

#### 4.0 Method

To implement the program, an Operational Readiness Manager will be assigned. The manager will provide independent oversight of the development and implementation of the Watts Bar program. The manager will assist the Site Director to ensure program adequacy while also providing independent assessments and evaluations to the Manager of Nuclear Power. In particular, the Program Manager will assess whether corrective action plans have been addressed to the underlying causes of deficiencies or problem areas and ensure that additional corrective actions for deficiencies identified during the review are based on determination of the underlying cause(s).

#### 5.0 Implementation

##### 5.1 Nuclear Performance Plan

The first program element provides an assessment of plant physical completion as well as programmatic actions described in WBN NPP Volume 4.

The implementation of WBN NPP Volume 4 is critical to ensuring operational readiness. One aspect of operational readiness will be to establish minimum standards and acceptable methods for ensuring their satisfaction. The Operational Readiness Manager will ensure that all fuel load prerequisite tasks are assigned to responsible managers and the Operational Readiness Manager will track completion of tasks. Closure of items will require appropriate documentation as established by the Site Director and Operational Readiness Manager. Resolution of issues will consider the impact of closure on other issues. Some elements of such consideration are:

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- Calculation completion
- Design process preventive actions
- Drawing revisions
- Interface identification

## 5.2 Performance Objectives Evaluation

The second program element involves establishment and assessment of performance objectives. The purpose of the performance objectives evaluation is to ensure that site organizations and support organizations function effectively and are prepared for plant startup. The areas assessed will include:

- Organization and Administration
- Plant Operations
- Maintenance
- Technical Support
- Training and Qualifications
- Radiological Controls
- Chemistry
- Emergency Preparedness
- Licensing
- Modifications
- Security
- Quality Assurance
- Engineering
- Inservice Inspection
- Surveillance
- Configuration Control

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The performance objectives will be based on the guidance provided by the listed documents:

- Performance Objectives and Criteria for Operating and Near Term Operating License Plants, INPO 85-001, Institute for Nuclear Power Operations, January 1985.
- Performance Objectives and Criteria for Corporate Evaluations, INPO 85-029, Institute for Nuclear Power Operations, August 1985.

The assessment of objectives will address the following:

- Staffing - adequate to support safe and reliable operation of the plant.
- Procedures - adequate to support safe and reliable operation.
- Supervisory Involvement - in the activities of subordinates is sufficient to ensure satisfactory performance of work activities.
- Training and Qualification - have been completed and are adequate for personnel to perform assigned duties.

The evaluation for readiness will include the following:

- Establishing appropriate objectives and criteria

- Evaluating readiness against established criteria
- Assessing impact of deficiencies identified
- Developing and implementing added corrective actions for identified deficiencies
- Final verification that the performance objective has been met and readiness is assured.

5.3 Startup Prerequisite Verification

The site activity list which is included in WBNPP Volume 4, Section VIII, describes hardware related actions that must be closed prior to fuel load. To provide additional confidence that hardware issues are complete, the Site Director will develop and implement a specific startup prerequisite checklist prior to heatup. The checklist will serve to consolidate hardware operability issues such as the following:

- Maintenance or Work Requests Backlog
- Clearances Outstanding
- Temporary Alteration Control Forms (TACF's) Outstanding
- Surveillance Instructions
- Preventive Maintenance Packages Outstanding
- Instrumentation Availability
- Nonconforming Conditions, CAQs Outstanding
- Primary and Secondary Controls

This approach will provide a structured completion signoff system by responsible managers. Checklist completion will serve to provide one element of the basis for recommending a fuel load decision.

Prior to fuel load, system operability will be verified by completion of applicable General Operating Instructions, System Operating Instructions, and Preoperational and/or Startup Instructions. In addition, other scheduling and tracking measures at an individual item level may be used to ensure appropriate system status prior to fuel load.

#### 6.0 Reporting

Reports will be prepared in two phases:

- Initial Reports
  - Identification and assignment of WBNPP Volume 4 fuel load requirements
  - Identification of performance objectives and criteria to be evaluated
  - Description of startup prerequisite checklists
  
- Final Reports
  - Documentation of operational readiness
  - Documentation of Site Director's startup prerequisite checklist

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## 7.0 Program Development and Scheduling

The Operational Readiness Program for Watts Bar is being developed under the cognizance of the Site Director. It is planned to be complete and in effect in support of fuel load and startup milestones.

## 8.0 Independent Readiness Review

A parallel, independent assessment of the Operational Readiness will be performed. The review will be conducted by senior personnel with plant experience from outside TVA. Members of this group will participate in the various stages of Operational Readiness development and implementation to review the adequacy and completeness of the review areas, performance objectives, and review methodology. The independent group will verify acceptability of the review performed. Findings will be provided to the Site Director and to the Office of Nuclear Power with recommendations before startup. This group will be augmented from time to time by senior personnel within or outside TVA to provide special expertise in particular areas.

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## VIII. SUMMARY OF WATTS BAR ACTIVITIES

### 1.0 Schedule for Special Programs

Because of the significant impact on WBN from the reassignment of DNE personnel to higher priority assignments (SQN, BFN), many of the key programs which are presented in Section IV, Special Programs, remain in program development. This drain of WBN DNE resources is expected to continue for a significant time period.

To recover from the impact of this resource drain, TVA is currently considering use of industry contractors to provide design support through a task award program. Critical to the selection of potential contractors for this work is the demonstrated capability, on recent NTOL plants, to successfully evaluate and correct problems and deficiencies similar to those currently identified at WBN. This includes acceptance of the work by NRC. Some of the key programs presented in Section IV, Special Programs, are being considered for this approach. Should this approach be implemented, TVA will remain as engineer of record for WBN and will remain in control of contractor work at all times. To accomplish this, TVA will ensure that adequate qualified resources are available to maintain technical and quality oversight of contractor activities. The WBEP project engineer will retain signature authorization for issue of any contractor work. [B. Bounds to add discussion of control of contract engineering].

Due to the resource impact identified above, TVA has been unable to develop a high confidence schedule. TVA recognizes the need to provide

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timely and accurate schedule information to the NRC relative to certain key programs and overall project progress.

Presently, TVA feels that the overall project schedule is being driven by one or more of the key programs described in Section IV, Special Programs. All other BFL activities currently identified for WBN and listed in Section VIII, Summary of WBN Activities, are expected to fall within the duration of the schedule for those key programs.

The logic diagrams contained in this section represent the current plan for resolution of the key programs currently identified at WBN. Some of the logic diagrams represent a fully scoped and scheduled plan and are timescaled. Others represent plans which are not fully scoped and still in the development process. As resources become available from higher priority assignments, the plans and schedules will be verified and/or updated.

## 2.0 Description Of Watts Bar Activities List

The Watts Bar Activities List is taken from the TVA Tracking and Reporting of Open Items System (TROI) and Corporate Commitment Tracking System (CCTS). The completion milestones are identified as either before fuel load (BFL) or after fuel load (AFL).

This issue of the Activities List represents the status as of March 5, 1987. Updates to this list will be supplied to the NRC on a periodic basis. Activities and completion milestones in the activities list are

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current targets and may be changed by TVA unless the milestone is a commitment. Status of activities as either "open" or "closed" is listed. Activities do not receive a closed status until all actions are complete, including documentation. All open items and those closed since July of 1985 are included.

Major types of items in the Watts Bar Activities List include the following:

- Commitments (NRC and other)
- NRC Inspection Reports
- Quality Assurance Reports
- Nonconformances
- Conditions Adverse to Quality
- Experience Review
- Audit Deficiencies
- Modifications
- Significant Condition Reports
- NRC Violations
- Site Open Items
- Employee Concerns Corrective Actions

### 3.0 Methodology Used To Identify Before Fuel Load or After Fuel Load

#### Milestones

A special Task Force was established by the Manager of Nuclear Power, Mr. S. A. White, on March 19, 1986, to verify the identification of problems

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and initiate actions for resolution where necessary to load fuel at WBN. The Task Force is composed of individuals with extensive experience in the nuclear industry who each have extensive site involvement.

The individuals have a variety of technical and organizational backgrounds which provide a broad base of knowledge for application to the issues now facing WBN. The Task Force has made an in-depth examination of major technical and organizational structure issues to confirm that the actions taken at WBN suitably address the root cause of problems identified. The Task Force also developed a process and criteria (Table VIII-1) for review of individual line item issues for determination as to whether resolution of that issue is required prior to fuel load of WBN. An initial review and determination of before fuel load or after fuel load status on all major tracking system lists has been completed by the Task Force.

Using this criteria, responsible supervisors made a determination of which items should be completed prior to fuel load and presented the results to the WBN Task Force for their review and evaluation. The Task Force evaluated action plans and programs to address the basic issues. Task Force actions were guided by the Corporate Nuclear Performance Plan and industry experience brought by the Task Force members.

In addition, a Change Control Board was established by the Watts Bar Site Director to control the change process. The Change Control Board is composed of the Site Director, Plant Manager and Project Engineer, and representatives of the plant.

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Table VIII-1

## BEFORE FUEL LOAD CRITERIA

The following criteria were provided to line management to evaluate whether a item is required for fuel load. In this evaluation process, an affirmative answer to any part of 1 through 12 below requires the item to be considered as before fuel loading:

1. Does the item directly and adversely affect equipment:
  - Function,
  - Performance,
  - Reliability, or
  - Response Time?
  
2. Does the item indirectly and adversely affect safety-related equipment:
  - Power Supply,
  - Air Supply, or
  - Cooling, Lubrication, or Ventilation?
  
3. Does the item adversely affect primary containment integrity?
  
4. Does the item adversely affect secondary containment integrity?
  
5. Does the item adversely affect control room habitability?
  
6. Does the item adversely affect systems used to process radioactive waste?

Table VIII-1

BEFORE FUEL LOAD CRITERIA  
(Continued)

7. Does the item adversely affect fire protection or fire loads?
8. Does the item adversely affect the ability of a system or component to meet its safety function during a design basis event by impacting the:
  - Seismic Analysis
  - Single failure criteria,
  - Separation criteria,
  - High energy line break assumptions, or
  - Equipment qualification?
9. Are the programs listed below which are necessary for safe conduct of operation of the plant adversely affected?
  - Radiological Health Program
  - Security
  - Radiological Emergency Preparedness
  - Quality Assurance
10. Is the item:
  - A commitment made to the NRC to be completed before fuel loading,
  - Required by regulations (e.g. 10 CFR Part 50 App. R, NUREG-0737, etc.),
  - or
  - A programmatic problem with safety significance?

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Table VIII-1

## BEFORE FUEL LOAD CRITERIA (Continued)

11. If not corrected prior to fuel loading, could it lead to an uncontrolled release or spread of radioactive contamination beyond the regulated area?
12. Is the item:
- A corporate Nuclear Performance Plant Volume 1 commitment for fuel loading or
  - A Watts Bar Nuclear Performance Plan Volume 4 commitment for fuel loading?

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The Nuclear Operator Training Program is a one hundred and fourteen-week program, the first seventy-two weeks of which are conducted at the POTC with the last forty-two at Watts Bar.

The Assistant Unit Operator Requalification Program is conducted for at least forty hours per year and consists of retraining on various aspects of plant operations and serves to provide formal training in plant modifications, procedure changes and industry operating experience.

The Electrical Upgrade Training Program familiarizes operators with electrical theory, the operation of plant electrical systems and electrical safety in order that the operator may eventually perform switching duties inside the plant and in the switchyard.

The Cold License Program provides the operators with the skills and knowledge required to obtain a cold RO and SRO license and perform the duties of these licensed positions.

The Requalification Program maintains the proficiency of licensed operators by providing at least six (6) weeks of periodic retraining as well as training on new items.

Of mutual benefit to TVA and program participants, two new programs, the Operator Degree Program and the Manager and Engineer License Development Program, have been developed recently in order to broaden the realm of knowledge of both operators and engineers.

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Increase engineering expertise on operating shifts, and upgrade the qualifications of members of both professions.

The former program was created in order that operations personnel with extensive power plant experience could attend the University of Tennessee at Chattanooga as full-time students in order to pursue the degree Bachelor of Science in Physics. The latter allows selected engineering personnel to enroll in a program which provides the equivalent of the regular operator training program with the intent of obtaining an SRO license. Watts Bar has four SRO-licensed personnel currently enrolled in the Operator Degree Program, with one individual having graduated in December, 1985. Eight engineers were enrolled in the Manager and Engineer License Development Program as of September 30, 1985.

### 2.3.3 Maintenance Training

Maintenance training is described in Section VI.4.4 of this plan.

### 2.3.4 Technical Staff and Managers Training

Plant Specific training for WBN's technical staff and managers is primarily covered by two programs, the Technical Staff and Managers (TS&M) Orientation Training Program and the TS&M - Advanced Training Program (formerly Managers and Engineers Certification Training Program).

The Technical Staff and Managers (TS&M) Orientation Training Program is required for specified engineers and managers within their first 18 months of employment.

The Technical Staff and Managers Orientation Training Program is a four-week course providing orientation type training in plant systems; plant safety design philosophy; plant reference materials and procedures; and nuclear codes, standards and regulations.

The TS&M - Advanced Training Program is for selected senior level managers and engineers. The following types of personnel will typically receive this training:

- Site Quality Assurance Engineers
- Technical Support Engineers
- Health Physicists
- Licensing Engineers
- Electrical Maintenance Engineers
- Mechanical Maintenance Engineers
- Operations Group Engineer
- Modifications Engineers
- Plant Engineering Engineers
- Plant Compliance Engineers

The TS&M - Advanced Training Program is approximately 25 weeks and provides detailed training in plant systems; reactor thermodynamics, heat transfer, fluid flow; electrical theory; plant chemistry; health physics; mitigating core damage; materials

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science; nuclear codes and standards; and simulator operations, normal and emergency.

## 2.3.5 Project Manager Training

Modification and addition projects under the site director's cognizance, requiring approval of the Manager of Nuclear Power, generally have an appointed project manager who is responsible for ensuring that the proper planning and control is accomplished in the execution of project activities. Parallel with this change in policy, a training program was developed to provide these newly appointed project managers the understanding needed to function quickly and effectively in their newly appointed roles. This program was developed by Nuclear Training and was implemented in October 1985. The project managers currently assigned to the Manager of Projects have completed this training.

## 2.3.6 Modifications Training

Training for Modifications personnel consists of specialized component training in Tube Fitting, Limitorque Actuator, Rigging Fundamentals, Applicable MAIs, AIs, Project and General Construction Specifications, Safety Manuals and specific procedures as needs dictate. A training matrix for each job classification will be updated as required to meet changing needs.

## 2.3.7 Welding Certification

The qualification, continuity, and tracking requirements of Watts Bar welders are governed by the requirements contained in

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Administrative Instructions. Unless properly extended, renewal of qualification is required when a period in excess of three months has lapsed since the welder's most recent documented weld.

All new-hire welders must complete a welding course before performance of welding tasks.

## 2.3.8 Procedures Training

Adherence to procedures and attention to procedural detail are essentials to safely and correctly perform work at Watts Bar. Based on this premise, a procedures training course has been developed to address the needs of Watts Bar plant personnel. Plant personnel attend those segments of training deemed appropriate by the line manager for their particular duty assignment.

## 2.3.9 Quality Control Inspector Training

Certification and recertification training for Quality Control and Nondestructive Examination Inspectors is conducted by the DNT at the Power Operations Training Center. On-the-job training and site-specific training is conducted onsite at Watts Bar.

## 2.3.10 Management Training

Management training is conducted in accordance with program procedures. The DNT has a staff member onsite at Watts Bar available to coordinate management training.

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## 2.3.11 Safety and Fire Training

Safety and Fire Training is jointly conducted by the Watts Bar Site Safety office, Site Engineering and Technical Training Group, and the Fire Protection Training Section at Nickajack. This training has been designed and implemented to meet applicable standards and requirements.

## 2.4 Procedures

A system of procedures for the control of activities at WBN has been in place during the plant construction phase. Audits and inspections of this system have identified several deficiencies in the area of administrative, radiological control, technical and surveillance instructions.

These deficiencies are as follows:

- Responsibilities, authorities, and organizational interfaces identified in existing procedures are not reflective of recent organizational changes.
- Upper-tier requirements (such as Nuclear Quality Assurance Manual (NQAM) and Area Plan Program requirements) are not always fully reflective in the appropriate procedures to prevent recurrent problems in meeting commitments.
- Controls to assure compliance with existing plant procedures have been inadequate in selected areas.

The identified deficiencies will be corrected in the near-term and long-term procedures upgrade programs. The near-term portion of the procedure upgrade effort is focused on corrections of specific

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identified deficiencies with existing administrative, maintenance, operating and surveillance procedures required for the startup and safe operation of Watts Bar. The long-term portion of the upgrade effort involves establishment of a new procedure hierarchy within the Office of Nuclear Power which will later require further efforts toward realignment of site procedures based on the new corporate level documents.

Actions taken or planned to identify the procedures that require revision or development prior to Watts Bar fuel load are as follows:

- Identify documented deficiencies or weaknesses in existing site procedures needed to support safe operation. These deficiencies or weaknesses have been identified and documented by NRC, industry organizations (e.g., INPO), and internal TVA audits or inspections.
- Identify those procedures requiring revision or development necessitated by completed plant modifications and system walkdowns.
- Identify those site procedures requiring revision to reflect changes in responsibilities and authorities resulting from recent organizational changes.
- Identify those administrative procedures required to govern safety-related activities of the site support organizations.

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Procedures which are identified as requiring development or revision and which are important to fuel load, startup, or operation will be completed as a near-term effort prior to plant fuel load.

Procedures that are identified as requiring development or revision, but which are not important to the fuel load, startup or operation of Watts Bar, will be included in the long-term corporate procedure upgrade program.

The following specific actions are currently in process or have been completed towards accomplishment of the above tasks:

- Watts Bar procedures are being revised to reflect the approved ONP organization.
- The present Watts Bar System of Administrative Instructions and Standard Practices is being modified to allow for the inclusion of new corporate standards requiring site implementation and interface between organizations onsite which report functionally to the Site Director.
- Engineering Assurance has conducted a review of the Nuclear Engineering division-level procedures which govern the TVA design process. This review considered design process weaknesses identified by NRC, INPO, and internal TVA audits and inspections. Procedure weaknesses were corrected through changes to existing procedures and reissued in a new division-level

Nuclear Engineering Procedures Manual (NEPM) devoted exclusively to control of the design process for nuclear work.

- Improvement to the Quality Assurance procedures are discussed in Section VI 2.6.2.
- A dedicated Watts Bar procedures group will be established and staffed. This group will be responsible for assuring site procedures and instructions implement the requirements of the new corporate-level documents. This group will support the line organizations in developing and revising site procedures and instructions. Additionally, they will be responsible for scheduling, tracking, editing, human factoring, technical evaluation, and coordinating the review, approval, and validation of site procedures and instructions.
- An ONP Directive will be developed to control the transition from the existing procedures system to the new Nuclear Procedure System. The directive will establish the implementation plan for the new procedure system program, define the control features for transition, and set forth the priorities or sequence for development of ONP Directives and Standards. The directives will also identify how existing procedures and instructions will be brought under the controls of the new Nuclear Procedures System. These existing procedures will be replaced by new program documents consistent with ONP priorities.

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This new procedures system development is directed by the Nuclear Procedures Staff (NPS), which reports directly to the Manager of Nuclear Power. The Corporate Nuclear Performance Plan, Volume I, Section VI, paragraph C, describes the responsibilities and objectives of the Nuclear Procedures Staff.

## 2.5 Corrective Action

### 2.5.1 Introduction

TVA has been delinquent in taking timely action to resolve conditions adverse to quality (CAQs) in its nuclear activities. Factors have included the lack of upper level management involvement in the resolution process, and the multiple forms and procedures used to report CAQs. The importance of providing effective and timely corrective action for CAQs is being translated into a number of new program actions by the Site Quality Organization and line management at Watts Bar as directed by the Manager of Nuclear Power and director of QA. These specific actions are described below.

### 2.5.2 Specific Actions to Improve the CAQ Process

#### 2.5.2.1 Actions for Site Identified CAQs.

NQAM Part I, Section 2.16 specifically addresses corrective action. The Division of Nuclear Quality Assurance procedure DQAI-104 and Watts Bar site procedure AI-2.8.5 were also issued to implement the new corrective action process.

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The new site CAQ program standardizes CAQ reporting and delineates corrective action control elements for all divisions of the Office of Nuclear Power; this program employs a new Condition Adverse to Quality Report (CAQR) form. The new procedure and form will replace several forms (and accompanying procedures) currently used to identify, document, and disposition CAQs.

Examples of old CAQ reports that will be consolidated into the CAQR are: Corrective Action Report (CARs), Discrepancy Reports (DRs), Nonconforming Condition Reports (NCRs), Significant Condition Reports (SCRs), Problem Identification Reports (PIRs), Audit Deviation Reports, Site Fuel Discrepancy Reports, Site Fuel Status Reports, and Nonconforming Items (NCIs).

In addition to consolidating current multiple programs into a single procedure, the revised CAQ reporting procedure will provide a single source of CAQ information for trending.

A standardized method has been developed for handling significance determinations, generic potential, and potential effect on operability. Line managers are held responsible for significance determination and proper corrective actions; however, the Site Quality Organization will provide overview and coordination of the standardized CAQ process.

The new program also requires the automatic escalation of deviations identified by DNQA to higher levels of management when the timeliness or responsiveness at lower management levels is inadequate to resolve QA findings.

The status of corrective action is discussed by site managers in various staff meetings, some of which are convened specifically to discuss CAQ corrective actions. These meetings serve to emphasize to all organizational levels, management's commitment to the correction of deficiencies.

Managers have been clearly instructed on their responsibility to be involved in working level activities of their organization, including verifying that identified problems are appropriately resolved.

In addition to the above improvements the Tracking and Reporting of Open Items (TROI) system has been implemented and is presently in use to improve the systematic flow and timeliness of corrective actions. An analysis of missed deadlines and extensions will be periodically provided for management information and to determine any adverse trends and the need for changes to improve the timeliness of corrective actions.

2.5.2.2 Actions to Improve Handling of Conditions Adverse to Quality (CAQs) Involving Multiple Organizations.

As a result of questions related to the environmental qualification of containment pressure transmitters at Sequoyah, the program for controlling the identification and disposition of CAQs identified by DNE on operating plants was enhanced before the new consolidated CAQ Program was in development. These changes helped improve corrective action timeliness and responsiveness as a result of interdivisional development of information and transfers of responsibility. Some specific actions taken were:

- CAQ Training--The POTC, working with senior engineering and site personnel, developed a training program entitled, "Office of Engineering - Condition Adverse to Quality - The Process of Documenting, Reporting, Resolving, and Correcting Them," and trained site personnel involved in implementing the interim process.
- Site personnel involved in implementing revised procedures on CAQ processing, reporting, and development of corrective actions have completed training on this revised process.

Procedure Changes

Site and DNE procedures were revised to require a preliminary evaluation to make assessments for potential safety significance within a short time after identification of a CAQ.

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For CAQs that present an immediate threat to the health and safety of the public (as defined in the technical specification), procedures now require prompt notification of either the Site Director or Plant Manager as an initial step toward resolution.

The centralization of CAQ processing with the new program contains the elements of the interim program and its implementation and coordinates the efforts and responsibilities of multiple organizations dealing with the same CAQ.

## 2.5.3 Summary

The TVA corporate and site corrective action program has been modified to enhance the handling of corrective actions by increasing the involvement of higher-level and line management; issuing escalation instructions for instances of lack of responsiveness; establishing goals for corrective action performance; computerizing CAQ and corrective actions tracking; improving coordination of CAQs requiring design input; and standardizing the CAQ process for all WBN site organizations. These measures are designed to obtain timely and effective CAQ identification and resolution.

## 2.6 Quality Assurance Programs

### 2.6.1 Introduction

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TVA has initiated improvements in the Quality Assurance program to address recognized weaknesses. The improvements initiated by the Manager of Nuclear Power are reflected by Revision 9 of the TVA Topical Report. To implement the QA program described in the Topical Report, the Nuclear Quality Assurance manual (NQAM) has been revised. The current NQAM is a corporate, interim document which will eventually be replaced by a final revision. The NQAM improvements that TVA has made have corrected conditions which lead to deficiencies such as those identified in the 1985 SALP report.

## 2.6.2 Nuclear Quality Assurance Manual

As directed by the Manager of Nuclear Power, the TVA-TR75-1A Topical Report on QA was revised and submitted to Region II of the U.S. Nuclear Regulatory Commission on May 1, 1986, and subsequently approved by the NRC. This revision described the upper-tier procedures arrangement put in place December 31, 1984, and organization functional changes made in the TVA nuclear program up to May 1, 1986.

The previous NQAM addressed all ONP activities including Watts Bar but allowed considerable flexibility for the constructor, designer, and operator to have different QA programs. Management identified a need to achieve additional standardization and integration of the overall QA program. The NQAM was therefore reorganized to create a corporate NQAM (referred to as the interim NQAM) to support TVA's commitment to a strong centralized QA program. This interim NQAM has been divided into two volumes.

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Volume I contains material with generic applicability and serves as the foundation for development of the final revision of the corporate QA manual (referred to as the ultimate NQAM). A new corporate QA program requirements section was developed for Volume I and was structured as follows:

- The corporate section is divided into 18 subsections, which correspond to the 18 criteria of 10 CFR Part 50, Appendix B.
- Each subsection contains a general discussion of the essential control elements that must be implemented by each QA organization to comply with the related criteria.
- Each subsection contains interface requirements, as necessary, to provide proper integration of the three implementation programs (i.e., constructor, designer, and operator).
- Existing interface procedures were placed in Volume I of the current NQAM.

Volume II contains parts II and III of the previous NQAM which were applicable only to operation of nuclear plants including Watts Bar. Existing procedures were updated to reflect the new manual arrangement and the ONP organizational changes.

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Each procedure in Volume I and Volume II of the interim NQAM has been identified as being a "generic" procedure or a "model" procedure. Generic procedures are used to describe activities to be accomplished in a consistent manner throughout the ONP. Affected organizations (including Watts Bar) may deviate from model procedures with advance DNQA concurrence that the alternate implementation method does not degrade the intent of the original procedure.

The WBN procedures that implement the interim NQAM are being reviewed and updated as necessary to comply with it, unless later implementation is approved by the DNQA Director.

Long-term plans for the ultimate NQAM will result in a single QA manual that establishes requirements for all ONP organizations performing quality affecting activities.

## 2.6.3 Deficiencies Addressed

The 1985 SALP report noted that satisfactory performance was achieved in quality assurance with respect to operational safety. However, the report identified a deficiency in the area of timely resolution of audit findings and timely responses to identified deficiencies. Actions to correct these deficiencies include the establishment of a procedure (DQAI-104) for escalation to higher management levels QA audit findings and other deficiencies

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identified by DNQA, if needed, to ensure their resolution. This has been implemented at Watts Bar through administrative instructions which require that deficiencies identified by DNQA which are not being resolved in a timely manner, be escalated to the Project Manager, Nuclear Site Director, and beyond for management attention and action.

The timeliness and adequacy of corrective actions taken for deficiencies identified by DNQA are monitored and discussed in meetings between DNQA and line management as described in section VI.2.5 (Corrective Action).

The 1985 SALP report also identified the fact that additional attention was needed in the areas of the measuring and test equipment program and the adequacy of responses to the NRC. The following actions have been taken in response to these findings.

- Responsibility for the measuring and test equipment (M&TE) program has been consolidated under the Site Services Branch and the construction Engineering Support Group. These organizations now have responsibility for all M&TE procedural controls. In addition, M&TE record storage is being evaluated to assure that controls meet QA program requirements. Corrective actions are being implemented as specific problems are identified.

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- Prior to forwarding responses to NRC items to TVA's Division of Nuclear Safety and Licensing, meetings are now held with representatives of affected plant sections and organizations to ensure the adequacy and accuracy of the reports.

## 2.6.4 Summary

An interim NQAM has been issued in order to support TVA's commitment to a stronger QA program. The previous NQAM that allowed the designer, constructor, and operator to have different QA programs has been reorganized. TVA's long-term plans are for an ultimate NQAM to replace the current interim NQAM. This will result in a single QA manual that will establish the requirements for all ONP organizations performing work affecting quality.

This new strengthened program is designed to correct conditions which caused deficiencies identified in the 1985 SALP report in the area of timely resolutions of audit findings and timely responses to identified deficiencies. Measures to ensure the timely resolution of identified deficiencies have been implemented through Watts Bar administrative instructions. Also, meetings between DNQA and line management are taking place in which the timeliness and adequacy of corrective actions are monitored and discussed. Measures to ensure the resolution of deficiencies identified in the Measuring and Test Equipment (M&TE) program, and the adequacy of responses to the NRC have also been implemented.

2.7 Construction Deficiency Reporting

TVA met with NRC on January 12, 1987 to discuss ways in which communication between NRC and TVA can be improved. A followup meeting was held on January 16, 1987 to identify specific areas for improvement.

Reporting of construction deficiencies under 10 CFR 50.55(e) was identified as one area for improvement in communications.

Improvements were needed in:

- the timeliness of making initial deficiency notification to NRC,
- sensitivity to characterizing certain reportable deficiencies as QA program breakdowns,
- meeting established schedules for providing final resolution plans.

In order to clarify lines of responsibility and authority, a corporate level procedure for construction deficiency reporting was issued on February 12, 1987. This procedure integrates engineering, construction, quality assurance and licensing activities. It also provides for closer control of the process of determining deficiency reportability. This is accomplished through tracking required evaluations in the TROI (Tracking and Reporting of Open Items) system. Tracking, monitoring of progress and escalation of problems is the responsibility of Site Licensing. New requirements have been