

RANCHO SECO
ACTION PLAN FOR RESTART

REPORT FOR THE MONTHS OF
DECEMBER, 1986 AND JANUARY, 1987

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FEBRUARY 18, 1987

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ACTION PLAN
MONTHLY PROGRESS REPORT

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I. HIGHLIGHTS

The months of December 1986 and January 1987 were significant in the course of implementing the Rancho Seco Action Plan. During this time, the majority of the programs detailed in the Action Plan were active and several major milestones were reached:

- On December 15, 1986, the Action Plan was updated with the issue of Amendment 2. This amendment specifically described the work which is to be accomplished prior to Restart. Each Manager listed his "Priority One" work. Each System Engineer enumerated the modifications, testing, training, and new procedures which were necessary to prepare his system for restart. It is regretted that the rush to complete and issue Amendment 2 resulted in poor quality control of the product. This will be corrected.
- The new TDI diesels were installed and passed their 100 hour run tests. This project is ahead of schedule, thus removing this project from the "critical path".
- The pumps which add to and maintain Reactor Coolant System inventory for core cooling were restored to service and tested. These repairs were completed ahead of schedule.
- NRC "Open Items" (specific action items identified during NRC inspections) were attacked by an aggressive closure team. Over half of the 375 open items were closed by January 30.
- Modification and maintenance projects are well defined and active. Many tasks have been completed, although they still require NRC closeout action.
- Meetings were successfully held with the NRC regarding specific program details and process.
 - On January 28, 1987, SMUD Senior Management and a Board member presented a report on Restart Progress to the Nuclear Regulatory Commissioners in Washington, D.C. The Commissioners complimented SMUD on the thoroughness of our issue identification process (PP&MIP).
 - In January, a 14-man team from Nuclear Reactor Regulation (NRR) and NRC Region V began a 4-week on-site inspection of 7 key systems.
- Resource Commitment

With the progress made on refining task scope and program details, a Restart Budget for 1987 was provided to the Board. Approval was received in December. Site staffing levels continue to grow as restart tasks are initiated. Staffing and expense trends are consistent with budget estimates.

I. HIGHLIGHTS (Continued)

- Schedule

Restart of the reactor is planned in May with power operation beginning in June. Physics testing will precede power operation. Some tests at power will be conducted in June and July.

SUMMARY:

Restart efforts are progressing as detailed within the Action Plan. Progress is being made and activity is apparent everywhere at Rancho Seco. The NRC, and other industry agencies, are working closely with us to insure that they are effectively interfaced with the Action Plan and that it, and our commitments, meet their needs and will support a safe and timely restart.

II. INTRODUCTION

This report highlights the progress in implementing the "Action Plan for Performance Improvement" at the Rancho Seco Nuclear Generating Station. The Action Plan was submitted to the NRC on July 3, 1986, Amendment 2 on December 15, 1986, and this report covers the period of December 1986 and January 1987.

III. ACTION PLAN PROGRESS

1. Changes and Revision to the Action Plan

The expanded System Review and Test Program (SRTP) is now functioning with assigned Systems Engineers. The SRTP consolidates the input from the Plant Performance and Management Improvement Program (PP&MIP) with the system reviews performed by the Systems Engineer and develops a systems testing program to demonstrate plant material readiness.

2. New Issues Affecting Restart

Weekly program reports are prepared by the DGM Nuclear and submitted to a broad distribution including the District's General Manager. New issues which could impact the restart are identified in those reports and are summarized below.

- Duke Power Company's Oconee Nuclear Station has had two reactor coolant pump failures. Rancho Seco has the reactor coolant pumps made by the same manufacturer. We are participating in the problem analysis being performed by Duke Power to see if Rancho Seco's pumps could experience the same kind of failure. Preliminarily, we believe that we do not have the same "root cause" problem, but we will continue to analyze this problem area.

III. ACTION PLAN PROGRESS (Continued)

- Although diminishing in potential, the issue of the reliability of electrical power and control cables to be actually installed according to the separation criteria continues to require investment of resources. The discovered problems have been minimal, feeding optimism that this issue will not delay restart. A statistical sampling program is being conducted to resolve this issue.
- The reliability of over 160 critically important valves has become an increasingly important issue. These valves, all operated by an attached motor, actuated either automatically or by an operator from a remote control station, must operate as designed in order to allow Rancho Seco to generate power. Testing and evaluations continue. All motor operated valves will be functional prior to restart.

3. Closure of Issues

The QCI-12 Tracking System (QTS), a computer based tracking system, will document the successful development of closure packages.

4. Systematic Assessment Program

This program provides the input to the QCI-12 "Plant Performance and Management Improvement Program" (PP&MIP). The program is essentially complete, as shown in the following discussion of each input area.

a. December 26, 1985 Event Analysis

A total of 150 analyses, studies, repairs, and modifications were initiated to investigate and recover from the overcooling event. These resulted in approximately 400 recommendations, which have been identified in Amendment 2 of the Action Plan by the respective managers and system engineers for closure.

b. Precursor Review

Approximately 1396 documents, applicable to Rancho Seco, have been reviewed to determine the appropriateness of previous reviews and implementing actions. These also are reflected in management and system-related work lists enumerated in Amendment 2 of the Action Plan.

c. Deterministic Failure Consequence Analysis

This portion of the program generated Action Plan items which will be closed before Restart. These analyses documented the effect of component failure on system operation, as well as synergistic effects upon other systems. 1232 recommendations resulted.

III. ACTION PLAN PROGRESS (Continued)

d. Personnel Interviews

Interviews with plant personnel resulted in 1631 recommendations and generated actions to be completed prior to restart.

e. BWOG

The program inputs are 76 recommendations of an expected 107. The remaining 31 inputs will be evaluated according to our QCI-12 process in the near future.

5. Management, Operations and Administration

a. Changes in Supervisory and Management Staff:

Efforts are continuing to identify permanent SMUD Managers for every key position. Both NRC and SMUD realize the importance of employing these managers prior to Restart so that they may function as a cohesive team before the contractor managers depart. Interviews for all contractor-filled positions will be conducted in February and March 1987.

b. Changes in Organizational Structure:

Efforts are in full stride to define the "Ultimate" or target nuclear organization which will result in the staffing of all nuclear management positions by SMUD people. This is a comprehensive program which will be described in a future Amendment to the Action Plan.

c. The Systems Review and Test Program (STRP):

Total staffing for this organization is 110 people. All are presently assigned and all key positions have been filled.

Details of the STRP were presented to the NRC in Washington, D.C. on January 28, 1987.

In December and January an NRC team reviewed the Systems Review and Test Program at Rancho Seco and had no major concerns. They were pleased with the progress made to date.

6. Plant Modifications and Maintenance Improvements

Section 4C of the Action Plan details the modifications and maintenance required for restart. Actual work is underway on each of the identified projects. Completion of each task is occurring, although item closeout is pending full operation of the QTS and closeout documentation process.

III. ACTION PLAN PROGRESS (Continued)

The forthcoming amendment 3 to the Action Plan will describe the SMUD program and plan for scheduling near term and long term recommendations.

7. Systems Review and Test Program

This program is described in Section 4D of the Action Plan and is rapidly becoming the comprehensive effort envisioned in the Plan. As noted above, the program is now 100% staffed. Implementation of the programmatic structure has been initiated. In addition, the detailed system review documents are completed. These will define the scope and depth of the individual system tests. Detailed test procedures are being developed. Approximately 30% are complete.

8. Non-Action Plan Related Activities

The Foothills Fault is being investigated for its possible influence on Rancho Seco seismic design criteria. We do not expect that this study will result in any impact upon the plant design bases.

9. Resource Commitments and Utilization

As a part of the expansion necessary to support the Action Plan, implementation programs have been strengthened or put in place to provide management information and control of activities and resources. These efforts allow for the budgeting and allocation of resources where necessary to accomplish the commitments of the Action Plan. The major elements are:

a. Budget

b. Personnel and Staffing

During the months of December, 1986 and January, 1987, the total staff assigned to the Nuclear Organization increased by approximately 200 people as efforts to staff up to accomplish action plan commitments continued. As of the end of January, there were 879 SMUD employees, 617 craft labor, and 1751 consultant/other contractors assigned to the nuclear organization with a small number of SMUD and consultant personnel assigned to various locations other than Rancho Seco.

Approximate overtime utilization of the staff during the months of December and January as a percentage of straight time hours worked is as follows:

III. ACTION PLAN PROGRESS (Continued)

SMUD	22%
Craft Labor	15%
Consultants/Other Contractors (located at Rancho Seco and submitting site timesheets)	18%

As of January 31, 1987, a total of 2,630 people were directly supporting Rancho Seco and the restart effort. On a typical day-shift, approximately 2,000 people are physically present within the security fence. This has required staggering of working schedules and has created an office space shortage requiring utilization of over 50 temporary trailers.

10. Schedule

At present we expect the plant to be producing power in the third quarter 1987. There exists potential for delay due to:

- a. Cable routing problems
- b. Reactor coolant pump problems
- c. Failures during system tests
- d. Delays in the regulatory process