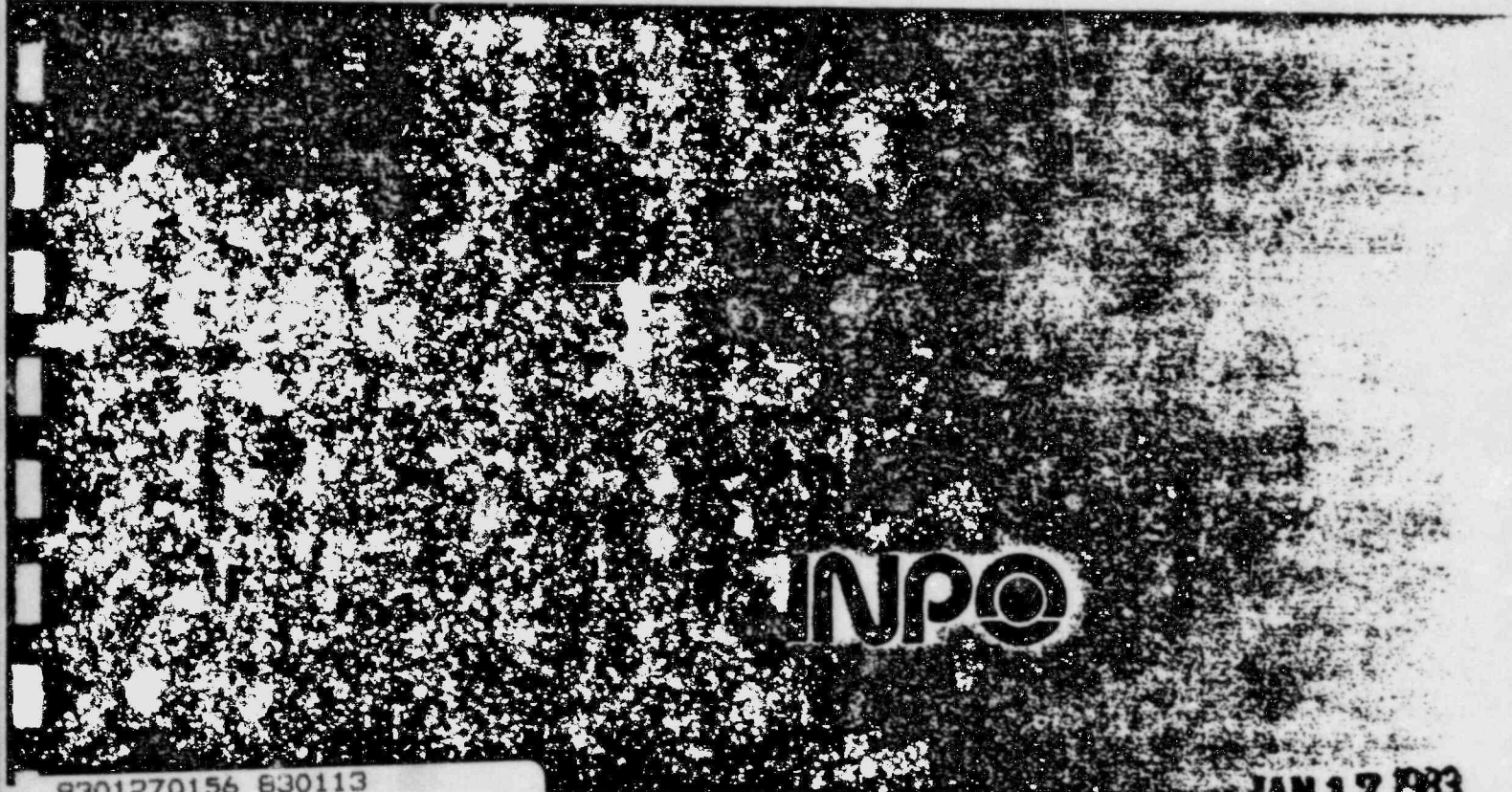
1982 Evaluation

Point Beach Nuclear Plant

Wisconsin Electric Power Company



EVALUATION

of

POINT BEACH NUCLEAR PLANT

Wisconsin Electric Power Company

December 1982

SUMMARY

INTRODUCTION

The Institute of Nuclear Power Operations (INPO) conducted an evaluation of Wisconsin Electric Power Company's (WE) Point Beach Nuclear Plant during the weeks of August 23 and August 30, 1982. The station is located on the west shore of Lake Michigan, approximately 10 miles north of Two Rivers, Wisconsin. Unit No. 1 began commercial operation in December 1970, and Unit No. 2 began commercial operation in October 1972.

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. Corporate activities were not included in the scope of the evaluation, except as an incidental part of the station evaluation. 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 being operated in a safe manner by well-qualified personnel.

The following beneficial practices and accomplishments were noted:

Strong involvement of managers and supervisors in day-to-day plant activities is evident.

Plant personnel display a positive attitude, good morale, and high productivity.

The station has an impressive availability and capacity factor record.

Material condition and cleanliness of the plant are impressive.

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

Increased emphasis is needed in attention to detail in maintenance activities.

Procedural guidance and documentation should be upgraded in several areas.

Increased adherence to proper radiological protection practices and procedures is needed.

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 WE 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 WE management at an exit meeting on September 2, 1982. Findings, recommendations, and responses were reviewed with WE management on November 30, 1982. Responses are considered satisfactory.

To follow the timely completion of the improvements included in the responses, INPO requests a written status by July 1, 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 Wisconsin Electric Power Company.

WISCONSIN ELECTRIC POWER COMPANY

Response Summary

Wisconsin Electric Power Company (WE) is pleased to have had INPO conduct an evaluation of site activities at the Point Beach Nuclear Plant (PBNP). We acknowledge the great deal of time and effort expended by the evaluation team, and express our appreciation for minimizing the impact upon plant operations. The evaluation identified areas where we can specifically improve on the goal to excellence while other findings reemphasized our ongoing efforts toward improvement.

We appreciate the comments given as "beneficial practices and accomplishments," the findings of "Good Practices," and acknowledge the recommendations for improvements.

A direct response to each identified concern has been provided, and evaluations of findings will continue to determine if any additional underlying causes exist. Several of our responses indicate that actions have not yet been completed, but are planned or in progress. We will report the status of all newly completed and open items by letter to INPO before April 1, 1983. This report will include projected future completion dates for all open items.

ORGANIZATION AND ADMINISTRATION

STATION ORGANIZATION AND ADMINISTRATION

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

Finding (OA.1-1)

The following Good Practice was noted: The assignment of operating shift personnel as system experts on plant systems results in continuity of knowledge being maintained on these systems. This knowledge is utilized effectively in monitoring, troubleshooting, maintenance, and modification activities.

Finding (OA.1-2)

Increased attention to detail by plant personnel is needed in some areas. Specific areas include the following:

a. work-related activities such as control of weld materials, reinstallation of fasteners, and completion of required documentation

b. adherence to proper radiological protection practices and procedures

Recommendation

Managers and supervisors should increase day-to-day emphasis on those areas enumerated above. The increased emphasis should include more detailed observations of plant activities.

Response

It is the philosophy of WE to play close attention to detail and have plant management actively involved in all phases of operation on a daily basis. This philosophy has been a major contributing factor in the past record of good performance and high plant availability and will continue to be emphasized.

In addition, substantial personnel increases have recently been made to the Engineering, Quality & Regulatory Services Group, which is the in-plant QA group, in an even greater effort to improve the surveillance of activities and adherence to administrative procedures by all personnel.

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)

Development and implementation of the station goals and objectives program need to be completed. A method of reporting and tracking goal achievement needs to be included in order to monitor program success.

Recommendation

Prepare and distribute goals and objectives for the station. Develop a method for reporting and tracking progress toward goal and objective achievement.

Response

WE has a companywide Management By Objectives (MBO) program and PBNP is included as part of the Nuclear Power Department. Eight departmental objectives were issued on February 15, 1982; seven involved PBNP. The program has focused on goals and objectives for responsible individuals, and the 1983 goals for plant individuals are now being completed.

Coordinated, formalized station goals and objectives to support the corporate MBO program will be developed when the new corporate objectives are formalized in December 1982.

MANAGEMENT ASSESSMENT AND QUALITY PROGRAMS

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

Finding (OA.3-1)

The following Good Practice was noted: Operational parameters are effectively trended to allow the timely identification and resolution of problems. For example, containment parameters, including particulate and gaseous activity, humidity, and service water temperature are graphically monitored and reviewed each shift. As a result, potential problem areas are detected in a timely manner and early corrective actions are initiated.

OPERATIONS

CONDUCT OF OPERATIONS

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

Finding (OP.2-1)

The following Good Practice was noted: The station has a policy of initiating prompt corrective action to minimize continuous alarms in the control room. It was observed, during a number of tours through the control room, that activated alarms were minimized.

PLANT STATUS CONTROLS

PERFORMANCE OBJECTIVE: 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.

Finding (OP.3-1)

The current lifted wires, jumpers, and bypass program needs improvement. Wires are not always lifted and identified in accordance with administrative procedures. Additionally, the audit of lifted wires, jumpers, and bypasses does not include a physical check of the tag and component position.

Recommendation

Emphasize adherence to administrative procedures for the control of lifted wires, jumpers, and bypasses with all operators. Revise the administrative procedure to include a physical check of tags and component position in the audit of lifted wires, jumpers, and bypasses. INPO's Good Practice OP-202, "Temporary Bypass, Jumpers, and Lifted Lead Control," could be of assistance in this effort.

Response

Adherence to the administrative procedures for lifted wires, jumpers, and bypasses will be stressed with all operators. The administrative procedure will be revised to require, on an annual basis, a review of the continued applicability and a physical check for all outstanding items in the log. The revision should be completed by March 1, 1983.

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)

Improvements are needed in the the tagging system. Some tagouts are not being performed in accordance with the Equipment Isolation Procedure. Additionally, a periodic physical check of all tags and component positions is not required or performed.

Recommendation

Emphasize adherence to the Equipment Isolation Procedure. Expand the present tagout audit to include the following:

a. a review of the tag index

b. verification of the adequacy of tagouts

c. a check of the condition of posted tags

d. verification of proper attachment of tags and position of tagged equipment

e. a check for the presence of unauthorized tags

f. a check for tagouts remaining in effect beyond their need

INPO's Good Practice OP-203, "Procedures for Protection of Employees Working on Electrical and Mechanical Components," could be of assistance in this effort.

Response

Some administrative aspects of the procedure have been identified that were a problem, and consequently a major revision was issued and implemented on October 1, 1982 to address the INPO recommendations. The revised form and procedure will help clarify the troublesome administrative aspects.

Finding (OP.5-2)

Uncontrolled notes, graphs, portions of procedures, labels, and sketches are posted throughout the plant. A method is needed to authorize and update these operator aids.

Recommendation

Implement an administrative program to control posted operator aids. This program should include authorization of posting and a periodic review to ensure currency and legibility. The number of posted operator aids should be minimized.

Response PBNP will review the current practices as identified in the finding. This review will include a review of the appropriate authorization level for each item, how the item remains current, and which of those aids presently in use can be made permanent. Based on that review, further administrative controls, if necessary, will be established. This review will be accomplished prior to April 1, 1983.

OPERATIONS FACILITIES AND EQUIPMENT

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

Finding (OP.6-1) **Many plant valves are not uniquely identified.** Some valves have not been assigned unique numbers and many valves are not labeled.

Recommendation Review plant systems, and assign unique valve numbers where needed. Attach identification tags on valves that are not properly identified.

Response PBNP will review its systems to determine the additional valves that need to be identified. This systems review will be done by April 1, 1983. A program for valve identification and drawing changes will be developed following the review.

MAINTENANCE

MAINTENANCE ORGANIZATION AND ADMINISTRATION

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

Finding (MA.1-1)

The following Good Practice was noted: The evaluation of instrument technician readiness for assignment to perform technical specification surveillances is very effective. An observation by the instrument and control superintendent of the technician performing an actual surveillance test is combined with written and oral examinations to provide a reliable assessment of technician readiness for increased responsibility.

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)

The following Good Practice was noted: The labeling of plant material deficiencies with maintenance tags is effective in ensuring that identified deficiencies are entered in the work control system and in reducing duplicate maintenance requests.

PREVENTIVE MAINTENANCE

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

Finding (MA.5-1)

The existing preventive maintenance program does not include appropriate preventive maintenance for some equipment spares and materials in the plant warehouse. Examples include the following:

a. Some large electric motors are not scheduled for periodic rotation or lubrication.

b. There is no formal program for the control of shelf life items to ensure that items are not issued or utilized beyond their useful life.

Recommendation Establish controls to ensure that equipment spares in storage receive necessary preventive maintenance. Include establishment of shelf life controls to track the receipt and age of affected items to prevent issue or utilization of outdated materials.

Response Equipment spares in storage will be reviewed and additional preventive maintenance deemed necessary will be established by July 1, 1983. A standard written plant policy over shelf life controls for spare parts has been established. Organization and implementation of a formalized program will be established by September 1, 1983.

MAINTENANCE FACILITIES AND EQUIPMENT

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

Finding (MA.8-1) **Lifting slings are not always controlled and inspected to ensure safe load-lifting capability.** Some slings with improper load ratings and some worn and damaged slings were available for use.

Recommendation Expand the current station inspection and load testing program for lifting devices to include lifting slings. Establish controls to prevent the use of slings with improper ratings or the use of worn and damaged slings.

Response A companywide "Safe Load Path" program has recently been implemented that will require all slings in use to have a unique identification number as well as a clearly marked capacity rating.

To further address the concern on sling inspection, the corporate Accident Prevention Group will provide periodic sling inspection services.

Finding (MA.8-2)

Maintenance measuring and test equipment (M&TE) is not effectively controlled to ensure proper checkout and return of equipment or tracking of equipment usage. When M&TE is found to be out of calibration, an evaluation is not conducted to determine the impact on the performance of affected installed equipment.

Recommendation

Establish controls over the storage and issue of M&TE used by the maintenance department. Include documentation of M&TE usage in maintenance activities. Implement a method for evaluating the impact on affected installed equipment when M&TE is found to be out of calibration.

Response

Management controls will be reviewed concerning the storage and issue of M&TE used by the maintenance department. The review will be completed by July 1, 1983. Appropriate corrective action will be taken based on the results of the review.

Finding (MA.8-3)

Improvements are needed in the control and storage of welding materials. Current practices do not effectively support optimum performance in weld repair and fabrication activities. Problem areas include the following:

a. Some weld rod is issued from shop ovens without documentation of the job for which it is to be used.

b. Some unused weld rod is not stored in ovens or sealed containers when required.

c. Weld rod oven thermostats are not calibrated or ovens checked for proper temperatures.

Recommendation

Establish controls over the issue and storage of welding materials to include documentation of weld rod issue, proper storage of unused weld rod, and preventive maintenance of weld rod ovens.

Response

In response to INPO recommendations, and in order to ensure proper control of welding materials, a new policy on weld rod control has been implemented for both QA and non-QA weld rod.

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
44	Satisfactory
42	Not applicable
42	Pending
13	Further review needed

The following recommendations are pending action:

SOER Number	Recommendation Number
81-4	1, 2a, 2b, 3, 4
81-5	1, 2, 3, 4
81-6	1, 1a, 2
81-7	1, 2
81-8	4
81-9	1, 2a, 2b, 2c
81-17	1, 2, 3
82-5	1, 2, 3, 4, 5, 6
82-7	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 5
82-8	1, 2, 3, 4

The following recommendations need further review:

SOER Number	Recommendation Number
81-1	1, 2
81-2	1, 2a, 2b, 3, 4, 5, 6
81-3	1, 2, 3
81-14	2

An update on the status of each recommendation listed in the "pending action" or "need further review" categories 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.

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)

Improvements are needed in the plant modification program to ensure that design changes are implemented in a timely manner. The plant modification tracking system does not clearly identify the current status of modifications for management review and appropriate action.

Recommendation

Review the outstanding modification requests to determine if assigned priorities are still appropriate. Upgrade the present modification tracking system to provide the current status of each modification. Consider adding information such as the following:

a. identification of those modifications that are in progress and those that are completed

b. expected completion dates for modifications in progress

c. required in-service dates where applicable

Response

Outstanding modification requests have been reviewed to ensure that assigned priorities are correct.

The modification system will be reviewed with regard to timely implementation and tracking of the current status of modifications to provide management review and appropriate action. Appropriate system changes will be implemented by July 1, 1983 in response to the recommendations.

Finding (TS.4-2)

Current as-built drawings are not always provided for a modified system prior to the return to service of that system.

Recommendation

Revise the administrative controls for plant modifications to ensure that affected drawings are marked to indicate the as-built status of the plant prior to placing modified systems or components in service.

Response

The plant modification program will ensure that drawings in the control room that are necessary for proper plant operation reflect the as-built condition of the system prior to placing that system in operation. Appropriate administrative controls will be reviewed by July 1, 1983 in response to the finding.

Finding (TS.4-3) **Some alarm setpoints in the plant computer have been changed without a prior technical review.**

Recommendation Identify the setpoints that operators are authorized to modify. Establish upper and lower limits for those setpoints. Perform a technical evaluation on those limits for approval.

Response The setpoints that operators are authorized to modify, along with the upper and lower limits for those setpoints, will be identified and a technical evaluation of these limits performed in conjunction with the new computer system expected to be installed by July 1, 1984.

Finding (TS.4-4) **Technical evaluations of jumpers and lifted leads are not always documented.** Although such evaluations are being performed, they are not always documented so that operators and technicians can subsequently review the impact on the plant operations.

Recommendation Revise the administrative controls for jumpers and lifted leads to ensure that the results of technical evaluations are documented and available for operator and technician review.

Response The lifted wires, jumpers, and bypasses procedure will be revised by March 1, 1983 to require documentation of technical evaluations on the log sheet for those items that have a significant impact on plant operations.

Finding (TS.4-5) **Lead shielding is installed on some systems without a review of its effect on piping stresses.**

Recommendation Conduct engineering reviews of existing temporary lead shielding to ensure that unacceptable stresses have not been created. Establish controls to ensure that potential piping stresses are evaluated prior to installation of future temporary lead shielding.

Response Lead shielding that was installed on piping at the time of the 79-14 backfitting inspection was included in the analysis of seismic adequacy of the piping system. This lead shielding is indicated on the isometric drawings developed during the course of the 79-14 work.

Guidelines have been obtained from an engineering consultant to allow the determination of acceptability of temporary lead shielding on standard wall or heavier piping systems. Installed lead shielding will be analyzed according to these guidelines. An update status will be provided by April 1, 1983.

TECHNICAL SUPPORT PROCEDURES AND DOCUMENTATION

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

Finding (TS.7-1)

Reactor engineering procedures used to perform surveillance tests do not always specify instrument requirements such as range and accuracy. Additionally, reactor engineering procedures do not include traceability of the instruments used.

Recommendation

Revise reactor engineering surveillance test procedures to include specification of instrument requirements such as range and accuracy and identification of instruments used to ensure traceability.

Response

Reactor engineering surveillance test procedures will be revised to address test instrument requirements. A means of test instrument use traceability will be provided. These revisions should be implemented by August 1, 1983.

Finding (TS.7-2)

Reactor engineering test engineers need to be provided formal guidance on how to use procedures for the performance of surveillance tests.

Recommendation

Provide formal guidance to reactor engineering test engineers on the use of procedures including the following:

a. when to use the procedure for general guidance

b. when to follow the procedure step-by-step

c. when to sign-off the step as completed

Response

The reactor engineering test engineers will be provided with formal guidance on the use of test procedures by August 1, 1983.

TRAINING AND QUALIFICATION

TRAINING ORGANIZATION AND ADMINISTRATION

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

Finding (TQ.1-1)

The following Good Practice was noted: An excellent instructor training program has been developed and implemented. The program results in a college certificate in adult education and consists of 42 credit hours in areas such as professional issues, directed teaching in adult education, issues in education, psychology of education, research in education, and educational measurement and evaluation.

Finding (TQ.1-2)

Training department program development assignments are not being completed in a timely manner. Examples include lesson plan development for plant systems presentations and improvement of the general employee training program.

Recommendation

Review current training department responsibilities, and establish priorities for development of programs. Consideration should be given to reassigning responsibilities or increasing training department resources.

Response

The training group has just completed a preliminary self-evaluation and is in the process of making recommendations to management based on these results. Consideration will be given to any practical means by which training resources and/or personnel may be augmented. Recommendations are scheduled to be implemented by January 1, 1984.

MAINTENANCE PERSONNEL TRAINING AND QUALIFICATION

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

Finding (TQ.5-1)

A formal training program for instrument and control (I&C) repairers needs to be developed and implemented. I&C repairers work for approximately three years without formal training before entering the I&C technician training program. It is recognized that a Training Department Action Order has been issued to address this problem.

Recommendation

Develop and implement a formal I&C repairer training program. The INPO document, "Guidelines for Instrument and Control Technician Qualification" (GPG-08), could be of assistance in this area.

Response

The training group recently took action to address the development and implementation of a formal I&C repairer training program. Development is progressing as materials and resources are being examined. The "guidelines" mentioned in the recommendation are being used as an input. The program should be developed and implemented by March 1, 1983.

Finding (TQ.5-2)

A continuing training program for mechanical-electrical repairers, radiochemical technicians, and radiation control operators has not been developed. A continuing training program for I&C technicians has been developed but is not implemented.

Recommendation

Develop and implement a continuing training program for the mechanical-electrical repairers, radiochemical technicians, and radiation control operators. Implement the I&C technician continuing training program.

The following INPO documents could be of assistance:

a. "Guidelines for Electrical Maintenance Personnel Qualification" (GPG-07)

b. "Guidelines for Mechanical Maintenance Personnel Qualification" (GPG-05)

c. "Guidelines for Instrument and Control Technician Qualification" (GPG-08)

e. "Radiological Protection Technical Qualifications" (INPO 82-006)

Response

The continuing (retraining) training program in the areas of I&C, chemistry and health physics, and maintenance are in the development stage. Presently, the need for such formal programs has been documented in a self-evaluation performed by the training group. Programs are expected to be implemented by January 1, 1984.

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 requirements. Examples noted include the following:

a. moving the instrument probe too rapidly when monitoring for personnel contamination

b. not adhering to the requirements of radiation work permits

c. not monitoring protective clothing for contamination prior to storing the clothing in personnel lockers

Recommendation

Re-emphasize the importance of adhering to radiological protection procedures and requirements with all plant personnel. Managers and supervisors, including operations, maintenance, and radiological protection, should more aggressively enforce adherence to radiological protection procedures and requirements and ensure that personnel are held accountable for violations.

Response

PBNP supervision will continue to emphasize to all plant employees and contractor employees the necessity for compliance with radiological protection procedures and individual ALARA responsibilities through orientation training, on-the-job training, group meetings, and plant safety meetings.

Finding (RP.1-2)

The reporting and correction of radiological deficiencies needs improvement. Corrective actions taken as a result of reported deficiencies are sometimes not sufficiently comprehensive to prevent recurrence. Personnel skin contaminations are not routinely documented.

Recommendation

Emphasize the use of the Health Physics Incident Report System to ensure that radiological protection problems are brought to the attention of management. Document personnel skin contaminations. Use the information gained to identify problem areas, determine basic causes, and develop appropriate corrective actions.

Response A review of the Health Physics Incident Report will be made and recommendations deemed appropriate including documenting of personnel skin contaminations will be completed by April 1, 1983, with appropriate corrective action following.

EXTERNAL RADIATION EXPOSURE

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

Finding (RP.4-1) **Measurements of beta radiation dose rates are not routinely performed for work in high beta radiation levels.**

Recommendation Develop and implement methods and procedures for beta radiation surveys.

Response Appropriate procedures will be developed and implemented to ensure that surveys for beta radiation are perfomed in areas where high beta radiation levels are expected. These procedures should be developed by July 1, 1983.

Finding (RP.4-2) **Several conditions were noted where the radiation exposure of personnel is not being minimized.** Examples include the following:

a. personnel spending time needlessly in or adjacent to high radiation areas

b. work breaks taken in radiation areas rather than in areas with lower dose rates

c. establishing a contractor's work table in a radiation area

Recommendation Radiation exposure control practices should be reviewed and upgraded. The points discussed in the finding should be addressed.

Response Radiation protection practices of plant employees are a matter of supervisory concern. Plant supervisory personnel and employees are continually reminded of their individual responsibilities for ensuring that work activities are accomplished in a radiologically safe manner. Supervision will continue to provide employees with classroom and on-the-job training in ALARA principles and emphasize the necessity of a personal ALARA commitment through group meetings and plant safety meetings. Contract health physics

technicians assigned to monitor contractor work activities will increase their field observations to ensure that ALARA principles are maintained where practical and where work activity allows.

SOLID RADIOACTIVE WASTE

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

Finding (RP.7-1)

Radiological controls during the processing and handling of radioactive waste need to be strengthened. Examples include the following:

a. Airborne radioactivity levels are not routinely monitored during operation of the waste compactor.

b. Radiation dose rate measuring devices are not always available to the workers.

c. A number of practices were observed that could lead to the spread of contamination such as handling contaminated drums without protective gloves.

d. Workers do not routinely check the reading on their pocket ionization chambers to control their exposure.

Recommendation

Review and upgrade radiological controls during the processing and handling of radioactive waste. The points discussed in the finding should be addressed.

Response

An evaluation of the radiological controls used during the processing and handling of radioactive waste will be conducted to address the points discussed in the finding. Appropriate corrective action will be implemented by July 1, 1983.

PERSONNEL DOSIMETRY

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

Finding (RP.8-1)

Improvement is needed in the pocket ionization chamber (PIC) dosimetry program. This is exemplified by the following:

a. the large number of PICs that fail the routine drift and response checks

b. a number of PICs found with offscale or irregular readings

c. the large number of correlation errors between thermoluminescent dosimeter and PIC readings

Recommendation

Identify the cause of the high failure rate of PICs, and take appropriate corrective action. Accelerate the implementation of the program to improve the accountability and handling of PICs. Consider replacing 0-500 mr PICs with 0-200 mr PICs to aid in reducing the number of correlation errors as 0-200 mr PIC readings can be more accurately interpreted.

Response

PBNP has been aware of the problem associated with PICs as noted in the above finding. A commercial PIC calibrator (for response checking of PICs) was ordered in the early part of 1982 and has not yet been delivered. It is felt that this unit will enable PBNP to eliminate some of the inherent errors of the present method used for checking PICs. PBNP has determined that the policy of issuing PICs to all plant and contractor personnel whether or not they enter the controlled zone may be the major contributor to the problems noted in Findings b. and c. This practice is presently being reviewed by management in an effort to determine a reasonable and workable method to correct the problems noted.

RADIOACTIVE CONTAMINATION CONTROL

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

Finding (RP.9-1)

Some practices were observed that could result in the spread of contamination. Examples include the following:

a. personnel not always wearing gloves when handling contaminated or potentially contaminated material or equipment

b. the reuse of rubber overshoes in contaminated areas of the plant

c. smoking in unauthorized areas of the radiologically controlled area (RCA) and not monitoring for personnel contamination prior to smoking in authorized areas

d. the use of toilet facilities within the RCA without monitoring for personnel contamination

Recommendation Review and upgrade appropriate contamination control practices at the station. The points discussed in the finding should be addressed.

Response Contamination control practices will be reviewed to address the items noted in the finding. The review should be completed by July 1, 1983 with appropriate corrective action following.

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)

A comprehensive program for the lay-up of plant systems and equipment is needed. Such a program would reduce the potential for long-term corrosion of systems and components.

Recommendation

Develop a program for the lay-up of plant components and systems. Include applicable portions of the program in station operating procedures.

Response

As layup requirements are established, operating procedures will be modified or new procedures generated to develop long-term layup instructions. Appropriate layup procedures should be implemented before an extended spring 1983 refueling outage.

CHEMISTRY CONTROL

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

Finding (CY.3-1)

Current vendor recommendations are not followed for dissolved oxygen in the reactor make-up storage tank and silica in the reactor coolant system. Oxygen concentration in the reactor make-up water frequently exceeds the vendor-recommended limit. Silica concentration is not analyzed.

Recommendation

Reduce the oxygen concentration in the reactor make-up water to vendor recommendations by either repair or modification of existing systems. The silica concentration limits and analysis frequency in the reactor coolant should be evaluated and methods developed for silica control.

Response

The problem of oxygen in the reactor make-up water tank will be reinvestigated and appropriate repairs and/or modifications will be developed. Silica concentration limits and analysis frequency in the reactor coolant will be evaluated. Appropriate methods will be investigated to control silica concentration in the reactor coolant. An updated status will be provided by April 1, 1983.

Finding (CY.3-2)

Increased emphasis is needed to correct the rapid degradation of make-up water demineralizer resin due to high concentrations of organics in the raw water supply. In addition, organics are passing through the make-up demineralizer water system into the plant make-up system. It is recognized that the plant is investigating this problem.

Recommendation

Complete the investigation of the raw water supply problem and carry out the resultant corrective action. Consider the use of organic removing filter media, including activated charcoal.

Response

This problem has been recognized and is currently being reviewed by the corporate projects office for a solution, on both a technical and economic basis. An evaluation should be completed by July 1, 1983.

LABORATORY ACTIVITIES

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

Finding (CY.4-1)

The existing laboratory quality control program needs to be improved to provide more frequent standardization of the sodium hydroxide used in a boron analysis and more frequent use of standards during the chloride analysis.

Recommendation

Expand the chemistry quality control program to provide daily standardization of the boron analysis and daily use of standards with the chloride analysis.

Response

The chemistry quality control program will be evaluated in the areas mentioned. A more frequent use of sodium hydroxide and chloride standards will be evaluated and appropriate action taken by July *, 1983.

Finding (CY.4-2)

Procedures have not been developed for some routine chemistry analyses important to plant operations. Examples include iodine, pH, and gross beta gamma. In addition, operational procedures for the gamma analysis system have not been developed.

Recommendation

Develop a complete set of procedures covering activities performed in the chemistry laboratories.

Response The development of the Chemistry Analytical Methods and Procedures Manual is approximately 40 percent complete and is expected to be fully completed by December 1983.

Finding (CY.4-3) **The current analytical method for measuring hydrogen concentration in the reactor coolant and volume control tank sometimes results in inaccurate measurements.**

Recommendation Review the method of hydrogen analysis and revise the procedure to prevent inleakage of oxygen during the analysis.

Response A review of the present method of hydrogen analysis will be performed and appropriate revision to the method will be evaluated by July 1, 1983, with appropriate corrective action following.

CHEMICAL AND LABORATORY SAFETY

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

Finding (CY.5-1) **Chemistry and operations personnel do not always use protective equipment while performing chemical analyses or sampling radioactive liquids.** Gloves are not worn while handling radioactive liquids in the laboratory. Gloves and other protective equipment are not worn when sampling the radioactive waste evaporator bottoms.

Recommendation Upgrade protective equipment usage practices. Surgeon's gloves or the equivalent should be used in the laboratory when handling radioactive liquids. Face shields, rubber aprons, and rubber gloves should be worn when sampling waste evaporator bottoms.

Response The use of appropriate protective equipment including the use of gloves for sampling of radioactive liquids has been implemented. A review will be conducted on the use and benefits of handling radioactive liquids with surgeon's gloves in the laboratory. The full review with appropriate corrective action will be completed by July 1, 1983.

APPENDIX I

Summary of Outstanding Response Action from Previous Evaluation (1981)

ADMINISTRATIVE CONTROLS

Finding (OA.4-1)

Administrative guidelines or procedures to provide guidance for implementation of a number of programs are not provided. Examples of areas where such guidelines or procedures are needed or need improvement include:

a. preventive maintenance

b. maintenance history

c. control of measurement and test equipment

d. sampling of systems for chemical and radiological analysis

e. operation, calibration, and standardization of some laboratory equipment

f. analytical techniques for chemistry and radiological evaluation, including periodic use of spiked samples for verification of techniques

g. determination and control of chemical shelf-life

h. quality assurance reviews of chemistry and radiological laboratory techniques and practices.

Recommendation Develop and implement written guidelines or procedures for areas where needed, including those listed above.

Response Wisconsin Electric concurs with the recommendation and will effect revision or development of procedures in the above-listed areas. Some of the areas had been identified and placed on work lists prior to the evaluation. Progress will continue on these and others.

Status Corrective action is complete on all the areas noted in the finding except for items d. and e. The Chemistry Analytical Methods and Procedures Manual, covering both of these items, is forty percent complete and is scheduled to be fully developed by December 1983.

TAGOUT PRACTICES

Finding (OP.7-2)

An independent verification of safety-related equipment, having no control room indication, that is repositioned during maintenance or testing is not performed, with the exception of the auxiliary feedwater system. It is noted that independent verification is being performed when the equipment is removed from service.

Recommendation

PBNP procedures should be revised to incorporate independent verification of safety-related equipment having no control room indication. This action should be required each time equipment is returned to service following maintenance or testing.

Response

Wisconsin Electric concurs with the recommendation and has implemented this practice fully in the plant equipment red tag procedure and partially within other procedures. Implementation is continuing and will soon include all safety-related equipment.

Status

The existing practice of double verification of safety-related valves following major outages will be documented in appropriate check-off documents. Operating procedures including surveillance procedures will be revised requiring double verification of all non-automated, safety-related valves. The review and change to most applicable documents is complete. The few remaining documents will be completed by April 1983.

PLANT EFFICIENCY AND RELIABILITY

Finding (TS.2-1)

The current program for optimizing plant thermal efficiency is incomplete. The "BALAN PROGRAM DATA SHEET" is used for logging plant secondary side performance information. This and other data are currently being graphed to determine relevant trends in important plant parameters. However, it has not been determined how the graphs and data will be utilized. The frequency of data collection, graphing, and analysis has not been established nor has a model of the plant been developed for long-term reference.

Recommendation

Develop and implement a comprehensive program for plant performance monitoring with an objective of improving the plant operating efficiency and reliability.

Response

Wisconsin Electric has recently hired an engineer whose primary responsibility will be the ongoing evaluation of unit efficiency as it relates to system performance. His job will include the development of a program to aid in this effort, which will include the baseline data and required performance criteria. In addition, to compensate for operational problems with some instrumentation, Point Beach is installing leading edge flow meters to more accurately determine power level which will enhance unit efficiency.

Reliability (unit availability) on Point Beach Nuclear Plant Unit 2 has been the highest in the United States for several years, with Unit 1 also being above average. This has been due to careful attention to the components and the systems and subsystems of the units. However, in the next few years PBNP's high availability factors will probably fall because of equipment aging and longer planned outages.

We are committed to long-term performance improvements such as steam generator sleeving and/or replacement and are studying other components which can impact availability. Further, management has recently committed to a substantially larger inventory of spare parts, including such components as spare LP turbine rotors and one spare reactor coolant pump motor.

Status Development of the performance monitoring program is continuing. The program has been partially implemented with full implementation scheduled for August 1983.

CHEMISTRY

Finding (RC.10-1) **The radiochemical technician training program is not developed or implemented except for on-the-job training.** These technicians are not required to complete the available portions of the existing program before assuming their job responsibilities.

Recommendation Develop a schedule for completion and implementation of the radiochemical technician training program. Develop guidelines to ensure trainees complete the program in a timely manner and prior to their attaining qualified technician status.

Response Because of the low turnover and high experience level of radiochemical technicians in the past, we had not until recently experienced the need for a significant amount of formal training other than that given on the job. However, with new hiring, we agree that a separate, formal program incorporating additional job-related topics is justified. The program is under development and, when completed, will implement the INPO Performance Objective.

Status The radiochemical technician training program has been developed and approved. Implementation will commence with the next scheduled training class.

NON-LICENSED OPERATOR TRAINING

Finding (TQ.4-3) **A more comprehensive auxiliary operator retraining program is needed.** Areas which are not being covered for some auxiliary operators include the following:

a. review of plant systems

b. review of applicable industry operating experiences

c. review of job-related technical information.

Auxiliary operators are being kept aware of plant equipment and procedure changes.

Recommendation A formal auxiliary operator retraining program should be established and implemented. The INPO "Nuclear Power Plant Non-Licensed Operator-Guidelines for Qualification Programs" should be considered in determining these requirements.

Response Qualification is not the end of our Auxiliary Operator training. As currently structured, once qualified, the Auxiliary Operator continues to complete the job skills shown on the checklist. He also begins to work toward Control Operator qualification and is routinely scheduled to attend appropriate sessions in the Licensed Operator retraining program. Development of an Auxiliary Operator requalification program will be coordinated with the review and revision of the Auxiliary Operator training program. The fully developed formal requalification program will include requirements to review each of the areas in this finding.

Status The new training program is being phased in, and the requalification effort will follow its full implementation. Retraining is scheduled to start late 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 radiological 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.