shift schedule, and coordination, scheduling and release of work including PMT. In addition, the Work Center will be augmented by additional staff during the startup and power ascension to assure that planning and scheduling activities are closely coordinated, to provide single point-of-contact for startup testing and PMT, and provide an augmented validation and minor maintenance team (Tiger Team).

#### **3.2.2.1 Work Center Manager**

The Work Center Manager is an on-shift management representative of the Maintenance Manager. He is responsible for managing the activities of the Work Control Center, maintenance Tiger Team, Startup Coordinator, and Planning and Scheduling Coordinators. In addition to the normal work management responsibilities, the Work Center Manager has the following additional responsibilities:

- Managing the preparation of the shift startup and power ascension schedule.
- Assuring that the maintenance Tiger Team is coordinated to support the shift crew needs and managing emergent maintenance activities, particularly steam and other fluid

leaks, to assure that plant material condition is not degraded.

- Controlling and confirming all prerequisite activities are complete prior to mode changes and advancing beyond each scheduled power and testing plateau.

#### **3.2.2.2 Tiger Team Manager**

During the startup and power ascension period, a Tiger Team will be assembled to provide rapid response to plant material condition issues. The Team will be managed by an on-shift member of operations, maintenance or engineering, and it will have the normal responsibilities of the validators and minor maintenance team assigned to the WCC. The Team will also be augmented with operations, maintenance and engineering personnel to assure that plant material condition is not degraded during the startup.

Maintenance Department craft will be on shift under the Tiger Team Manager to provide support for the following:

- MWR validation.
- Planned maintenance activities on the backshift that can be appropriately completed.
- Pre-planned or required surveillance procedures.
- Emergent issues as deemed necessary by the Shift Supervisor.

#### **3.2.2.3 Planning and Scheduling Coordinator**

The Planning and Scheduling Coordinator is assigned from the Planning and Scheduling Department or Maintenance Department. He will have the responsibility for preparing, updating and issuing the startup shift schedules prior to the start of each shift. In addition, he will coordinate all planning activities for emergent work activities to support the Tiger Team work activities and any other backshift activities outside the normal responsibility of the Planning Department on day shift.

#### **3.2.2.4 Milestone Coordinator**

This position is manned by an individual holding an SRO License or SRO Certification. His responsibility is to interface closely with the Work Center Manager to assure the proper sequencing and coordination of plant activities to support major schedule milestones. He will assure that sufficient advance planning is coordinated to complete prerequisite activities for the milestones, including post maintenance and surveillance testing. Major milestones include hydrostatic testing, PMT closeout for mode change, and surveillance testing completion for mode changes. Responsibilities include:

- Maintaining a Startup Test File as a subset of the Power Ascension Schedule (Attachment 2).
- Coordinating the performance of test file items with the power ascension schedule.
- Assuring that all required post-maintenance or modification tests to be performed during the startup and power ascension evolution are completed satisfactorily.
- Identifying additional testing of plant systems and components to be performed to provide assurance that safety-related and non-safety related systems will support safe and reliable operations.
- Updating the Planning and Scheduling Coordinator with testing status.
- Informing the Work Control Manager and Management Representative of significant restraints and potential schedule impacts.

#### **3.2.3 Technical Support Manager**

The Technical Support Manager will be assigned to control on-shift engineering resources as necessary to support scheduled startup testing activities, resolve emergent operability issues, support the maintenance Tiger Team, and manage necessary reactor engineering tests and control room activities. The Technical Engineering Manager will be a department manager or supervisor from NECD or CNS Engineering.

##### **3.2.3.1 Reactor Engineering**



Reactor engineering will provide on-shift support to the control room as necessary and scheduled during the startup. They will be responsible for the conduct of any required physics testing and assigned startup or surveillance tests. In addition, they will be present in the control room to provide oversight of criticality, all control rod movements and power maneuvering.

#### **3.2.3.2 Engineering Support**

NECD and CNS Engineering will provide engineering and technical support on shift, as necessary to support scheduled startup and power ascension activities. Their specific assignments include system engineer walkdowns as appropriate during startup and at specified plateaus, direct support of the Tiger Team for material condition walkdowns, close interface with the Shift Supervisor for operability requests, and support for post-maintenance and post design-change testing.

#### **3.2.4 Other Departments**

Chemistry, Health Physics, and other support staffing is provided on shift during the startup and power ascension evolution. The personnel are assigned to shift work and are available 24 hours per day in the event of emergent work.

- Health Physics will be available for 24-hour coverage to ensure radiological coverage for emergent work and emergency response.
- Chemistry will provide 24-hour support for the increased number of reactor coolant chemistry samples and any other emergent work.
- Materials Management will provide 24-hour support to respond to the need for materials to support the goal of assuring that the plant material condition is not degraded during the startup.

### **4. STARTUP READINESS AND MANAGEMENT APPROVALS**

This section describes the approval required for startup, the power ascension schedule, and addresses emergent issues. These are described in more detail in the Restart Readiness Program.

#### **4.1 Final System Readiness Reviews**

The Final System Readiness Assessment will complement the multi-discipline system walkdowns performed as part of the Phase 1

Performance Improvement Plan. A checklist provides final documentation of reviews on each system by System Engineers to ensure readiness for plant startup. The assessment will be performed and documented, and the assessment results will be presented to the MRC.

#### **4.2 Department Restart Readiness**

Department managers will verify readiness for plant startup in accordance with the Restart Readiness Program. Their readiness results will be reviewed by the MRC.

#### **4.3 Site Readiness Assessment**

The Restart Readiness Program requires an overall site readiness that consists of a rollup of the various system, program and department assessments. These assessments will be reviewed by the MRC and the Site Manager for development of the final restart recommendation to the VP-Nuclear.

### **5. POWER ASCENSION OVERVIEW**

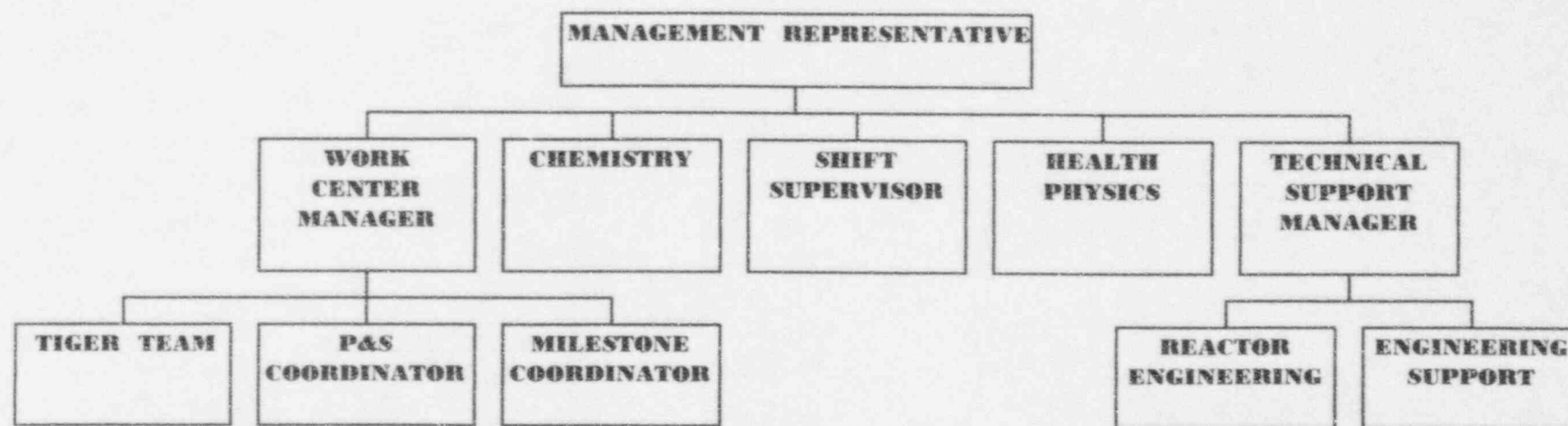
The Power Ascension Schedule (Attachment 2) is a schedule of the activities performed to progress from cold shutdown to full power operations. It is developed by the Planning and Scheduling Department and is based on procedural requirements, surveillance test and post-maintenance testing requirements. The Power Ascension Schedule begins when approval to commence the startup process has been granted.

The startup and power ascension will be conducted in a controlled and deliberate manner with planned plateaus to support required testing and verification by management that the plant performance is acceptable for proceeding to the next stage of the startup. These as a minimum, the plateaus or review points include heatup to above 200°, prior to criticality, and at the 50% power plateau. Management will review and approve proceeding beyond these points.

The power ascension schedule provides for a specific review prior to exceeding 50% power to conduct a planned shutdown to repair any conditions requiring shutdown conditions. This shutdown is nominally scheduled for a ten-day period.

# STARTUP & POWER ASCENSION ORGANIZATION

## ATTACHMENT 1



# COOPER STATION RESTART SCHEDULE

