1982 Evaluation

Davis-Besse Nuclear Power Station

The Toledo Edison Company

INPO

EVALUATION

of

DAVIS-BESSE NUCLEAR POWER STATION

The Toledo Edison Company

March 1983

SUMMARY

INTRODUCTION

The Institute of Nuclear Power Operations (INPO) conducted an evaluation of The Toledo Edison Company's Davis-Besse Nuclear Power Station during the weeks of November 22 and December 6, 1982. Davis-Besse is a single unit 906 Mwe (net) Babcock & Wilcox pressurized water reactor. The station is located on the southwest shore of Lake Erie, east of Toledo, Ohio. The unit began commercial operation in November 1977.

PURPOSE AND SCOPE

INPO conducted an evaluation of site activities to make an overall determination of plant safety, to evaluate management systems and controls, and to identify areas needing improvement. Information was assembled from discussions, interviews, observations, and reviews of documentation.

The INPO evaluation team examined station organization and administration, operations, maintenance, technical support, training and qualification, radiological protection, and chemistry. The team also observed the actual performance of selected evolutions and surveillance testing. As a basis for the evaluation, INPO used performance objectives and criteria relevant to each of the areas examined; these were applied and evaluated in light of the experience of team members, INPO's observations, and good practices within the industry.

INPO's goal is to assist member utilities in achieving the highest standards of excellence in nuclear plant operation. The recommendations in each area are based on best practices, rather than minimum acceptable standards or requirements. Accordingly, areas where improvements are recommended are not necessarily indicative of unsatisfactory performance.

DETERMINATION

Within the scope of this evaluation, the team determined that the plant is in good material condition and is being operated in a safe manner by a well qualified and experienced staff.

The following beneficial practices and accomplishments were noted:

Significant improvements have been made since the last evaluation.

The ALARA program is effective and reflects good advance planning and post-maintenance analysis.

Plant procedures are of high quality and adherence to procedures is good.

Improvements were recommended in a number of areas. The following are considered to be among the most important:

The material condition of the water treatment plant needs to be significantly upgraded.

Coordination and planning of plant activities need improvement.

The chemistry and chemistry control programs need improvement.

The chemistry and health physics qualification program needs to be improved.

In each of the areas evaluated, INPO has established PERFORMANCE OBJECTIVES and supporting criteria. All PERFORMANCE OBJECTIVES reviewed during the course of this evaluation are listed in APPENDIX II.

Findings and recommendations are listed under the PERFORMANCE OBJECTIVES to which they pertain. Particularly noteworthy conditions that contribute to meeting PERFORMANCE OBJECTIVES are identified as Good Practices. Other findings describe conditions that detract from meeting the PERFORMANCE OBJECTIVES. It would not be productive to list as Good Practices those things that are commonly done properly in the industry since this would be of no benefit to The Toledo Edison Company or to INPO's other member utilities. As a result, most of the findings highlight conditions that need improvement.

The recommendations following each finding are intended to assist the utility in ongoing efforts to improve all aspects of its nuclear programs. In addressing these findings and recommendations, the utility should, in addition to correcting or improving specific conditions, pursue underlying causes and issues.

As a part of the second and succeeding evaluations of each station, the evaluation team will follow up on responses to findings in previous reports. Findings with response actions scheduled for future completion have been carried forward in APPENDIX I to this report. In areas where additional improvements were needed, a new finding that stands on its own merit has been written. Thus, this report stands alone, and reference to previous evaluation reports should not be necessary.

The findings listed herein were presented to The Toledo Edison Company management at an exit meeting on December 9, 1982. Findings, recommendations, and responses were reviewed with Toledo Edison management on January 21, 1983. Responses are considered satisfactory.

To follow the timely completion of the improvements included in the responses, INPO requests a written status by September 30, 1983. Additionally, a final update will be requested six weeks prior to the next evaluation.

The evaluation staff appreciates the cooperation received from all levels of The Toledo Edison Company.

THE TOLEDO EDISON COMPANY

Response Summary

Toledo Edison appreciates receiving the results of the second INPO evaluation of our Davis-Besse Nuclear Power Station. We recognize INPO's commitment toward improving overall safety and reliability within the nuclear power industry. Toledo Edison corporate management continues to strive for safe, economical, and efficient operation of the Davis-Besse Station, and we are pleased that the team determined that the plant was in good condition and was being operated in a safe manner.

The INPO team evaluated station organization and administration, operations, maintenance, technical support, training and qualification, radiological protection, and chemistry. The team indicated that they felt significant improvements have been made since the last evaluation, that the ALARA program is effective and reflects good advance planning and post-maintenance analysis, and that plant procedures are of high quality and adherence to procedures is good. Toledo Edison views this as a positive indication that its continuing efforts toward overall excellence of operation are paying off.

Improvements were recommended in the areas of water treatment, plant material condition, coordination and planning of plant activities, chemistry and chemistry control programs, and the chemistry and health physics qualification program. Toledo Edison had previously recognized the need for improvement in many of these areas and was in the process of resolving those items. The recent evaluation will help us focus on those specific areas where opportunities for improvement exist. In our responses, we have provided time frames for planned corrective action. We will monitor our progress against these target dates and provide status reports to INPO.

ORGANIZATION AND ADMINISTRATION

MISSION, GOALS, AND OBJECTIVES

PERFORMANCE OBJECTIVE: Station mission, goals, and objectives should be established and progress monitored through a formal program.

Finding (OA.2-1)

Improvement of the station's goals and objectives program is needed. The development of specific responsibilities, plans, and milestones is needed at the section level. A method is also needed to assess progress toward achieving objectives. Station management is moving to establish improved 1983 goals.

Recommendation

Improve the station's goals and objectives program by establishing specific supporting responsibilities, plans, and milestones at the section level. In addition, establish a program of regular assessments of progress toward the achievement of goals and objectives.

Response

A program consistent with the INPO recommendation is actively being established with the section heads. Weekly meetings are being conducted towards implementing a dynamic goals program, formalizing short-term objectives, and enhancing effective management skills. A fully functional and productive section head objectives program is expected to be in place by December 31, 1983.

MANAGEMENT ASSESSMENT

PERFORMANCE OBJECTIVE: Management should assess and monitor station activities to ensure effective performance of all aspects of nuclear plant operation.

Finding (OA.3.1-1)

A graduated quality program is needed for selected non-safety-related equipment that could impact safety or reliability. The quality assurance program is currently generally limited to safety-related systems.

Recommendation

A graduated quality program should be applied to important activities on selected balance-of-plant (BOP) equipment that could impact safety or reliability such as the main power train, condensate, and feedwater systems. Quality controls, such as selected inspection points during maintenance and appropriate inspections and tests to ensure operability following maintenance, should be established.

Response Toledo Edison will expand its quality assurance program to apply to important activities on selected BOP equipment that could impact safety and reliability such as portions of the main power train, condensate, and feedwater systems. INPO is developing a Good Practice in this area that will offer additional guidance and alternative methods for application of quality programs to BOP components important to safety and reliability. Toledo Edison will review the Good Practice and provide a status and an estimated date for implementing a quality program for BOP equipment in the six-month status report.

Finding (OA.3.1-2) **Managers and supervisors need to be more involved in monitoring, assessing, and improving performance of plant activities.** Observations in a number of areas identified problems and weaknesses in training, supervision, and adherence to plant requirements.

Recommendation Managers and supervisors should be required to regularly monitor and assess the performance of plant activities and to identify problems and weaknesses in training, supervision, and adherence to procedures. Follow-up should be conducted to ensure timely correction of noted deficiencies.

Response An integral part of the objectives program for section heads will be the increased emphasis toward regular monitoring and assessment of section activities. Specific objectives will be established to address noted problems that are not being satisfactorily monitored or corrected. Evaluations of individual section heads during 1983 will place emphasis on the detail to which they and their subordinates involve themselves in assessing the performance of their people and providing impetus toward correcting identified deficiencies. This will provide a more active management role in improving the performance of plant activities.

DOCUMENT CONTROL

PERFORMANCE OBJECTIVE: Document control systems should provide correct, readily accessible information to support station requirements.

Finding (OA.6-1) **The method of making temporary procedure modifications makes some procedures difficult to use.** Temporary procedure modifications are attached to, but are not entered into the body of, procedures. Procedure users must refer back and forth from the body to the applicable temporary modification. Some procedures

have up to seven modifications attached. A reliable method is needed to ensure use of all attached temporary modifications.

Recommendation The method of using temporary procedure modifications should be improved to minimize or eliminate attachment of multiple changes to procedures and to enhance their proper use. Consider the use of word processing techniques to promptly incorporate temporary procedure modifications into the body of the procedures.

Response The station is working with the Word Processing Department to accomplish the following corrective action:

a. move the Word Processing personnel responsible for typing procedures to the site

b. give the station clerks the capability to use word processing equipment to type procedures from their work stations

c. through the availability of word processing terminals at the station, incorporate temporary modifications (T-MOD) into the procedures shortly after the T-MODs are approved

Implementation is expected to be completed by December 1984.

b. Some tags provide procedural information for operating critical equipment and do not undergo a formal procedure review process. In some cases, these tags compensate for needed changes to existing procedures.

c. Some tags are used where permanent operator aids or devices such as labels or locks may be required.

Recommendation Implement guidance for the control of information tags. This guidance should include requirements for issuance, release, and periodic review to ensure that operating information is incorporated into the proper documents. Use of information tags of a procedural nature should be minimized. INPO Good Practice OP-203, "Procedure For The Protection of Employees Working on Electrical and Mechanical Components," could be of assistance.

Response Appropriate procedure revisions will be made by June 1, 1983 to provide additional detailed guidance for the use of information tags. This guidance will clarify proper completion, issuance, usage, and timely removal of tags.

Finding (OP.3-2) **The jumper and wire removal program needs improvement in the following areas:**

a. Additional information should be provided in the placement log concerning the reason for and the effect of installation.

b. Proper documentation should be provided to ensure removal of the temporary condition.

Recommendation Revise the jumper log to require documentation of the reason for the installations and the effect of each jumper or lifted wire. Provide proper documentation to ensure removal of the temporary condition, e.g., require identification of jumpers or lifted wires on associated work authorization.

Response A program will be established to review the status of current jumpers and lifted wires. This program will ensure proper documentation exists for placement and will establish a method to ensure removal. The program will be in place by August 1, 1983, and will specify the time frame in which the reviews and corrective actions will be completed.

OPERATOR KNOWLEDGE AND PERFORMANCE

PERFORMANCE OBJECTIVE: Operator knowledge and performance should support safe and reliable plant operation.

Finding (OP.4-1)

The following Good Practice was noted: The shift supervisor meets with the entire oncoming crew following shift turnover to discuss upcoming events, plant problems, and specific concerns to individual areas. This ensures a smooth shift transition and a unified approach to plant problems and upcoming events.

OPERATIONS PROCEDURES AND DOCUMENTATION

PERFORMANCE OBJECTIVE: Operational procedures and documents should provide appropriate direction and should be effectively used to support safe operation of the plant.

Finding (OP.5-1)

Uncontrolled notes, information tags, graphs, portions of procedures, and drawings of a temporary nature used as operator aids were located on several plant panels. It is recognized that a procedure has recently been implemented to correct this problem, but required actions have not been completed.

Recommendation

Continue the recently implemented program of identification, approval, and documentation of temporary operator aids in the plant, minimizing their use where possible.

Response

Implementation of the new program is greater than 90 percent complete. Implementation will be completed by June 1, 1983.

Finding (OP.5-2)

Improvement is needed in the control of procedures used by plant operators. Operating procedures at several locations are not on the distribution list for procedure changes.

Recommendation

Review the current distribution of controlled operating procedures to ensure that only necessary copies are maintained and that those copies are kept current.

Response Proper procedure usage will be reviewed with all operating personnel by May 31, 1983. The current procedure distribution will be reviewed and revised by August 1, 1983.

OPERATIONS FACILITIES AND EQUIPMENT

PERFORMANCE OBJECTIVE: Operational facilities and equipment should effectively support plant operation.

Finding (OP.6-1) **The following Good Practice was noted: Padlocks colored red, green, and yellow are used on locked valves to indicate open, closed, and throttled positions, respectively.** This color coding permits convenient identification of the intended position of locked valves, especially in areas where visibility is restricted.

Finding (OP.6-2) **The following Good Practice was noted: Metal plates are attached to plant doors listing components located in the room.** On many doors the list is extensive and saves the operator time in identifying the location of components, and ALARA considerations are enhanced.

MAINTENANCE

PLANT MATERIAL CONDITION

PERFORMANCE OBJECTIVE: The material condition of the plant should be maintained to support safe and reliable plant operation.

Finding (MA.2-1)

The material condition of the water treatment plant needs improvement. Numerous leaks exist and corrosion of equipment and structures is extensive. Equipment such as the degasifier, domestic water neutralizer, sludge pumps, waste neutralizer tank, and the emergency acid system have failed and are unusable.

Recommendation

Initiate action to identify and correct leaks, failed equipment, corrosion, and other material deficiencies in the water treatment building. Clean and preserve equipment and structures, and perform periodic inspections to ensure proper equipment operation and material preservation.

Response

The station will form a water treatment plant task team composed of staff members from Chem-Health Physics, Maintenance, and Engineering. This team will be responsible for identifying all items in the water treatment plant that require attention. From this identification, an action plan will be generated to establish priorities and schedule work to upgrade the material conditions in that area.

This team will be established by March 1983, and the action plan completed by May 1983. Items within the 1983 budget will be accomplished before the year's end, and remaining major projects will be completed in 1984.

WORK CONTROL SYSTEM

PERFORMANCE OBJECTIVE: The control of work should ensure that identified maintenance actions are properly completed in a safe, timely, and efficient manner.

Finding (MA.3-1)

Improvements are needed in the planning and scheduling of corrective and preventive maintenance (PM). In the preplanning of work packages, steps and activities important to implementation are not always defined. Improved scheduling is needed to ensure that prerequisites such as tagout and activities performed by station services are completed prior to maintenance.

Recommendation Expand work planning associated with maintenance work orders and PMs to ensure that workers have proper direction to complete assigned work efficiently and correctly. Develop methods to ensure that tagouts and other support activities do not unnecessarily delay work activities. Consider advance preparation and issue of tagouts and assistance request forms.

Response The station is presently forming a planning and scheduling group. This group has been tasked with coordinating and scheduling maintenance activities including corrective and preventive maintenance. Additional preplanning of work is now being implemented as part of the scheduling efforts of the above group. A computerized scheduling system will be installed in 1983. It includes all station departments as well as Quality Control, and will provide advance notice to all groups to allow preparation needed to avoid work delays.

The additional preplanning, instructions, and coordination will satisfy the INPO recommendation and will improve performance in this area in 1983.

PREVENTIVE MAINTENANCE

PERFORMANCE OBJECTIVE: The preventive maintenance programs should contribute to optimum performance and reliability of plant equipment.

Finding (MA.5-1) **The preventive maintenance (PM) program needs to be fully developed and implemented in the Instrument and Control (I&C) Department.** Although significant achievements have been made in the mechanical area, some I&C equipment important to plant operation has not been included in the PM program. The present program does not ensure periodic review for effectiveness, and many PM activities are overdue or incomplete.

Recommendation Review and expand the I&C preventive maintenance program to include safety- and reliability-related equipment. Improve the method of scheduling PM activities, and enforce the performance of PMs as scheduled. Perform periodic reviews of the PM program and activities for effectiveness.

Response The PM programs for the I&C Department and the Maintenance Department have been integrated into one PM program. The PM Maintenance Work Orders (MWO) are now being scheduled by the new maintenance planning group to improve the rate of scheduled PM accomplishment. This integration and implementation became

effective on January 3, 1983. The cognizant system person will review the PMs conducted within his area on an annual basis to determine the overall effectiveness and adjust the program as needed.

MAINTENANCE FACILITIES AND EQUIPMENT

PERFORMANCE OBJECTIVE: Facilities and equipment should effectively support the performance of maintenance activities.

Finding (MA.8-1)

Improvement is needed in storeroom practices to ensure that safety-related materials can be traced to end-use in the plant. Storeroom records do not always reflect end-use of bulk materials such as weld rod, pipe, wire, and items that do not have a stock number.

Recommendation

Establish controls to ensure that safety-related material can be traced to the end-use in the plant. Ensure that similar controls are established to update storeroom records as bulk items are used.

Response

A procedure will be written to designate authorized safety-related storage areas in the station and to log the use of bulk material that is not under storeroom control. These logs will be maintained in the Information and Records Management system. The procedure and logs will be in place by June 1, 1983.

Finding (MA.8-2)

The following Good Practice was noted: Shelf life requirements and expiration dates for items in the storeroom are identified in a special section of the green acceptance tags. Additionally, a record is maintained by month and year when these items expire. Storeroom personnel review and take action on these items at the beginning of each month. Shelf life due dates are entered at the time of receipt inspection.

Finding (MA.8-3)

The following Good Practice was noted: A catalogue has been developed that lists all stock items. This catalogue is arranged alphabetically by generic part name (i.e., bearing, gaskets, gloves, seals). Included are a description of the part, its application, and a cross-reference to vendor, stock number, and vendor part number. This is helpful in requesting or looking up a part, if the stock number is not known.

TECHNICAL SUPPORT

OPERATING EXPERIENCE REVIEW PROGRAM

PERFORMANCE OBJECTIVE: Industrywide and in-house operating experiences should be evaluated and appropriate actions undertaken to improve plant safety and reliability.

SOER STATUS

The status of Significant Operating Experience Report (SOER) recommendations is as follows:

Number of Recommendations	Action Taken
54	Satisfactory
8	Not applicable
13	Pending

The following recommendations are pending action:

SOER Number	Recommendation Number
81-12	4a, 4b
82-6	2b, 5
82-9	1, 2, 3, 4, 5, 6, 7, 8, 9

An update on the status of each recommendation listed in the "pending action" category shown above is requested in the six-month follow-on response to this report. In addition, the status of each immediate action (red tab) SOER recommendation received subsequent to this evaluation should be included in the six-month follow-on response. A tabular summary, similar to that above, is requested.

Finding (TS.3-1)

The quality of the periodic reviews of the operating experience program needs to be improved. Past program reviews by Quality Assurance did not evaluate the technical judgments involved in dispositioning operating experience reports. Checks were also not made of the actual implementation of recommended corrective actions.

Recommendation

Modify the periodic reviews to include an assessment of the technical adequacy and accuracy of event report disposition and the identification and implementation of resultant corrective actions.

Response

Toledo Edison has revised its procedures to require an independent engineering assessment of the technical judgments involved in dispositioning event reports. In addition, Quality Assurance will periodically audit selected event report corrective actions to verify that they have been properly approved and implemented.

PLANT MODIFICATIONS

PERFORMANCE OBJECTIVE: Plant modification programs should ensure proper review, control, implementation, and completion of plant design changes in a safe and timely manner.

Finding (TS.4-1)

A large number of jumpers and lifted wires have been in place for prolonged periods. Many were installed during initial plant startup and have become permanent in nature. These permanent-type changes have not received the design review and design document update that is provided by the Facility Change Request (FCR) process. This problem is recognized by the station staff and efforts are in progress to identify solutions.

Recommendation

Substantially reduce the number of long-standing jumpers and lifted wires by reviewing the status of those items installed for prolonged periods. Where a permanent need for the change is identified, process the change as an FCR. For the remaining items, return the systems to the design configuration in a timely manner. Emphasize adherence to existing procedure requirements that are intended to minimize the number of long-term jumpers and lifted wires.

Response

A program will be established by August 1, 1983 to review the status of current jumpers and lifted wires. The program will address the INPO recommendation and specify the time frame in which corrective action will be completed. The program will also establish satisfactory methods for corrective action which will be incorporated in a revised procedure by October 1983.

Finding (TS.4-2)

The procedure for control of jumpers and lifted wires permits modifications to operable nuclear safety-related systems without a design review. The procedure only requires evaluation of surveillance test requirements and requires conducting the tests when necessary to demonstrate operability. Design reviews result only if operability cannot be demonstrated.

Recommendation

Revise the existing procedure to require a design review of jumpers and lifted wires that are changes in design of operable systems prior to returning these systems to service.

Response

The procedure for control of jumpers and lifted wires will be revised to incorporate a design review of jumpers and lifted wires that are changes in the design of operable critical systems prior to returning these systems to service. The procedure revision will be coordinated with establishment of the program for review of current jumpers and lifted wires and will be completed by October 1983.

PLANT EFFICIENCY AND RELIABILITY MONITORING

PERFORMANCE OBJECTIVE: Performance monitoring activities should optimize plant thermal performance and reliability.

Finding (TS.6-1)

Some non-safety-related equipment performance tests are not conducted on a regular basis. Formal scheduling of tests has been discontinued. As a result, some performance tests, such as the monthly check of the turbine, have not been conducted at periodic intervals even though appropriate plant conditions have existed.

Recommendation

Resume formal scheduling of performance tests and conduct these tests on a regular basis.

Response

A structured program for non-safety-related equipment performance tests, based on operating plant or atmospheric conditions, will be established by June 1, 1983. The program will specify appropriate periodic test intervals and will ensure that tests are conducted as required.

Finding (TS.6-2)

Acceptance criteria for some non-safety-related equipment performance tests need additional detail to permit ready identification of abnormal test results. Quantitative limits are not always established for some parameters when such limits would be appropriate. Past evaluations of data acceptability have relied on reviewing data trends for indications of equipment degradation.

Recommendation

Review information used by test engineers in evaluating the acceptability of equipment performance. Where appropriate, provide additional information to permit ready identification when test data exceed acceptable values.

Response

The criteria used to determine acceptability for non-safety-related equipment performance tests have been reviewed and incorporated into the performance files. These criteria will be used in conjunction with the existing trending program to add guidance to the evaluation of test results.

TRAINING AND QUALIFICATION

NON-LICENSED OPERATOR TRAINING AND QUALIFICATION

PERFORMANCE OBJECTIVE: The non-licensed operator training and qualification program should develop and improve the knowledge and skills necessary to perform assigned job functions.

Finding (TQ.2-1)

The non-licensed operator (auxiliary operator and equipment operator) requalification program has not been fully developed. Training has commenced under a draft procedure; however, a schedule has not been developed.

Recommendation

Formalize the non-licensed operator requalification program. Develop a training schedule and supporting training materials to support the program.

Response

Efforts are continuing to develop a more formal retraining program. A procedure implementing the program will be approved by July 1983. A schedule for utilizing this program will be developed as a function of availability of appropriate non-licensed operators and a plant-specific qualified instructor. Training materials for this program will be developed as needed to support the training.

RADIOLOGICAL PROTECTION

RADIOLOGICAL PROTECTION ORGANIZATION AND ADMINISTRATION

PERFORMANCE OBJECTIVE: The organization and administrative systems should ensure effective control and implementation of the radiological protection program.

Finding (RP.1-1)

Plant personnel do not always comply with radiological protection procedures and practices. Examples noted include the following:

a. incorrect use of radiation exposure permits

b. failure to observe the requirements of area postings

c. not following station procedures for waste reduction and prevention of tool and equipment contamination

d. improper handling of potentially contaminated items

e. improper wearing of protective clothing

Recommendation

Review and upgrade radiological protection training to ensure personnel are properly instructed in plant requirements in the areas noted. Increase the monitoring of personnel performance and the involvement of plant supervision to ensure that radiological work requirements are adhered to by plant workers.

Response

Health Physics management personnel will work with the Training Section to improve radiological controls training by covering problem areas in lecture sessions to supplement the slide presentation. In addition, Health Physics management personnel will work with supervisors from other sections to ensure that appropriate radiological protection procedures are used and that station personnel are instructed to follow the procedures. Station management will also increase emphasis on field supervision to further promote compliance with health physics practices.

Finding (RP.1-2)

The following Good Practice was noted: There is an effective required reading program for plant chemistry and health physics technicians. Information is comprehensive in nature and is well presented. This enables technicians to remain abreast of changes in site programs and to be informed of current industry information relevant to their technical duties.

RADIOLOGICAL PROTECTION PERSONNEL QUALIFICATION

PERFORMANCE OBJECTIVE: The radiological protection qualification program should ensure that radiological protection personnel have the knowledge and practical abilities necessary to effectively implement radiological protection practices.

Finding (RP.2-1)

Some chemistry and health physics technicians are assigned to technical functions without documented completion of all appropriate on-the-job qualification requirements. A new on-the-job qualification program has been developed, but has not been implemented. Additionally, qualification programs for some specialized tasks, such as instrument calibration, have not been developed.

Recommendation

Implement the new on-the-job qualification program and develop qualification programs for specialized tasks. Establish controls to ensure that technicians are not assigned technical functions until formal qualifications for that function have been completed.

Response

An administrative procedure implemented the Chemistry and Health Physics Qualification Manual, which addresses this finding, in December 1982. Since that time, qualifications for those activities that the technicians perform have been documented.

EXTERNAL RADIATION EXPOSURE

PERFORMANCE OBJECTIVE: External radiation exposure controls should minimize personnel radiation exposure.

Finding (RP.4-1)

The following Good Practice was noted: A low level of radiation exposure has been maintained through an effective exposure reduction program. This includes the following:

a. effective pre-job reviews

b. post-job ALARA analysis and feedback into future work planning

c. effective ALARA review of engineering changes

d. effective use of engineered controls to reduce exposure

INTERNAL RADIATION EXPOSURE

PERFORMANCE OBJECTIVE: Internal radiation exposure controls should minimize internal exposures.

RADIOACTIVE CONTAMINATION CONTROL

PERFORMANCE OBJECTIVE: Radioactive contamination controls should minimize the contamination of areas, equipment, and personnel.

Finding (RP.9-1)

Personnel skin and clothing contaminations are not always documented, trended, and investigated. Plant procedures do not require that health physics be informed of all personnel contaminations. Entries in the health physics logbook concerning contaminations are often inconsistent and incomplete.

Recommendation

Require that all skin and clothing contaminations be documented. Establish a method for consistently documenting, trending, and investigating these contaminations.

Response

The health physics decontamination procedure has been revised to require individual contaminations to be documented, investigated, and reviewed by Health Physics and management personnel.

CHEMISTRY

CHEMISTRY ORGANIZATION AND ADMINISTRATION

PERFORMANCE OBJECTIVE: The organization and administrative systems should ensure effective implementation and control of the chemistry program.

Finding (CY.1-1)

The chemistry program needs improvement. Supervisory involvement in routine technical and engineering functions impacts the overview and management of chemistry program activities and the quality of performance in several areas. Specific examples of areas needing improvement include the following:

a. preventive maintenance and quality control on laboratory and on-line instrumentation

b. laboratory and bulk chemical control

c. safety inspections on plant chemical storage

d. regular inspections and evaluation of laboratory activities

e. coordination and implementation of the chemistry training and qualification program

f. use of on-line monitors for monitoring plant systems

g. evaluation of chemistry sample analyses and quality control results for trends and problems

Recommendation

Conduct an organization review to determine the need for additional technical and tester personnel to effectively perform required functions. Strengthen management involvement in monitoring and improving the chemistry program. Initiate actions to improve weaknesses identified in the review including the areas noted above.

Response

Toledo Edison is presently in the process of filling two positions that will provide additional management involvement in the chemistry area. An organizational review to determine the need for additional technical, management, and tester personnel to effectively perform required functions will be completed by July 1, 1983. Results and recommendations will be submitted through management channels for action. The status of this project and estimated completion dates will be provided in the six-month status report.

Finding (CY.1-2)

Chemistry-related material and design deficiencies identified by FCRs, plant inspections, audits, or other means need to be corrected in a timely manner. The following system/components have had significant deficiencies for several years:

a. domestic water chlorination system

b. pressure relief valve in the pressurizer sample line

c. pressurizer sample bomb

d. sample coolers for secondary analyzers

e. secondary water sodium analyzers

f. steam generator chemical feed pot area

g. chemical treatment system for plant circulating water

h. radiation monitor for turbine building sump releases

Recommendation

Determine the reasons for long delays between problem identification and resolution, and take appropriate corrective action. Take action to correct the specific problems identified in the finding.

Response

The capital work scope committee and the planning and scheduling group in the Maintenance Department prioritize work in the capital and maintenance areas respectively. Corrective action will be accomplished in accordance with the assigned priority and within the constraints of authorized resources. The status of this project and estimated completion dates will be provided in the six-month status report.

CHEMISTRY PERSONNEL QUALIFICATION

PERFORMANCE OBJECTIVE: The chemistry qualification program should ensure that chemistry personnel have the knowledge and practical abilities necessary to implement chemistry practices effectively.

Finding (CY.2-1)

The program for training chemistry and health physics personnel needs improvement. The following are examples of specific problems:

a. Knowledge and practical ability are not always evaluated by written examination and demonstration.

b. Waivers are granted on some portions of the chemistry and health physics training without evaluating knowledge level by written examination.

c. Chemistry and health physics personnel are not held accountable for training progress and completion.

Recommendation Upgrade the chemistry and health physics training program by requiring timely completion of the program and by evaluating the knowledge and practical abilities of chemistry personnel through written examinations and practical demonstrations.

Response A formal program for training and qualification of chemistry and health physics personnel, which addresses the finding, was implemented when the administrative procedure implementing the Chemistry and Health Physics Qualification Manual was approved in December 1982. Progress in documentation of qualification has already been made.

CHEMISTRY CONTROL

PERFORMANCE OBJECTIVE: Chemistry controls should ensure optimum chemistry conditions during all phases of plant operation.

Finding (CY.3-1) **Most of the on-line monitors needed to monitor chemistry and radiochemistry parameters are inoperable unreliable, or inaccurate.** Lack of confidence in these monitors has resulted in failure to use them for monitoring plant systems. Additional monitors are needed to adequately monitor some plant systems, e.g., condensate tank conductivity.

Recommendation Repair or replace inoperable or unreliable on-line chemistry equipment. Add on-line monitors to plant systems where needed. Use the monitors to identify trends and problems in plant systems.

Response An evaluation will be performed by April 1983 to determine the on-line monitors that should be operable to identify trends and problems in plant systems. Identified needs will be submitted to the capital work scope committee and maintenance planning and scheduling group, as appropriate, for inclusion in the integrated scheduling effort. Completion date will be a function of relative priority in the total integrated nuclear program plan. The status of this project and estimated completion dates will be provided in the six-month status report.

LABORATORY ACTIVITIES

PERFORMANCE OBJECTIVE: Laboratory and counting room activities should ensure accurate measuring and reporting of chemistry parameters.

Finding (CY.4-1)

Some analytical methods and techniques used in plant analyses need improvement. Problems were identified in areas such as primary coolant analyses for chloride and sodium and in the calibration frequency for the gas chromatograph.

Recommendation

Perform initial and periodic reviews of the techniques and procedures used for water chemistry analyses. Action should be initiated to ensure timely correction of deficiencies identified by the review.

Response

An improved chemistry quality control program that will address the problems noted in the finding will be defined by December 1983. It is expected that the quality control program will be in place by June 1984.

CHEMICAL AND LABORATORY SAFETY

PERFOPMANCE OBJECTIVE: Work practices associated with chemistry activities should ensure the safety of personnel.

Finding (CY.5-1)

An effective program for the safe control, storage, use, and disposal of bulk and laboratory chemicals is not in place. For example:

a. Chlorine gas is stored and used in areas that do not have leak detection monitors and alarms.

b. Chemicals that react violently with each other are stored together.

c. Flammable chemicals that are not in safety containers are stored outside of fireproof cabinets and away from designated flammable chemical storage areas.

d. Hazardous chemicals are stored in areas that do not have safety showers and eyewashes.

e. Unlabeled barrels of chemicals are stored at various locations on the plant site.

f. Hydrazine and ammonium hydroxide are added to plant systems in areas that have inadequate ventilation to remove the chemical buildup in the air.

Recommendation Establish a formal program to periodically identify and correct potential hazards associated with the storage, use, and disposal of bulk and laboratory chemicals. Correct the specific safety hazards identified in the finding.

Response The problems identified in the finding have been corrected. Adherence to the Laboratory Safety Manual will be periodically emphasized at safety meetings for laboratory personnel. In addition, a program to periodically identify and correct potential hazards associated with the storage, use, and disposal of bulk chemicals will be developed and implemented by July 1983.

APPENDIX I

Summary of Outstanding Response Action from Previous Evaluation (1981)

MANPOWER RESOURCES

Finding (OA.3-1)

Written qualification requirements need to be developed for senior staff positions. Although subordinate job position descriptions generally contain qualification requirements, those of senior staff positions do not.

Recommendation Establish written qualification requirements for each job position that affects plant safety and reliability.

Response All staff positions will be reviewed, and required position qualifications will be developed where necessary. This process will be completed by September 30, 1982.

Status The corporate-wide study that generated new position qualifications for plant and corporate positions took much longer than originally planned. Written qualification requirements are scheduled to be completed by June 1983.

WORK CONTROL SYSTEM

Finding (MA.3-1)

Improvements are needed in the present method of managing pending work. A large number of outstanding work orders remain open. Work scheduling should place more consideration on assigned priorities. The status of outstanding Maintenance Work Orders and Work Requests is not tracked to expedite long-standing open items.

Recommendation Review each outstanding Maintenance Work Order and Work Request to determine the current status. Those awaiting parts should be categorized and procurement expedited. Improved management techniques should be implemented to monitor the status of outstanding work and ensure timely completion. The methods adopted should be compatible with the computerized work control system being developed at the station.

Response A management person and a clerk have been assigned to this function. Their task is to review, consolidate, and close out the backlog of Maintenance Work Orders and Work Requests. They are working with the cognizant system engineers to prioritize and schedule open work items. For the long term, the station will be implementing a computerized maintenance management system, which will allow for optimum tracking and monitoring of outstanding work.

Status

Although improvements have been made, a considerable number of work orders are still missing, obsolete, or outdated. The new computerized maintenance management system is presently being established and should be fully implemented by June 1983.

APPENDIX II

Performance Objectives Reviewed

ORGANIZATION AND ADMINISTRATION

OA.1 Station Organization and Administration

Station organization and administrative systems should ensure effective implementation and control of station activities.

OA.2 Mission, Goals, and Objectives

Station mission, goals, and objectives should be established and progress monitored through a formal program.

OA.3.1 Management Assessment

Management should assess and monitor station activities to ensure effective performance of all aspects of nuclear plant operation.

OA.3.2 Quality Programs

Quality programs should ensure the effective performance of activities important to nuclear safety.

OA.4 Personnel Planning and Qualification

Personnel programs should ensure that station positions are filled by individuals with proper job qualifications.

OA.5 Industrial Safety

Station industrial safety programs should achieve a high degree of personnel safety.

OA.6 Document Control

Document control systems should provide correct, readily accessible information to support station requirements.

OA.7 On-site Nuclear Safety Review Committee

Review of station nuclear activities by a knowledgeable interdisciplinary group should ensure achievement of a high degree of nuclear safety.

OPERATIONS

OP.1 Operations Organization and Administration

The operations organization and administrative systems should ensure effective control and implementation of department activities.

OP.2 Conduct of Operations

Operational activities should be conducted in a manner that achieves safe and reliable plant operation.

OP.3 Plant Status Controls

Operational personnel should be cognizant of the status of plant systems and equipment under their control, and should ensure that systems and equipment are controlled in a manner that supports safe and reliable operation.

OP.4 Operations Knowledge and Performance

Operator knowledge and performance should support safe and reliable plant operation.

OP.5 Operations Procedures and Documentation

Operational procedures and documents should provide appropriate direction and should be effectively used to support safe operation of the plant.

OP.6 Operations Facilities and Equipment

Operational facilities and equipment should effectively support plant operation.

MAINTENANCE

MA.1 Maintenance Organization and Administration

The maintenance organization and administrative systems should ensure effective control and implementation of department activities.

MA.2 Plant Material Condition

The material condition of the plant should be maintained to support safe and reliable plant operation.

MA.3 Work Control System

The control of work should ensure that identified maintenance actions are properly completed in a safe, timely, and efficient manner.

MA.4 Conduct of Maintenance

Maintenance should be conducted in a manner that ensures efficient and effective plant operation.

MA.5 Preventive Maintenance

The preventive maintenance programs should contribute to optimum performance and reliability of plant equipment.

MA.6 Maintenance Procedures and Documentation

Maintenance procedures should provide appropriate directions for work and should be used to ensure that maintenance is performed safely and efficiently.

MA.7 Maintenance History

The maintenance history should be used to support maintenance activities and optimize equipment performance.

MA.8 Maintenance Facilities and Equipment

Facilities and equipment should effectively support the performance of maintenance activities.

TECHNICAL SUPPORT

TS.1 Technical Support Organization and Administration

The technical support organization and administrative systems should ensure effective control and implementation of department activities.

TS.2 Surveillance Testing Program

Surveillance inspection and testing activities should provide assurance that equipment important to safe and reliable plant operation will perform within required limits.

TS.3 Operations Experience Review Program

Industrywide and in-house operating experiences should be evaluated and appropriate actions undertaken to improve plant safety and reliability.

TS.4 Plant Modifications

Plant modification programs should ensure proper review, control, implementation, and completion of plant design changes in a safe and timely manner.

TS.5 Reactor Engineering

On-site reactor engineering activities should ensure optimum nuclear reactor operation without compromising design or safety limits.

TS.6 Plant Efficiency and Reliability Monitoring

Performance monitoring activities should optimize plant thermal performance and reliability.

TS.7 Technical Support Procedures and Documentation

Technical support procedures and documents should provide appropriate direction and should be effectively used to support safe operation of the plant.

TRAINING AND QUALIFICATION

TQ.1 Training Organization and Administration

The training organization and administrative systems should ensure effective control and implementation of training activities.

TQ.2 Non-Licensed Operator Training and Qualification

The non-licensed operator training and qualification program should develop and improve the knowledge and skills necessary to perform assigned job functions.

TQ.3 Licensed Operator Training and Qualification

The licensed operator training and qualification program should develop and improve the knowledge and skills necessary to perform assigned job functions.

TQ.4 Shift Technical Advisor Training and Qualification

The shift technical advisor training program should develop and improve the knowledge and skills to perform assigned job functions.

TQ.5 Maintenance Personnel Training and Qualification

The maintenance personnel training and qualification program should develop and improve the knowledge and skills necessary to perform assigned job functions.

TQ.6 Technical Training for Managers and Engineers

The technical training program for engineers and managers should broaden overall knowledge of plant processes and equipment as a supplement to position-specific education and training.

TQ.7 General Employee Training

The general employee training program should develop a broad understanding of employee responsibilities and safe work practices.

TQ.8 Training Facilities and Equipment

The training facilities, equipment, and materials should effectively support training activities.

RADIOLOGICAL PROTECTION

RP.1 Radiological Protection Organization and Administration

The organization and administrative systems should ensure effective control and implementation of the radiological protection program.

RP.2 Radiological Protection Personnel Qualification

The radiological protection qualification program should ensure that radiological protection personnel have the knowledge and practical abilities necessary to effectively implement radiclogical protection practices.

RP.3 General Employee Training In Radiological Protection

General employee training should ensure that plant personnel, contractors, and visitors have the knowledge and practical abilities necessary to effectively implement radiological protection practices associated with their work.

RP.4 External Radiation Exposure

External radiation exposure controls should minimize personnel radiation exposure.

RP.5 Internal Radiation Exposure

Internal radiation exposure controls should minimize internal exposures.

RP.6 Radioactive Effluents

Radioactive effluent controls should minimize radioactive materials released to the environment.

RP.7 Solid Radioactive Waste

Solid radioactive waste controls should minimize the volume of radioactive waste and ensure safe transportation of radioactive material.

RP.8 Personnel Dosimetry

The personnel dosimetry program should ensure that radiation exposures are accurately determined and recorded.

RP.9 Radioactive Contamination Control

Radioactive contamination controls should minimize the contamination of areas, equipment, and personnel.

CHEMISTRY

CY.1 Chemistry Organization and Administration

The organization and administrative systems should ensure effective implementation and control of the chemistry program.

CY.2 Chemistry Personnel Qualification

The chemistry qualification program should ensure that chemistry personnel have the knowledge and practical abilities necessary to implement chemistry practices effectively.

CY.3 Chemistry Control

Chemistry controls should ensure optimum chemistry conditions during all phases of plant operation.

CY.4 Laboratory Activities

Laboratory and counting room activities should ensure accurate measuring and reporting of chemistry parameters.

CY.5 Chemical and Laboratory Safety

Work practices associated with chemistry activities should ensure the safety of personnel.

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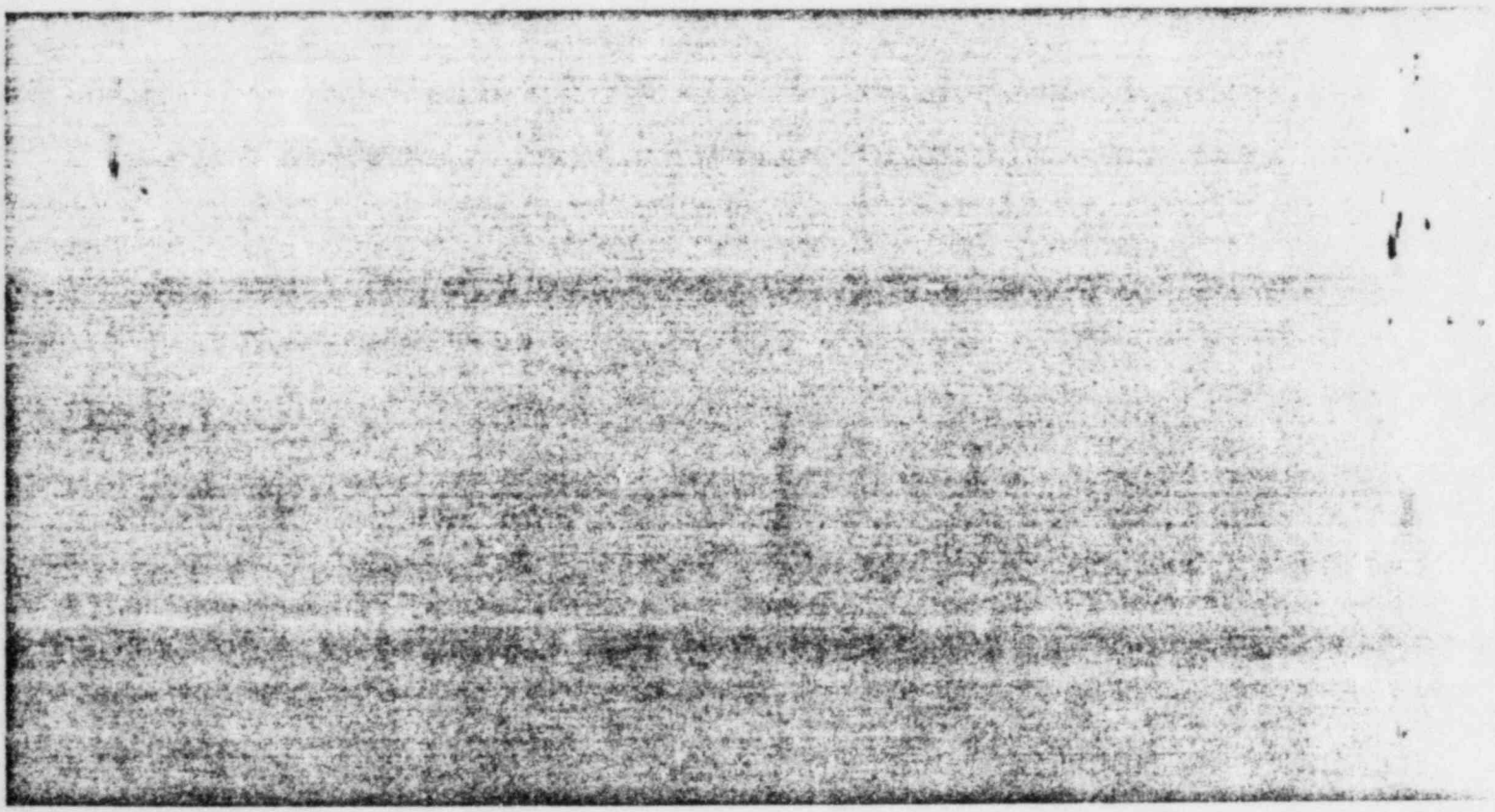

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