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WATTS BAR NUCLEAR PLANT

MANAGEMENT ASSESSMENT

QUALITY ASSURANCE

Prepared for

TENNESSEE VALLEY AUTHORITY

MAY 21, 1993

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EXECUTIVE SUMMARY

A team from NUS conducted a management assessment of Quality Assurance at Watts Bar Nuclear Plant (WBN) during the period May 10-21, 1993. The assessment was based on interviews of site personnel, off-site personnel, and regulatory staff. The interviews were supplemented by review of inspection reports, management reports, and relevant documentation.

The scope of the assessment was directed at seven areas of quality assurance effectiveness, defined by TVA Senior Management, which formed the basis for the questions utilized during the interview process. These assessment areas are discussed in Section 5 of this report.

The NUS team conclusion is that improvements in the demonstrated level of quality at WBN are necessary to support timely completion of the plant. Line management must improve consistency in requiring a demonstrated level of quality, and QA must be more effective in serving the oversight role. Contributing issues include the rigorous standard of proof of quality required in the WBN environment; the need for sensitivity to activity which may lead to potential quality issues; the need for timely identification, documentation and resolution of quality issues; the use of quality measurables to provide visibility for areas of concern; and the potential impact of resources on QA effectiveness.

Seven recommendations were provided to WBN management by the NUS team. These recommendations in summary form are as follows:

- The line should be held more visibly accountable for measurable quality goals;
- Responsiveness to NRC concerns can be improved through better awareness of the regulatory environment;
- The field observation process should be improved;
- Resources available for the site quality organization should be assessed;
- Improvements are needed in the timely identification and documentation of problems, especially at a preliminary stage, and in formal cause determination;
- Action should be taken to promote the development of a safety culture within the line and quality organization;
- Consideration should be given to accelerating the implementation of an operations QA organization.

The NUS team believes that the programs providing assurance of quality at WBN have not failed, but can be improved to provide a higher level of assurance, consistent with attaining timely completion of the plant.

1.0 INTRODUCTION

At the request of the Tennessee Valley Authority (TVA), NUS assembled a team to perform a management assessment of quality assurance (QA) effectiveness at the Watts Bar Nuclear Plant (WBN). In order to identify actions to enhance QA effectiveness at WBN, TVA requested that NUS provide a senior, experienced assessment team with the technical/managerial background to evaluate QA effectiveness at WBN in the following areas:

1.1 Watts Bar Nuclear Plant (WBN) corrective action plan in response to recent NRC concerns regarding QA/QC oversight.

1.2 WBN QA organization to provide independent, big-picture assessment of line organizations, e.g., adequacy of trending.

1.3 Resource level and allocation.

1.4 Strategy/Plan for decision making for deploying resources to most critical areas.

1.5 Organization structure and reporting relations.

1.6 Aggressiveness and implementation of quality ethics.

1.7 Interface with the NRC.

The approach used in performing the assessment is described in Section 2.0. Section 3.0 discusses the overall findings of the assessment, including an identification of the root causes of the quality concerns and issues which contributed to the concerns. The recommendations for corrective action are detailed in Section 4.0 of this report. Finally, Section 5.0 provides the details of the assessment for each of the areas indicated in paragraphs 1.1 through 1.7, above.

2.0 APPROACH

The NUS team's approach used to assess the effectiveness of the QA activities at WBN involved a review of background correspondence and documentation relevant to the issues of concern. Both horizontal and vertical "slice" evaluations of the WBN organization were conducted. This was accomplished by interviewing key managers within the line and QA organizations, corporate oversight management, and knowledgeable external and regulatory personnel.

The background correspondence and documentation reviewed is tabulated in Appendix A and consists of WBN NRC inspection reports, the QA programmatic documents, periodic trending reports, and selected assessments and evaluations.

The specific individuals interviewed during the assessment are identified in Appendix B. The vertical "slice" evaluation consisted of interviewing selected management and supervisory personnel within the WBN Site Quality Organization (SQO), and a meeting which discussed the internal assessment of QA/QC effectiveness. The horizontal "slice" evaluation encompassed interviewing key WBN line and senior management personnel, the WBN Senior Resident Inspector and his manager from Region II headquarters, the chairman of the corporate safety review committee, and representatives of a key WBN legal consultant.

The results of the assessment appearing in this report were verbally presented to management. The slides used for this presentation are included as Appendix C of this report.

3.0 OVERALL FINDINGS

During the two week period of this management assessment, the NUS team observed efforts of the SQO to improve their approach to assuring the requisite level of quality and also to assess what corrective actions might be required. The interviews spanned two weeks of changing attitudes, and they may not all reflect the current data base. Nevertheless, the NUS team believes that the conclusions drawn, and recommendations made will, if appropriately implemented, result in measurable improvement in demonstrating proof of effective quality.

Quality includes both the effective implementation of the process, and the documentation needed to prove it. The opinion uniformly expressed by those interviewed during the assessment with regard to construction and other controlled processes was that there was not a problem with quality of the hardware. In the full sense of quality, however, the NUS team's overall assessment was that WBN was not achieving a level of quality that would support timely completion of the plant. The performance of both the line and the quality organizations is a major contributor to this concern. In particular,

- Line Management is not consistently requiring that level of quality;
- QA is not serving the oversight role effectively.

In reaching these conclusions, NUS has identified five contributing issues.

3.1 WBN is being completed in a "unique" licensing environment that imposes a greater burden on both the line and QA organizations.

3.1.1 While the licensing requirements imposed on WBN are not unique, the demonstration that requirements have been met are more stringent than those which would be required of a plant that did not have the troubled history of WBN. As a consequence, the NRC is subjecting WBN to a close scrutiny which must be recognized by both the WBN line and QA organizations.

3.1.2 The impact of closer scrutiny is:

- The line organization needs to understand that quality does not end with the provision of good hardware, but must also include the documentation which can be used to support the verification of quality.
- The documentation must be viewed as just as important to the establishment of the level of quality as the physical hardware.

- The QA organization needs to recognize that it must aggressively pursue its oversight role, so that the regulator's confidence in the ability of the QA staff to identify, correct and prevent conditions adverse to quality at WBN will be increased.

- The "graded approach" to quality permitted by the WBN QA Plan should be used judiciously to match the environment that requires rigorous proof.

3.2 Effective sensitivity to potential quality issues was not always evident.

3.2.1 There appeared to be cases where there were minimal manifestations of a "safety" or "quality" culture. Examples of "safety" culture manifestations are:

- A questioning attitude in areas where a safety issue is indeterminate.

- A conservative approach when there is any doubt concerning what action is appropriate.

3.2.2 A "quality" culture recognizes that the distinct levels of quality "defense-in-depth" are:

- The individual worker and work group.

- The management of the line organization.

- The quality verification activity.

3.2.3 Thus, even though Section 5.2 of the WBN QA Plan provides excellent guidance for the line organization to provide QA with a heads-up for activities which should predicate their involvement, it was not evident that this document was being used in such a manner.

3.3 The timely identification, documentation and resolution of quality issues was not always apparent within the WBN line or QA organizations.

3.3.1 A reluctance to identify and document quality issues seemed to permeate the organization. This was evidenced by:

- A bias to perform informal assessments rather than initiate formal corrective action mechanisms with the potential for circumventing important tracking and trending activities.

- Less rigor in the performance of root cause analyses.

- A failure to assess whether the quality issue implied generic weaknesses in the self-assessment process itself.

3.3.2 The impact of the failures to use the formal corrective action mechanisms have resulted in:

- A potential for masking, losing or distorting process deficiencies.
- Lengthening of evaluation times for quality issues.
- The potential for loss of tracking of the timeliness of evaluations.
- Diminished effectiveness of communication and feedback mechanisms.

3.4 The emphasis on production measurables was not always balanced by a comparable emphasis on quality measurables for quality issues which are of current concern.

3.4.1 The periodic trending reports abound with measureables that identify progress relative to production goals. These reports provide a motivation for the line organization to act in a manner which brings production performance into line with management expectations.

3.4.2 The quality measurables appearing in the periodic management trending reports do not appear to contain quantified measures for management action on quality issues of current concern. For example, the current QA review of documentation in preparation for NRC review has revealed a lower acceptance rate, but the periodic trending reports, e.g., Site Management Weekly Summary Reports, contain few quality measurables which would provide a stimulus for line actions, or flag to management a message that their goals on quality achievement are not always being met.

3.5 The resources of the QA organization appear to be having an impact on its oversight effectiveness.

3.5.1 The current situation within the QA organization is one of strained resources. This was evidenced by:

- Priorities related to meeting production schedules are tending to result in the shifting of resources away from the non-statutory activities (assessments, field evaluations, etc.).
- Limits on the use of "Management by walking around," which increases the potential for the field uncovering deficiencies prior to the QA organization.

3.5.2 Future activities will exacerbate this situation as the tempo increases in the shift to operational QA activities; which should result in:

- Added emphasis on the operational aspects of QA.
- The shifting of priorities to support testing and operational activities.

4.0 RECOMMENDATIONS

Although the NUS team was asked to perform a management assessment in seven explicit areas, the overall conclusions lead to a set of recommendations that may involve more than any single area reviewed. These recommendations are offered by the NUS team based on a management level review, and are, of necessity, somewhat general. The team believes that implementation of these recommendations, in the context of WBN management detailed knowledge of the site organization and operations, would provide additional assurance that the level of quality attained will support timely completion of the project.

4.1. The line organization should be held more visibly accountable for measurable quality goals.

4.1.1 A stronger focus on self-identification of problems by the line organization should be considered. A Pareto analysis of identified problems (SCARs, PERs, IIs, and FIRs) over the past six months shows that the QA/QC organization is identifying over one third of the problems. Only three of the seventy four problems they identified could not have been first identified by the line responsible organization. A similar analysis, run periodically on a rolling six month basis, and prominently displayed, would provide a visible measure of the effectiveness of a management directed effort to encourage self-identification.

4.1.2 Consideration should be given to a more prominent display of quality related performance trends and indicators in the Site Weekly Report. The balance of production and quality indicators in the current report does not reflect the stated management emphasis on quality. Line organizations should assure that they have ownership of quality trends affecting their responsibility, and that indicators tracked reflect the elements of quality on which current emphasis is being placed.

4.1.3 Consideration should also be given to including specific indicators which give visual indication of progress in resolving quality issues that will require focused management attention, as a measure of success of recovery programs, during the recovery phase. A current example would be displaying the trend of Modifications weekly work plan acceptability as a part of the Site Weekly Report, until the desired level of acceptance has been achieved and sustained.

4.2. Improve responsiveness to NRC concerns through increased understanding of the standard of proof that will be required to assure confidence in the quality of the work performed at WBN. Both line and QA personnel should have an understanding of the current regulatory environment, and the need to demonstrate compliance in order to support scheduled plant completion.

4.2.1 Consideration should be given to preparation of training/indoctrination materials by Licensing or other resources having a good understanding of the environment.

4.2.2 Consideration should also be given to incorporating this message into a subsequent revision to the Unit 1 Completion Plan.

4.3 Improvements should be made to the observation process, to achieve more effective identification of potential problems in the field during assessments and other field opportunities. Training in observation techniques by QA and line personnel would make field observation time more effective. Consideration should be given to identifying field observation as a relatively high priority activity. Management participation/coaching in the observation process should be encouraged.

4.4 An assessment of the use and adequacy of resources in the Site Quality Organization should be conducted. This would assure that the support required for scheduled activity can be provided without straining the ability to provide appropriate resources to the assessment and field problem response activities. In addition, a careful assessment should be made of the impact on the SQO of the anticipated increase in the tempo and type of activity that will be required to support the transition to a more intensive testing and startup mode for line organizations.

4.5 Attention should be given to timely identification and documentation of problems, including systematic capture of potential problems at a preliminary phase; emphasize more use of formal corrective action methods for cause determination rather than reliance on less formal assessments.

4.5.1 Personnel should be encouraged to document issues that are recognized as potential problems at an early stage, even before final determination is completed. The corrective action system should facilitate such early capture. This will provide documentation that an issue is under evaluation, and give management a mechanism for determining the timeliness of evaluation, and expediting timely action.

4.5.2 Formal evaluation methods that arrive at root cause determination should be encouraged when problems are recognized as significant, or as containing strong cause contributors linked to performance issues. Management should be encouraged to select processes commensurate with the importance and potential impact of the concern. In addition, it is recommended that sufficient training be conducted in the cause determination methods (such as HPES) to provide expertise in the methods

within each organization. Review of the analyses by an experienced practitioner should also be considered as a quality check on the process.

4.6 Management should take action to promote the development of a safety culture within the line and quality organization, particularly in the context of quality performance. Application of a questioning attitude and conservative action could provide added assurance that activities will result in work that is done correctly the first time. A questioning attitude on the part of management while involved in field activity can be an effective mechanism to enhance this process.

4.7 Consideration should be given to accelerating the transition to a functional operations-oriented quality organization.

4.7.1 Timely assignment of an operations quality assurance experienced manager to support the existing SQO would provide a focus for development of the operational QA organization, and would assist the existing staff in providing oversight of testing and operations activity.

4.7.2 The timing and extent of build-up of the operational QA organization should be consistent with the tempo of startup testing and systems turnover to operational status, to assure adequate resources for oversight, and to aid in the development of an operational safety culture.

5.0 ASSESSMENT

The NUS team evaluated seven areas as defined by the TVA scope of work to NUS. The following aspects of the WBN Quality Assurance activities were assessed.

5.1 WBN corrective action plan in response to recent NRC concerns concerning QA/QC oversight.

During the course of the assessment, the team noted several indications of activities related to corrective actions in response to NRC concerns regarding QA/QC oversight, such as the three phase assessment program which TVA presented at a May 13, 1993 meeting with the NRC. On May 18, 1993, the NUS team members were presented with a draft improvement plan prepared by the Site Quality Organization (SQO). Based on the team's review of the plan and discussions held with Site Quality Management, the following comments are offered:

5.1.1 The plan presents actions that should be taken by the SQO to assist the line organization in achieving the desired level of quality, and to improve interaction between SQO and the line.

5.1.2 The plan also includes modifications within SQO to improve their internal control and responsiveness to oversight requirements.

5.1.3 The plan is generally consistent with the issues identified in the NUS interviews. What is included is good. There are some areas that are not covered sufficiently (eg: timely and rigorous documentation of potential issues, use of formal rather than informal corrective actions more routinely, accelerated implementation of operational QA).

5.1.4 The plan is a QA plan, not a WBN plan, and does not include the actions that should be taken by line management to assure that the line is accountable for achieving the appropriate level of quality (Quantitative objectives, etc.). It is expected that actions for the line organizations will be developed as a part of an overall WBN corrective action plan.

5.2 WBN QA organization should provide independent big-picture assessments of line organizations, e.g., adequacy of trending.

In general, "big-picture" assessments utilize a variety of techniques such as root cause analysis (RCA), trending of key attributes, team analyses, etc. It was observed that WBN has the capability to make use of such techniques. However, the reluctance to employ them, and the rigor utilized when they are called into play, diminishes the ability of WBN to provide effective big-picture assessments.

Trending is provided by SQO for a variety of non-conformance indicators (NOVs, IRs, COTs, SCARs, PERs, FERs and IIs), with each individual manager being responsible to provide information for the trending program. Site Quality Management (SQM) has indicated that the trend program does not always meet expectations, and there are line organizations which do not fully agree that the current quality indicators are the best set. The information contained in the monthly report of Quality Assurance Trend Analysis should be valuable in aiding the line organizations, if considered in their planning.

Team analyses of QA/QC effectiveness included review of an assessment and observation of a barrier analysis effectiveness review. While both activities represent thoughtful evaluations, the reluctance to employ more rigorous RCA techniques (such as HPES) was evident.

5.3 Resource level and allocation.

In evaluating quality assurance resources, the team did not consider the technical capabilities of the staff employed for various activities. The team assessed the general level of manpower, and looked for indications of impact on effectiveness. In addition, the team also considered evidence of the SQO to look for other ways to resolve potential resource problems.

Within the SQO, the team found evidence of strained resources, as noted in Section 5.4, below. With the increased activity anticipated for which oversight will be needed, and requirements to support the development of an operational QA Program, there does not appear to be enough resources. The NUS team observed that SQM had approached other line managers to determine if resources with the necessary qualifications could be loaned to meet the long or short term requirements of the SQO.

5.4 Strategy/Plan for decision making for deploying resources to most critical areas.

Resources within the QA organization (better application, more required, etc.) are presently constrained by budget limitations. Some of the decisions to pass up assessments, reviews, etc. appear to have been made because there were other activities that needed to be covered that were determined to be of greater value. The assessment/view-of-work-in-process activities appear to be of lesser priority than schedule driven (eg: CAP/SP closure, System Turnover). Putting higher priority on closure/response for NRC identified items does not solve the resource problem; it shifts the focus. Other activities, such as the development of an operational QA program which will require increased QA coverage, are going to be increasing in tempo in the near term. Even though a careful analysis of work requirements versus resources may show some improvement possible, a more timely and aggressive response is appropriate.

5.5 Organization structure and reporting relations.

The Site Quality Manager at WBN does not report through the same management chain as his counterparts at the other TVA nuclear power facilities. In principle, since SQO at WBN reports through a TVA officer, access to a level of management for the resolution of quality problems is in place. The presence of a quality experienced officer in the reporting chain, on-site, provides additional depth of support. Lack of an operations-oriented focus for SQO is an important organizational issue requiring resolution. The commitment and actions needed to implement this effort are not evident.

5.6 Aggressiveness and Implementation of Quality Ethics

The line organizations acknowledge that they have responsibility for the quality of the work performed within their areas of responsibility, but lack the consistency of rigorously documenting the proof required to demonstrate that this quality has been achieved. These line organizations also must acknowledge and accept the accountability that goes with this responsibility. The line organizations have not fully demonstrated their stated recognition that the elements of quality are comprised of individual worker and worker groups, line management and the quality verification activity. The quality verification activity depends heavily on good documentation.

The WBN SQO does not exhibit an aggressive quality and tends to function in a reactive mode, shifting resources to work on the "crisis" of the day. Marginal resource allocations probably exacerbate the problem, but it is not apparent that the SQO has recognized a need for additional resources they say they need in order to complete their assigned tasks in accordance with their schedule commitments, while not deferring important activities such as assessments. SQM has looked at other line functions to see if these organizations could provide additional resources that have qualifications that are consistent with the SQO needs.

The QA organization is developing a draft document titled,"Q/QC EFFECTIVENESS IMPROVEMENT PLAN." The plan is needed and appears to contain many improvements that should be incorporated and some which already have been adopted (such as the recent appointment of the Inspector of the Day).

5.7 Interface with NRC

Discussion with the site Senior Resident and observations during an NRC-Site Management meeting on May 13, 1993 indicates that the NRC is clearly identifying its expectations. The NRC has stated its intention not to allow TVA WBN to make the same mistakes as it has in the past. The NRC must be assured that the WBN site has a strong aggressive SQO to provide the necessary quality overview and meet all of its quality commitments. In addition, the NRC must be assured that a strong safety culture exists at WBN. Coupled with good

Conduct of Operations and high quality work, this culture will provide the necessary assurance that the plant can be completed on schedule and will meet its quality commitments.

APPENDIX A - DOCUMENTS UTILIZED

Selected NRC Inspection Reports for 1992 and 1993.

TVA-NQA-PLN89, "NUCLEAR QUALITY ASSURANCE PLAN," Rev. 3.

WBN Procedure SSP-3.04, "CORRECTIVE ACTION PROGRAM," Rev. 8.

WBN Procedure SSP-3.06, "PROBLEM EVALUATION REPORTS," Rev. 10.

WBN Procedure SSP-3.07, "FINDING IDENTIFICATION REPORTS," Rev. 9.

WBN Procedure SSP-12.09, "INCIDENT INVESTIGATION AND ROOT CAUSE ANALYSIS," Rev. 8.

Selected Minutes of the Watts Bar Nuclear Safety Review Board for 1992 and 1993.

"WATTS BAR NUCLEAR PLANT - PROGRAM FOR ASSURANCE OF COMPLETION AND ASSURANCE OF QUALITY - PHASE IV REPORT - VERTICAL SLICE REVIEW OF SYSTEM 032, CONTROL AIR."

"COMPLETION ASSURANCE - FY 1993 BUSINESS PLAN."

"COMPLETION ASSURANCE - Fiscal Year (FY) 1994 Business Plan."

"WATTS BAR SITE QUALITY ORGANIZATION Fiscal Year (FY) 1994 Business Plan."

"WATTS BAR NUCLEAR PLANT - COMPLETION ASSURANCE - Site Weekly Report," APRIL 26,1993.

"WATTS BAR NUCLEAR PLANT - COMPLETION ASSURANCE - Site Weekly Report," MAY 3,1993.

"WATTS BAR NUCLEAR PLANT - QUALITY ASSURANCE TREND ANALYSIS AND ASSESSMENT OF SITE PERFORMANCE - MONTHLY REPORT," MARCH 1993.

"SITE WEEKLY REPORT - MAY 4,1993 - WATTS BAR NUCLEAR PLANT."

"WATTS BAR NUCLEAR PLANT OPERATIONAL READINESS REVIEW - Phase 1."

"QA/QC EFFECTIVENESS REVIEW," Internal Assessment dated April 30 - May 14, 1993.

Draft QA/QC Effectiveness Improvement Plan.

"MEMORANDUM OF UNDERSTANDING - QUALITY ASSURANCE RESPONSIBILITIES FOR WATTS BAR NUCLEAR PLANT (WBN)," November 23, 1992.

WATTS BAR NUCLEAR PLANT - WORKFORCE PLANNING AND UTILIZATION PROJECT - QUALITY ASSURANCE.

APPENDIX B - INTERVIEWS

Nuclear Regulatory Commission:

Paul Fredrickson, Section Chief
Glenn Walton, Senior Resident Inspector

Watts Bar Nuclear Plant Line Management:

Dwight E. Nunn, Vice President, Nuclear Projects
William J. Museler, Site Vice President
Don E. Moody, Plant Manager
Robert W. Johnson, Modifications Manager
George L. Pannell, Licensing Manager
R. Michael Bellamy, Startup and Test Manager
Walt L. Elliott, Nuclear Engineering Manager

Watts Bar Nuclear Site Quality Organization:

Nicholas C. Kazanas, Vice President, Completion Assurance
Jon D. Christensen, Site Quality Manager
David L. Malone, Quality Engineering Manager
Sam W. Crowe, Quality Assurance Manager
Rick M. Norton, CAQ/QI Manager
James V. Hawkins, Quality Control Manager
James Crittenden, Quality Audit & Verification Manager
Thomas J. Arney, Senior Quality Project Manager
Don J. Ward, Ops & Tech Support Supervisor
David D. Demastus, Quality Evaluator

Tennessee Valley Authority Corporate:

Tom J. McGrath, Nuclear Safety Review Board (NSRB) Chairman

Tennessee Valley Authority Legal Consultant:

Winston & Strawn

APPENDIX C

EXIT MEETING VIEWGRAPHS USED

IN THE

WBN MANAGEMENT ASSESSMENT

QUALITY ASSURANCE

WBN QA ASSESSMENT

EXIT MEETING

I.	INTRODUCTIONS	ALL
II.	OPENING REMARKS	DEN
III.	NUS ASSESSMENT/RESULTS	ABC
IV.	CLOSING REMARKS	DEN

WBN QA ASSESSMENT

MAY 10-21, 1993

NUS

A. B. CUTTER
D. S. DIDESCH
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V. S. NOONAN

SCOPE

REVIEW CORRECTIVE ACTION PLAN

QA ORGANIZATION ASSESSMENT OF LINE

RESOURCE LEVEL/ALLOCATION

STRATEGY/PLAN FOR DECISION MAKING

ORGANIZATION AND REPORTING

AGGRESSIVENESS/IMPLEMENTATION OF QUALITY ETHICS

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SQO 9

NSRB CHAIRMAN

WINSTON & STRAWN

NRC

NUS OVERALL ASSESSMENT

WBN IS NOT ACHIEVING A LEVEL OF QUALITY THAT WILL SUPPORT TIMELY COMPLETION OF THE PLANT.

- LINE MANAGEMENT IS NOT CONSISTENTLY REQUIRING THAT LEVEL OF QUALITY

- QA IS NOT SERVING THE OVERSIGHT ROLE EFFECTIVELY

CONTRIBUTING ISSUES

- WBN "UNIQUE" LICENSING ENVIRONMENT (CLOSE SCRUTINY)
- EFFECTIVE SENSITIVITY TO POTENTIAL QUALITY ISSUES
- TIMELY IDENTIFICATION, DOCUMENTATION, AND RESOLUTION OF ISSUES
- QUALITY MEASURABLES FOR CURRENT CONCERNS
- RESOURCE IMPACT ON QA EFFECTIVENESS

RECOMMENDATIONS

1. Line should be held more visibly accountable for measurable quality goals.

2. Improve responsiveness to NRC concerns through threshold adjustments.

3. Improve the observation process.

4. Assessment of resources in SQO.

5. Timely identification and documentation of problems, especially at the preliminary phase; emphasize more use of formal corrective action.

6. Instill an understanding of quality/safety culture (transition to operating environment).

7. Speed up operations QA transition to match system turnover.

ASSESSMENT

1. WBN corrective action plan in response to recent NRC concerns regarding QA/QC oversight.

   - SQO action to help line management
   - SQO internal improvements
   - Consistent with NUS issues
   - WBN Overall Plan not available

ASSESSMENT

2. WBN QA organization to provide independent big-picture assessment of line organizations, e.g., adequacy of trending.

- Assessment tools are available and used
- Trend information ownership by line
- Focus on current issues
- Effectiveness of root cause determination

ASSESSMENT

3. Resource level and allocation.

- Working at current levels
- Driving forces
- Indicators

ASSESSMENT

4. Strategy/Plan for decision making for deploying resource to most critical area.

- Planning/redirecting
- Prioritization
- Reassessment plan

ASSESSMENT

5. Organization structure and reporting relations.

- On-site depth
- Operational support
- Corporate linkage

ASSESSMENT

6. Aggressiveness and implementation of quality ethics.

- Line responsibility
- Line accountability
- SQO performance

ASSESSMENT

7. Interface with NRC.

- Region expectations
- On-site by CA/SQO