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FINAL PHASE-IN REPORT

DOE/OR/121620-T1-Vol.10

VOLUME 10 OF 15

QUALITY ASSURANCE

(Period October 25, 1985 thru December 31, 1985)

TO: U. S. DEPARTMENT OF ENERGY

Contract No. DE-AC05-86OR21620

January 17, 1986

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QUALITY ASSURANCE

I. WORK TASKS

A. STUDY AND EVALUATE THE CHARTERS, RESPONSIBILITIES, AUTHORITIES AND INTERFACES OF THE VARIOUS QUALITY ASSURANCE ORGANIZATIONS AT FMPC INCLUDING KELLOGG RUST CONTRACTORS. DEVELOP GUIDELINES FOR A CONSOLIDATED WMCO SITE QA PROGRAM WITH RESPECT TO REQUIREMENTS OF ANSI/ASME NQA-1 AND DOE OR 5700.6

1. Findings

Studies were conducted of the existing practices of quality assurance at the FMPC. Interviews with NLO personnel within the QA/QC Department and other interfacing organizations were held. Documents generated by the NLO QA/QC Department and operating manuals of various other NLO departments were examined to understand the current QA Program at the FMPC and to develop guidelines for a WMCO QA Program. In addition, Rust QA plans and current quality assurance practices between NLO and Rust Engineering were reviewed.

The Kellogg Rust QA Program originates in the Oak Ridge K-R office with a manual of procedures that address the intent of the NQA-1 elements applicable to the activities of a construction organization. This Program will be submitted to WMCO for review as part of the WMCO/Kellogg Rust contract.

The results of the NLO studies revealed that NLO organizations, including the QA/QC Department, have not been exposed to the NQA-1 quality concept; and consequently, the NLO organization is not staffed or structured to support the implementation and maintenance of an NQA-1 program. The principal functions of the NLO QA Department are to 1) audit the NLO operating procedures and QA Plans, 2) collect and report chemical results of the FMPC products, and 3) inspect the final products. No formal procedures exist for the activities of the QA/QC Department or for the interactions of the Department with other departments in NLO.

2. Recommendations

Based on the results of the studies and evaluations of the current QA systems at the FMPC, a complete QA program and QA philosophy will have to be developed. Some portions of the existing inspection activities are directly applicable to NQA-1 operation and will be incorporated into the new program with modification where necessary. Included are activities dealing with the inspection

measurements, product certifications, inspection tool gaging and calibration, and training of inspection personnel. Guidelines for development of the new program based on examples of other government owned - contractor operated QA programs tailored to the specific needs of the FMPC.

External resources will be necessary to develop the new program and to introduce the NQA-1 philosophy to the NLO employes. It will be necessary to continue the present NLO QA program and assignments of QA personnel until the new QA program system is established. A smooth transition must be accomplished without seriously impacting existing FMPC commitments. Immediate actions that will be taken shortly after takeover are: 1) restructuring the QA organization to support an NQA-1 program, 2) establishing a quality engineering concept, 3) conducting sensitivity training sessions on the verifier/performer responsibilities to achieving quality and 4) redirecting the present audit resources to focus on developing an NQA-1 audit and surveillance program.

3. Corrective Action

The present QA/QC Department will be reorganized to include the following principal concepts and functions:

- a quality engineering approach;
- a project quality operation for interface with the construction activities at FMPC;
- a quality control operation to continue inspection services for FMPC products;
- a quality systems approach to develop and maintain the overall quality assurance program at the FMPC; and
- a total quality and productivity improvement approach throughout the FMPC organizations.

This reorganization is a near term action defined within the 9-month Program Plan.

Training sessions will be conducted for the QA/QC Department personnel to sensitize them to the principles of an NQA-1 program and the responsibilities of each person in the verification of quality performance throughout the FMPC activities. These training sessions are near term actions to be accomplished in conjunction with the reorganization.

The present audit activity will be redirected to comply with NQA-1 requirements, and preparations will be formulated to initiate audits of critical

operations within the FMPC. This redirection will be accomplished in the near term in conjunction with the development of the NQA-1 program and supporting Quality Assurance procedures.

The development of a quality assurance program for procurement will be initiated, including procurement document control, vendor surveillance, source inspections and other features that will assure the quality of procurements. This activity will be initiated in the near term and fully implemented in the long-term (beyond 9-month Program Plan).

B. RECOMMEND A PROGRAM TO UPGRADE THE NLO QUALITY ASSURANCE PROGRAM TO MEET REQUIREMENTS OF NQA-1 AND DOE OR 5700.6.

1. Findings

The overall NLO Quality Program is a collection of activities mainly directed toward supporting operations through an inspection function. The NLO organization has operated with the philosophy that the quality organization is primarily responsible for achieving quality. This is in direct conflict with an NQA-1 program and can seriously impact the quality and productivity of the FMPC operations.

3. Recommendations

Based on this observation, upgrading of the NLO QA Program will be essentially abandoned, and a completely new WMCO program will be established to eventually replace the existing NLO Program. As stated in the previous item, the present NLO Program will be continued for a minimum period of time after the WMCO takeover of FMPC. The first step in the development of the WMCO Program will be to design and initiate the staffing of a QA organization and identify the necessary external and internal resources needed to develop the QA program in a timely fashion that will meet the NQA-1 and DOE order requirements. The new program will be developed in segments with the highest priority elements of NQA-1 (relative to FMPC needs) being addressed first. This priority has been addressed in the nine month plan. As the program and implementing QA procedures are prepared for each portion of the overall program, employee training sessions will be conducted to phase-in and to begin to implement that portion of the program. WMCO intends to complete the establishment of the WMCO QA Program, including the preparation of a QA program manual, in FY-1986. As the QA program

develops, interfacing organizations will prepare their procedures to achieve the level of quality intended for the implementation of an NQA-1 program.

3. Corrective Action

The reorganized QA Department will be staffed sufficiently to develop the NQA-1 program and to implement the procedures prepared as part of the program (near term).

The NQA-1 program will be developed with the highest priority elements addressed first. The 18 elements of NQA-1 are identified in order of priority in the 9-month Program Plan (near term).

The quality assurance procedures required to fully implement an NQA-1 program at FMPC will be prepared, issued and implemented. While this action will commence in the near term, final completion and full implementation will be accomplished in the long term (beyond 9-month Program Plan).

Employee training sessions will be conducted to implement the NQA-1 program following the preparation and issue of procedures (long term).

C. REVIEW QUALITY ASSURANCE AUDIT REPORTS FOR THE PAST 12 MONTHS AND QUALITY ASSURANCE RELATED FINDINGS OF 1984 TASK FORCE REPORT.

1. Findings

The NLO audit programs conducted by the QA/QC Department were studied, and representative examples of the audit types were examined. Three types of audits are performed: 1) compliance audits of Standard Operating Procedures, 2) committee review audits of Quality Assurance Plans, and 3) compliance audits of reference procedures within the Quality Assurance Plans. The latter type was recently initiated with only two such audits conducted to date. No procedures exist within NLO to direct the planning, performance and reporting of audits. Furthermore, the type and format of audits currently carried out at the FMPC do not meet the requirements of NQA-1. An NQA-1 auditor qualification program is not evident.

The NLO system of reporting, consisting of minor events, incident reports and unusual occurrence reports, were reviewed and some examples of each were examined.

The 1984 DOE Task Force Report on the FMPC was reviewed with the NLO responses prepared to date. Westinghouse Transition Team reviews in the QA-related activities corroborate the DOE Report findings, and this information is being used to plan changes in the overall program.

2. Recommendations

The audit program, as it exists, is at best a passive program with no aggressive action which enhances solving existing system problems or improving the quality of operations and product. Several reasons which support this observation are: the present quality systems/procedures are unauditible because they do not exist or are vague; the philosophy of the audit program is passive in nature; the structure of the audit team (committee) is not conducive to independent audit results and; the audit program has no independent sponsor at the senior staff level.

It appears that continuation of the audit program/resources in the present mode is not in the best interest of DOE or WMCO. A better utilization of these resources is to redirect them to participate in developing an NQA-1 audit/surveillance program, to establish an auditor training program and to assist in developing the WMCO Corrective Action Program. It is anticipated that selected audits will be conducted during this rebuild phase but will be scheduled on a case basis for enhancement of the Auditor Training Program and for development of the new WMCO Quality Program.

3. Corrective Action

A revised audit program will be developed to comply with the requirements of NQA-1 (near-term).

An auditor training program will be initiated (near-term).

Initial selected audits of critical activities will be conducted per the revised NQA-1 program (near-term).

The current audit program will be phased out in the near term in favor of the revised NQA-1 program.

A complete audit/surveillance program will be fully implemented in accordance with established procedures, and annual schedules of audits will be conducted regularly (long-term).

A Corrective Action Program will be established and fully implemented to address the findings of audits, surveillance activities and unusual occurrences (long-term).

D. INITIATE AN ASSESSMENT OF THE NLO QUALITY IMPROVEMENT PROGRAMS VERSUS WESTINGHOUSE STANDARDS FOR QUALITY EXCELLENCE.

1. Findings

A review was made of existing quality improvement activities at FMPC. The Transition Team found that some committees have been formed to resolve critical quality problems; however, no formal quality improvement program with established quality measures and goals exists at FMPC.

2. Recommendations

WMCO plans to establish a Quality and Productivity Improvement Program for FMPC by May 30, 1986. The essential elements of the WMCO Quality and Productivity Improvement Program will include:

- Quality improvement training for managers,
- Quality awareness training for all employes,
- Quality and productivity measures,
- Quality and productivity improvement goals,
- Quality improvement teams,
- Evaluation of program effectiveness, and
- Recognition of quality and productivity achievements.

3. Corrective Action

A quality improvement review will be conducted at FMPC in the near-term.

A Quality and Productivity Improvement Program will be established, complete with improvement measures and goals (near-term).

Quality awareness training will be initiated for all employes in the near term and completed in the long term.

Quality Teams and Quality Circles will be established (long-term).

A Quality Fitness Review of the FMPC will be conducted in the long term.

II. SUMMARY

The present Quality Program practiced at FMPC has adequately supported the FMPC needs based on past standards and accepted practices. Current concerns for achieving quality excellence, protecting the environment and maintaining a good neighbor image in a nuclear environment are foremost at FMPC. The implementation of an NQA-1 Quality Program will have a significant impact on eliminating these concerns.

The tasks addressed in the transition work scope for Quality Assurance have been completed. The recommendations and corrective actions described for each task define the actions that will be implemented by WMCO and provide the basis for the 9-month FY 1986 Program Plan for Quality Assurance. The key elements of this near term plan are the development of a Quality Assurance organization and an NQA-1 program. The long term actions (beyond 9 months) include the complete implementation and continuous improvement of a quality assurance program in total compliance with all the elements of NQA-1.