Tennessee Valley Authority

Bellefonte Nuclear Plant

Welding Program Review

August 18, 1992

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Tennessee Valley Authority Welding Project

Bellefonte Nuclear Plant

Phase I Review

Volume IX

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Tennessee Valley Authority Bellefonte Nuclear Plant Welding Program Review

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Summary

This report presents the results of a programmatic review of the Tennessee Valley Authority (TVA) welding program for the Bellefonte Nuclear Plant (BLN). The programmatic review of the written program is the first phase of an overall review of the TVA welding program for BLN delineated in a January 17, 1986 letter from TVA to United States Nuclear Regulatory Conmission (USNRC). The programmatic review of the welding program, initiated in late 1985, included design Engineering, Construction, and Operations activities for Bellefonte Nuclear Plant. The review also included evaluation of Quality Indicators, such as nonconforming condition reports, deviation reports, and Employee Concern reports. The objective of this review was to determine if TVA had an effective program for control of welding.

The programmatic review of Engineering Construction and Operations is presented in Section 3.0, 4.0 and 5.0 of this report respectively. The program review method, results, conclusions of program adequacy, and recommendations for program improvements are presented in each section.

The TVA Welding Project (WP) evaluation of the BLN welding program was not completed due to the deferral of all design and construction activities at BLN in October 1988. The status of the evaluation was documented and included in the archival of the Engineering records along with the supporting data and a draft report.

The programmatic review of the engineering welding program was performed by the Bellefonte Engineering Project Organization and submitted to the Welding Project for review. This review had not been performed at the time of deferral of BLN.

In November 1991, the TVA-BLN engineering organization reactivated the Welding Project task utilizing former TVA employees who had previously performed the Welding Project review of the evaluation of the engineering welding program for the other TVA nuclear sites and were working on BLN's evaluation at the time of deferral. The work to complete the programmatic evaluation of the Engineering Welding Program and prepare the final report has been performed to the original Welding Project procedures to the maximum extent possible.

The reviews showed that TVA's welding program for BLN produced engineering drawings and specifications, construction procedures, and operations procedures that fully implemented commitments and regulatory requirements.

Recommendations for improvement to the welding program in effect prior to plant deferral are included in this report. These recommendations may not be directly applicable to completion of BLN because the recommendations may not apply to the Architect/Engineer chosen for completion of the engineering work for the plant or to the Constructor to be selected to complete the construction work. The applicability of the recommendations to the operating organization for the plant should be determined prior to the completion of the plant.

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1.0 History of Welding Issues

As a result of welding problems and issues that arose during Watts Bar Nuclear Plant licensing hearings, TVA committed to address welding as a programmatic issue in a letter to USNRC dated October 25, 1985 (L44 851025 801). TVA established the Welding Project in its central engineering organization in November 1985 to address problems and issues related to TVA-performed, safety-related welding. The Welding Project was an independent organization which was not under Bellefonte or other nuclear plant management. The Welding Project had complete freedom to pursue any and all issues related to the welding program which it determined appropriate. The Welding Project Program Plan for all TVA nuclear plants including BLN was submitted to the USNRC by TVA letter dated January 17, 1986 (L44 860117 808).

The Charter¹ of the Welding Project was to:

"Examine the organizational welding programs in TVA, determine any remedial actions that may be needed, and take those actions necessary to assure that future TVA performed welding activities are in accord with TVA's commitment to excellence in its nuclear program.

Verify that the TVA performed welding of structures, piping systems and other safetyrelated plant components, which are currently in place at TVA's nuclear plants are adequate to meet TVA, code, and regulatory requirements."

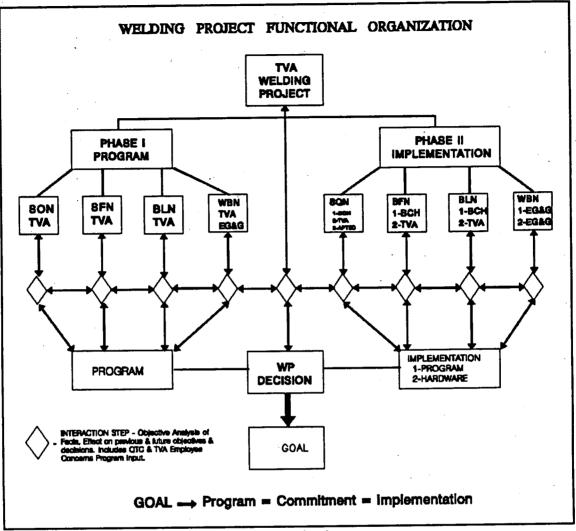
TVA met the commitment to review welding programs and program implementation by performing assessments of the welding at each of the TVA nuclear sites. These assessments were uniquely constituted at the specific sites considering the nature of the issues and the status of the plants (construction, near-term operating license, or operating license). The Welding Project evaluated the TVA welding program in two phases.

Phase 1 was a programmatic assessment of the TVA welding program at each nuclear site.

Phase II was an in-depth review of the implementation of the welding program at each site.

The Welding Project was responsible for assessing all information involving TVA's welding program and for making the final determination as to the adequacy of the program. A functional organizational chart depicting interfaces involving both TVA personnel and outside consultants is shown in Figure 1^2 .

¹The Charter is included in the Program Description submitted in the January 17, 1986 letter from TVA to USNRC. ²Figure 1 is included in the Program Description submitted in the January 17, 1986 letter from TVA to USNRC.



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Figure 1 - Welding Project Functional Organization

The Welding Project used TVA personnel from Engineering, Construction, and Operations and contract personnel in the extensive review of documentation and weld reinspection necessary to accomplish its mission. Contractors included Bechtel, APTECH Engineering Services, and Quality Technology Corporation. The Welding Project maintained responsibility for all work performed by contractors. The Welding Project also determined root causes of TVA welding problems, developed a recurrence control plan, and issued recommendations for improving TVA's welding program.

At Watts Bar Nuclear Plant an independent evaluation was performed as a result of an interagency agreement and technical assessment plan between the United States Department of Energy and TVA. Department of Energy selected EG&G ldaho, operator of the Idaho National Laboratory, to perform this independent evaluation.

Welding Project discovery activities, findings, results, conclusions, and recommendations are given in Volume VIII Welding Project Final Report submitted to USNRC by letter dated August 25, 1989 (L44 890825 800).

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The deferral of Bellefonte suspended the Welding Project evaluation of Bellefonte. Therefore, Bellefonte Nuclear Plant was not included in the scope of the final report of the Welding Project.

2.0 Description of the BLN Welding Program

The design and construction of the Bellefonte Plant, from its inception in the early 1970's until deferral in October 1988, was performed under a system of written procedures designed to produce a plant in full accord with TVA commitments to Atomic Energy Commission (AEC) and NRC regulations and directives. Welding related activities were covered by this program for the total time span of design and construction. The evaluation described in this report is for the program as it existed in December '85 and January '86. The program was functional for the total time period from start of plant design and construction until deferral. Organizational names changed; procedure numbers and titles changed, but the overall program for producing weldments remained essentially the same.

2.1 Organizational Responsibilities

From the start of work on Bellefonte Nuclear Plant, three TVA organizations were responsible for the welding program. The names of the organizations changed in various organizational structures. However, the basic functions and responsibilities of the organizations did not change. Generic names are used to identify the organizations in this report.

The engineering organization known as:

(a) Division of Engineering Design (DED)

(b) Office of Engineering (OE)

(c) Division of Nuclear Engineering (DNE)

was responsible for the engineering activities of TVA's nuclear program and provided technical requirements for the construction welding program.

The construction organization known as:

- (a) Division of Engineered Construction (DEC)
- (b) Office of Construction (OC)
- (c) Division of Nuclear Construction (DNC)

was responsible for implementing the welding program for new plant construction.

The operations organization known as:

- (a) Division of Power Operations (DPO)
- (b) Office of Power (OP)
- (c) Nuclear Operations (NO)

was responsible for implementing the welding program for maintenance and modifications. Technical directives for the operations welding program was provided by an operations engineering group. Operations made no safety related welds at Bellefonte Nuclear Plant.

2.2 Welding Program Review Method

The Welding Project was responsible for all reviews of the welding program. Personnel from each of the three line organizations, Engineering, Construction, and Operations, under the

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direction of the Welding Project, simultancously reviewed each organization's written welding program in close collaboration with the other two organizations. The Welding Project retained responsibility for the reviews performed by the line organizations. The results of the reviews for Engineering, Construction, and Operations are presented separately in this report.

The Welding Project directed Engineering and Construction to prepare special evaluations of six prominent issues that arose from the Employee Concerns Program³. One issue is discussed in the Engineering part (see Section 3.2) and five of the issues are discussed in the Construction part (see Section 4.2.3) of this report. The six issues were as follows:

- (a) Compliance of Welding and Nondestructive Examination (NDE) procedures with American Welding Society (AWS) D1.1-72 Structural Welding Code.
- (b) Preweld inspection of structural steel by welder foremen.
- (c) Inspection of structural welds coated with primer.
- (d) Welding filler metal control.
- (e) Maintenance of welder qualification continuity.
- (f) Inspector qualifications.

Under Welding Project direction, the programmatic review of the Engineering Welding Program was performed by the Bellefonte Engineering Project Organization and submitted to the Welding Project for review and approval. This review had not been completed at the time of deferral of BLN.

In November 1991, the TVA-BLN engineering organization reactivated the Welding Project task utilizing former TVA employees who had previously performed the Welding Project review of the evaluation of the Engineering Welding program for other TVA nuclear sites and who were working on BLN's evaluation at the time of deferral. The work to complete the programmatic evaluation of the Welding Program and prepare this report has been performed using Welding Project methods, procedures and organizations except authority and responsibility for the Bellefonte portion of the welding project were assumed by the Bellefonte site engineering organization after the welding project final report was issued in August 1989.

3.0 Engineering Review

The engineering review had three basic steps. These were:

- (a) A review to determine the welding-related commitments in the Final Safety Analysis Report (FSAR) and other licensing documents.
- (b) A review of design output documents to determine if welding-related commitments are properly expressed in the design output documents.



³Employee Concern Program - A program established by TVA in 1985 for confidential expression of Nuclear Safety Concerns by concerned employees. This program is still operational in TVA.

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(c) Analysis of quality indicators and employee concerns applicable to engineering for indications of programmatic deficiencies.

The acceptance criteria for determining the adequacy of delineation of welding commitments in design output documents consisted of:

- (a) Welding and NDE requirements covered by reference to controlling specification or code (AISC, AWS, or ASME).
- (b) Reference to appropriate General Construction Specification G-29, G-29C, G-29E, or G-29M for welding and NDE procedures.

3.1 Methods

Engineering reviewed the FSAR and other licensing documents to determine the welding-related commitments that Engineering needed to fulfill. Welding Project procedure WP-01, "Commitment Verification and Documentation" was used for this work.

Engineering output documents were reviewed to determine if the drawings and specifications properly presented welding commitments. An auditing type technique was used to determine that welding commitments of the FSAR for 100 civil structural features and 92 inechanical items were consistently presented in the design output documents.

Since TVA's procedures for accomplishing welding related activities in accordance with various industry codes, specifications, and standards relied on the provisions of General Construction Specification G-29 "Process Specifications for Welding, Heat Treatment, Nondestructive Examination, and Allied Field Fabrication Operations", a review of the most frequently used procedures was performed to determine compliance with the referenced industry codes, specifications, and standards.

The process for producing design output documents depicting welding requirements to the user is shown schematically in Figure 2. The figure identifies the hierarchical relationship of source to output of Design Documents.

Engineering evaluated a prominent issue from the Employee Concern Program for Watts Bar Nuclear Plant to demonstrate compliance of TVA's welding and nondestructive examination procedures with American Welding Society (AWS) D1.1-72 Structural Welding Code.

Quality indicators including Employee Concern reports and nonconforming condition reports (NCRs) handled by Engineering were also evaluated for indication of programmatic deficiency.

3.2 Results

The review of the FSAR and other licensing documents identified commitments to 14 weldingrelated codes and standards and a commitment to Code of Federal Regulations Title 10 Part 50 (10CFR50) Appendix B that Engineering needed to fulfill. The codes, standards, and 10CFR50 Appendix B are listed in Attachment A - "Welding Commitments for Engineering." Bellefonte Nuclear Plant Welding Program Review - Page 7 of 25

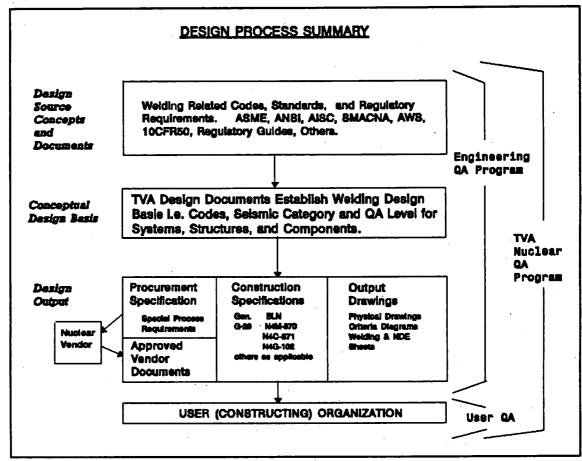


Figure 2 - Design Process Summary

The review of engineering output documents showed that the process of producing these documents was the same regardless of the types of document being produced. Thus drawings for all safety and safety related features or components were produced using the same process.

Using auditing techniques one hundred separate packages of design output documents were reviewed for commitment consistency with the FSAR for welding of structural features. The distribution of the commitments among the buildings and features of BLN is shown in Attachment B - "Structural Welding Commitment Consistency Sample". The sample included structural features in the Reactor, Auxiliary, Control, and Diesel Generator Buildings and the Intake Pumping Station for Essential Raw Cooling Water, Valve Room B, and Yard. The data sheets for the reviews also are presented in Attachment B - "Structural Welding Commitment Consistency Sample".

The reviews of the output documents for the welding of structural features showed that the welding commitments contained in the FSAR are properly reflected in the design output documents.

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Using auditing techniques ninety two packages of design output documents were reviewed for welding of mechanical features. The distribution of the packages among piping systems is shown in Attachment C - "Mechanical Welding Commitment Consistency Sanple". The sample of packages of design output documents included packages in forty seven different piping systems. The record sheets for the reviews also are presented in Attachment C - "Mechanical Welding Commitment C -

The reviews of the mechanical designs showed that the commitments for welding contained in the FSAR are properly delineated in the design output documents.

One minor discrepancy (Process Specification 3.M.3.1 did not require the date, the weld number and manufacturer's identification to be recorded on the film) was noted in the review of the twenty five most commonly used welding and nondestructive examination procedures in General Construction Specification G-29. No other problems were found. The minor discrepancy was corrected by issue of Process Specification 3.M.3.1, Rev. 3, Addendum 2 dated March 3, 1986. The results of the review are detailed in Attachment D - "Welding and NDE Procedure Specification Adequacy". The review provided confidence that welding-related commitments were properly stated in procedures in General Construction Specification G-29.

Because of an allegation from a concerned employee at Watts Bar Nuclear Plant that General Construction Specification G-29C did not comply with the requirements of AWS D1.1, a review was performed to determine compliance. The review is given in Attachment E - "Comparison of G29C to D1.1". It is TVA's position that AWS D1.1 commitment requirements have been met through the Engineer in accordance with assigned responsibilities. This information has been presented in previous Phase I reports for other TVA Nuclear Plants.

Employee Concern reports for all TVA nuclear plants identified as welding-related by TVA's Nuclear Safety Review Staff were evaluated and categorized by engineering as to which 10CFR50 Appendix B criteria would be applicable to the concern. In addition, each employee concern was evaluated to determine if it represented a programmatic deficiency. No programmatic deficiencies were identified. Roughly one quarter of the reports (156) were not applicable to the welding program. Three hundred ninety-two of the concerns were related to the safety-related welding program. Details of the review of Employee Concern Reports are given in Attachment F - "Employee Concerns Evaluation and Classification".

The review indicated that improper program implementation was the root cause of Employee Concerns. The review indicated need for improvement in implementing 10CFR50 Appendix B Criterion V, "Instructions, Procedures, and Drawings" and Criterion IX "Control of Special Processes." The review indicated a lesser need for improvement in design control, inspection, nonconforming conditions, and quality assurance records. The review also identified possible problems in communication between Engineering and Construction.

The review of other Quality Indicators did not identify any programmatic deficiency.

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3.3 Conclusions

The engineering process for BLN produced design output documents that fully implement welding-related commitments. No deficiencies were identified in Engineering's written program that guestion the guality of components, systems, or structures at BLN.

3.4 Recommendations

The following recommendations were made by Welding Project during their 1985-1986 review of the welding program in Engineering. They are included here to provide a complete record of the Welding Project review and impressions of Engineering. They may not be directly applicable to completion of BLN because the recommendations may not apply to the Architect/ Engineer chosen for completion of the engineering work for the plan or to the constructor to be selected to complete the construction. The applicability of the recommendations to the operating organization for the plant should be determined prior to completion of the plant.

(a) Indoctrinate and provide ongoing training/orientation to Engineers, Designers, Technical Supervisors, and Engineering Managers in the following areas:

Code applicability Requirements for constructability of welded designs Contents and use of General Construction Specification G-29 Logical presentation of information in output documents Design requirements embodied in welding codes Responsibility of Engineering to provide fabrication, erection and examination requirements.

- (b) Revise General Construction Specification G-29 to make it easier to follow and understand (i.e., user friendly).
- (c) Establish site-specific communication link to obtain feedback from the user on engineering output documents.
- (d) Prepare additional drawings/specifications instructions or revise existing documents as necessary to meet user organization needs in the area of welding and NDE.
- (e) Issue all site-specific welding-related output documents through the Engineering Manager for each plant.

4.0 Construction Review

The Construction Review was accomplished by the following action steps:

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- (a) Review FSAR to identify welding-related commitments to national standards and USNRC Regulatory Guides.
- (b) Review construction procedures to determine if they correctly incorporate and convey all of the necessary welding commitments.
- (c) Analyze Quality Indicators including Employee Concern reports applicable to Construction for indications of programmatic deficiencies.
- (d) Determine the overall impact of the weld monitoring program.

4.1 Methods

The following Welding Project Procedures were used to perform this work:

WP-01 -	"Commitment Verification and Documentation"
WP-02 -	"Assembling and Evaluating Quality Indicators"
WP-03 -	"Evaluation and Analysis of Employee Concerns"

4.1.1 Commitment and Procedure Review

4.1.1.1 Review of Commitment Documents

The Welding Project identified the following documents as potential sources of commitments:

- (a) Final Safety Analysis Report
- (b) USNRC Regulatory Guides

Regulatory Guides were identified that endorse the following American National Standard institute (ANSI) N45.2 standards:

N45.2.5, "Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants"

N45.2.6, "Qualifications of Inspection, Examination, and Testing Personnel for Nuclear Power Plants"

N45.2.8, "Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems for the Construction Phase of Nuclear Power Plants"

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Regulatory guides other than those endorsing N45.2 series also were identified. These regulatory guides were interpreted by and applicable commitments were provided by Engineering. They are listed here for completeness.

Regulatory Guide 1.31, "Control of Ferrite Content in Stainless Steel Welds"

Regulatory Guide 1.43, "Control of Stainless Steel Weld Cladding of Low-Alloy Steel Components"

Regulatory Guide 1.44, "Control of the Use of Sensitized Stainless Steel"

Regulatory Guide 1.50, "Control of Preheat Temperatures for Welding of Low-Alloy Steel"

Regulatory Guide 1.71, "Welder Qualification for Areas of Limited Access"

(c) Quality Assurance Manual for ASME Section III Nuclear Power Plant Components

The Quality Assurance Manual for ASME Section III Nuclear Power Plant Components contained the programmatic requirements mandated by the American Society Of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section III, Subsection NCA. It was reviewed in detail.

(d) General Construction Specifications

General Construction Specification G-29, "Process Specifications for Welding, Heat Treatment, Nondestructive Examination, and Allied Field Fabrication Operations," was the only general construction specification found to contain welding-related requirements.

(e) Project Construction Specifications

The following Project Construction Specifications were found to contain weldingrelated requirements:

N4G-102 - "Inspection, General - Construction Requirements Manual"

N4M-870 - "Field Fabrication, Examination, and Tests for Piping Systems"

N4C-871 - "Construction of Primary Containment"

N4G-889 - "Identification of Structures, Systems, and Components Covered by the Bellefonte Nuclear Plant Quality Assurance Program" Bellefonte Nuclear Plant Welding Program Review - Page 12 of 25

(f) Office of Construction Quality Assurance Program Manual

The Office of Construction Quality Assurance Program Manual was reviewed and found to contain one detailed welding-related technical procedure and general quality assurance program commitments. Site implementing procedures were reviewed against requirements in the manual.

(g) Office of Construction Quality Training Program Manual

The Office of Construction Quality Training Program Manual contained the detailed qualification and certification criteria from American Society of Mechanical Engineers, American Society for Nondestructive Testing, and American Welding Society standards. The manual contained the detailed qualification and eertification requirements from American Society for Nondestructive Testing Recommended Practice SNT-TC-1A. The manual translated source requirements for use at the site. It was reviewed against the source documents. The site implementing procedures were reviewed against the Office of Construction Quality Training Program Manual.

4.1.1.2 Review of Procedures

The Welding Project reviewed the welding related Construction procedures to ensure implementation of welding-related commitments. The procedures that were reviewed are listed in Attachment G - "Bellefonte Construction Procedures Reviewed".

Additionally, the Welding Project reviewed parts of Standard Operating Procedures and Unit-Level Instructions used at BLN. These procedures implemented practices used in monitoring the effectiveness of the BLN Welding Quality Assurance Program.

4.1.2 <u>Ouality Indicator Review</u>

The Welding Project evaluated Employee Concern reports and other Quality Indicators from Engineering, Construction, and Operations to determine overall welding program effectiveness. Welding Project used procedure WP-02, "Assembling and Evaluating Quality Indicators" to assemble, categorize, and evaluate the data.

Quality Indicators were nonconforming condition reporting documents and oversight reports such as internal and external audit reports collected from Construction, Engineering, and Operations. The great majority were Construction's Quality Control Investigation Reports.

Quality Indicators best define the documented problem areas of noncompliance within the welding program. Employee Concerns are also included in this study to obtain additional data for overview and analysis.

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4.1.3 Employee Concerns Review

Information on both specific and generic employee concerns is included in this report for completeness. All welding related employee concerns have been closed and a report submitted to the NRC as part of the work of the Employee Concerns Task Group (ECTG) of the Employee Concerns Special Program (ECSP). See Report Number 50200 Rev. 4 submitted by TVA letter dated January 21, 1988, (T25880121997).

4.1.4 Weld Monitoring Program Evaluation

The overall impact of the Weld Monitoring Program was determined as required by Welding Project procedure WP-02. The Weld Monitoring Program is part of the quality assurance program for 10CFR50 Appendix B Criteria XIV, "Inspection, Test and Operating Status." It lists mechanical and civil welds, the tests they require, and the status of the tests. The Weld Monitoring Program was not designed to be used to monitor weld quality but to provide status of welds. Details of the Weld Monitoring Program are stated in Attachment H - "Weld Monitoring Program Description".

4.2 Results

4.2.1 Site Procedures

The review of site implementing procedures against commitment documents including the FSAR revealed that the welding commitments were identified and incorporated in the site implementing procedures.

The site implementing procedures were generally well written and contained necessary criteria for controlling the weld-related quality assurance activities. However, the review identified some procedural discrepancies and recommended enhancements. The procedural discrepancies and enhancements identified included items such as:

- (a) correcting typographical errors,
- (b) cross-referencing closely related procedures,
- (c) eliminating overlapping criteria contained in construction procedures and engineering specifications, and
- (d) providing additional detail for application of welding criteria, clarifying responsibilities and personnel qualification levels.

Complete details of discrepancies and enhancements are found in Attachment I - "Discrepancies Identified from Review of BLN Construction Procedures".

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The review of procedures revealed that BLN had welding-related administrative procedures in addition to those required by commitments. These Standard Operating Procedures monitored portions of the welding program. Three significant monitoring programs are described in detail in Attachment J - "Significant Administrative Monitoring Programs". They are summarized below.

- (a) Spot Radiography of Piping The Welding Engineering Unit (WEU) initiated a practice of spot radiography in January 1980 with procedure WEU-SOP-711, "Spot Radiography of Pipe." This program examined randomly selected B31.1 and ASME III Class 3 butt welds that only required surface examination. This program was later revised to include socket welds regardless of the piping classification.
- (b) Audit of Visual Weld Inspections WEU-SOP-716, "Audit of Visual Weld Inspections", issued on May 14, 1981, implemented a random sampling of completed visual weld inspections as performed by each weld inspector. These random audit inspections were performed by individuals other than the original inspector.
- (c) NDE Training and Certification Program WEU-SOP-715, "WEU Welding Inspector Training and Certification Program", issued February 7, 1981, outlined a stringent three phased visual weld inspector training program. A written examination concluded each specific phase.

The review also revealed that BLN had welding-related Field Construction Procedures (FCP). These procedures had been generally prepared by Construction engineers. They contained easy-to-follow instructions for craft personnel for various aspects of the BLN Welding Program. These procedures were replaced with Craft Training Modules. These procedures were welding program enhancements. Some topics for the Field Construction Procedures were as follow:

BNP-FCP-2.2.1, "Structural Steel" BNP-FCP-7.9.1, "Fabrication and Inspection of Nonsafety-Related Welds" BNP-FCP-10.7.1, "Automated Process Control BNP-FCP-10.7.2, "Handling of Weld Cards and Weld Maps" BNP-FCP-8.1.1, "Handling of Weld Filler Material"

Additionally, the review found one problem regarding welding procedure qualification in accordance with ASME Section IX in General Construction Specification G-29. General Construction Specification G-29 allowed the substitution of E70S-6 electrodes for E70S-3 electrodes in welds requiring impact testing. Engineering resolved the problem within the quality assurance program using Problem Identification Report BLNNEB86-07. Additional welding procedure qualification tests using E70S-6 filler metal were conducted to qualify the procedures for use in applications requiring impact testing.

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4.2.2 Quality Indicators

The presence of recorded Quality Indicators demonstrates that a quality assurance program is identifying and documenting nonconforming conditions.

The database of 4,849 Quality Indicators for Engineering, Construction, and Operations originating before January 1986 was evaluated. A search of computer databases using weld and NDE as key words was performed to identify the number of Quality Indicators that were written between January 1986 and deferral. Two hundred and eighty seven additional quality indicators were identified. These post-86 Quality Indicators are not included in the analysis because no new program issues for welding were identified and the number found compared with pre-86 number of quality indicators is small (i.e., 5.6% of total database).

The data were assembled, categorized, and analyzed in accordance with the provisions of "Welding Project Procedure" WP-02, R1. They were classified into problem types and assembled into problem categories. The occurrence rates of the six problem categories defined in WP-02 are presented graphically in Figure 3.

The six categories are discussed below in descending order of The details of the occurrence. distribution of problems within the problem categories six are graphicallv presented in "Ouality Attachment K Indicators by Category".

(a) Procedural Violations

 (3279) - Approximately
 68 percent of the Quality
 Indicators were in this category. Procedural
 Violations reflect the day-to-day operations of the welding program.
 The category contains

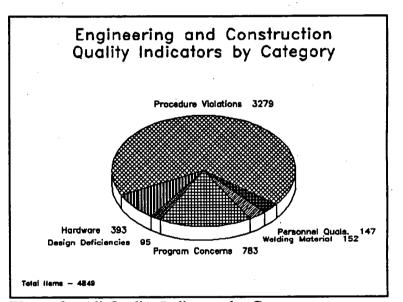


Figure 3 - All Quality Indicators by Category

routinely identified nonconforming conditions requiring repairs by welding or other corrections. The fact that this category contained a large amount of data is evidence that a working welding quality assurance program was in place.

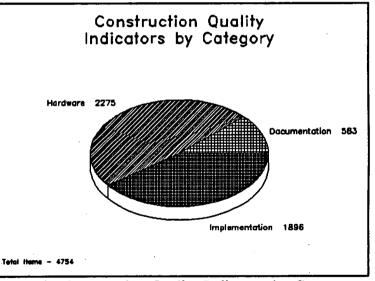
(b) Program Concerns (783) - Approximately 16 percent of the Quality Indicators were in this category. This category contained elements which reflect the overall program operation. It reflected the overall knowledge and perception of the program by individual workers, inspectors, and engineers. Bellefonte Nuclear Plant Welding Program Review - Page 16 of 25

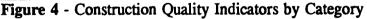
- (c) Hardware (393) Approximately 8 percent of the Quality Indicators were in this area. This category contained hardware deficiencies in specific components, systems, or structures.
- (d) Welding Materials (152) Approximately 3 percent of the Quality Indicators were in this category. This category related to quality and control of both welding material and welding equipment.
- (e) Personnel Qualifications (147) Approximately 3 percent of the Quality Indicators were in this area. This category related to the qualification of the individuals performing the various tasks. Most Quality Indicators discussed improper welder or inspector qualification.
- (f) Design Deficiencies (95) Approximately 2 percent of the Quality Indicators were in this category. This category was deficient design output documents. Only drawings were reported deficient. No specifications were reported deficient.

In accordance with Welding Project Procedure WP-02, the construction-related Quality Indicators were reclassified into three categories of potential problems. The results of this reclassification are shown in Figure 4.

The details of problem distribution in each of the three classifications is shown graphically in Attachment L - "Construction Quality Indicators by Category". The categories and approximate rate of occurrence of problems are as follows:

- 1. Hardware 48%
- 2. Implementation 40%
- 3. Documentation 12%





Each of the three categories is discussed below.

Category 1 - Hardware Quality Indicators

Approximately one-half (2275) of the Quality Indicators are classified in the Hardware Category. Two significant subgroups appear in this category. They are arc strikes (626 of

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2275) and undetected weld defects⁴ (689 of 2275). The detailed results are shown graphically in Attachment L - "Construction Quality Indicators by Category".

The number of undetected defects was influenced by BLN programs which exceeded TVA commitments. These programs included spot radiography of ASME Section III Class 3 and B31.1 piping butt welds. The TVA commitments and the codes required only surface examinations. Any welds with defects found by the spot radiography program were cut out and replaced to the original requirements. Random overview audit typo reinspection of Quality Control inspectors' work also found undetected weld defects.

Arc strike deficiencies show in the quality indicator database because the BLN program addressed arc strikes. The program required a Quality Control Investigation Report for each arc strike discovered outside a weld on any piping during most of the duration of BLN construction. Arc strikes are not addressed by ASME Section III or B31.1 codes.

Category 2 - Program Implementation Quality Indicators

Approximately 40 percent of the Quality indicators (1896) were classified in Program Implementation category. Two thirds (1252 of 1896) of the Program Implementation problems were a failure to follow procedures. Detailed graphical analysis is shown in Attachment L - "Construction Quality Indicators by Category".

Failure to follow procedure included items such as not welding in accordance with the drawing, bypassed hold points, welding or grinding without approval, and violating essential variables of the detail weld procedures. The occurrence of failure to follow procedure category suggested the following weaknesses in the welding program:

Failure of individuals to properly comprehend the importance of compliance with the specific requirements of the program and procedures. This premise led to possible root causes of lack of adequate training or of failure to communicate the importance of the quality program.

The procedures were not always easy to follow or use because of the excessive amount of detail included. Some procedures were written to cover the full extent of the requirements contained in upper-tier documents rather than covering the items that are appropriate for the end user.

Failure to identify trends or patterns of less significant single deficiencies which collectively could be significant problems.



⁴"Undetected Weld Defect" is terminology from Welding Project Procedure WP-02 "Assembling and Evaluating Quality Indicators", which was written in 1986, and does not denote a weld flaw.

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Category 3 - Program Documentation Quality Indicators

Approximately 12 percent (583 of 4754) of Quality Indicators were classified as Program Documentation. Most Program Documentation Quality Indicators (422 of 583) were missing or inaccurate welding records. A lesser group was inadequate procedures (121 of 583). A detailed graphical analysis is provided in Attachment L - "Construction Quality Indicators by Category".

The analysis of the problem category titled "Weld Documentation" shows the following :

Implementing procedures did not clearly delineate requirements for record completion.

Procedures and processes for compiling and filing of records were not clarified and streamlined early in construction.

4.2.3 Employee Concerns

Eighty seven Employee Concerns were identified by the Nuclear Safety Review Staff and Employee Response Team as being applicable to the BLN welding program. Seventy two Employee Concerns identified at other TVA nuclear plants were identified to be generic to BLN. Attachment M - "Generic Employee Concerns" lists the concerns and a summary of the concerns. Fifteen concerns were identified that related specifically to the BLN welding program. Attachment N - "BLN-Specific Employee Concerns" lists the concerns and a summary of the concerns. Nuclear Safety Review Staff had investigated several of the concerns. These are noted in Attachment M - "Generic Employee Concerns" and Attachment N - "BLN-Specific Employee Concerns".

One BLN-Specific Employee Concern regarded an madequate design drawing. Fourteen BLN-Specific Employee Concerns regarded the Construction program. They were categorized as follows:

Program Implementation	Electrode Control - 3 Inspector Qualification - 3 Failure to follow procedure - 3 Welder qualification - 1
Documentation	Inadequate procedure - 2
Material	Welding Equipment - 1
Documentation	Missing Records - 1

The results of the Welding Project investigation of the BLN specific concerns are included in Weld Project Employee Concerns Evaluation Reports WP-01-BLN, WP-06-BLN, WP-07-BLN,

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WP-10-BLN, WP-13-BLN, WP-16-BLN, and WP-35-BLN. The results of the investigations did not identify any programmatic deficiencies for the BLN Welding Program.

The Welding Project reviews of Employee Concern reports for Browns Ferry, Sequoyah, and Watts Bar Nuclear Plants had identified generic issues that might have been applicable to BLN. The Welding Project defined five notable construction issues. The Welding Project review of generic concerns is documented in its reports for other plants. If factual, these issues would have indicated significant problems in the welding program. These issues had been discussed at length with USNRC for Watts Bar Nuclear Plant. Welding Project evaluated these five issues in detail. The five notable issues were evaluated and determined to not affect BLN's welding program. They are discussed in some detail below.

(a) Preweld Inspection of Structural Steel

This issue evolved from the TVA practice of allowing welder foremen, who are responsible for production, to verify prewelding requirements for structural steel. The concerns imply that TVA and BLN were in conflict with its quality commitments AWS D1.1, "structural Welding Code - Steel and N45.2.5-1974, "Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear power Plants". There were both generic Employee Concerns from other TVA locations and BLN-specific Employee Concerns regarding this issue.

The concerns were a restatement of an issue which was resolved in 1980. It occurred first in TVA at BLN. It was reported to USNRC under 10CFR50.55(e). The TVA practice of foremen verifying preweld activities met quality commitments. Complete details of the Welding Project review of the issue are in Welding Project Employee Concern Evaluation Report WP-16-BLN, "Structural Steel Preweld Inspections at BLN."

(b) Inspection of Structural Welds Coated with Primer

This issue arose from a change to the design specification intended to allow certain reinspections for weld configuration without removing the coating at Watts Bar Nuclear Plant. Previous practice had been to clean all welds before any type of inspection. The design specification did not apply to BLN. No Employee Concerns were expressed for BLN. This issue did not apply to BLN. Complete details of the Welding Project review of the issue are in Welding Project Employee Concern Evaluation Report WP-02-BLN, "Inspection of Welds through Carbo-zinc Primer at BLN."

(c) Welding Filler Metal Control Three issues concerning electrode control arose from TVA's practices of:

(1) not requiring traceability to a weldment of the heat or lot number of filler material used in the weldment;

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- (2) security control for returned, unused filler metal; and
- (3) allowing low hydrogen shielded metal arc welding electrodes to remain exposed to the atmosphere for an entire eight hour shift while discontinuing the use of portable electrode ovens.

Both generic Employee Concern reports and BLN-specific Employee Concern reports were expressed regarding these issues.

All three issues were shown to be descriptions of acceptable practices within welding program requirements and commitments including AWS D1.1 and ASME Section III. Complete details of the Welding Project review of the issue are in Welding Project Employee Concern Evaluation Report WP-01-BLN, "Control of Welding Filler Material at BLN."

(d) Welder Qualification Continuity

This issue arose from Employee Concerns at Watts Bar Nuclear Plant that the program used to ensure welders had welded periodically as required to maintain their qualifications did not meet ASME Section III and AWS D1.1 requirements. The Welding Project evaluated the Bellefonte written program for welder qualification continuity in detail. The BLN program for welder qualification met ASME Section III and AWS D1.1 requirements. Complete details of the Welding Project review of the issue are in Welding Project Employee Concern Evaluation Report WP-03-BLN, "Welder Qualification continuity at BLN."

(e) Inspector Qualification

This issue evolved from significant changes in TVA's program for qualification and certification of welding inspectors in 1981. These changes led some to believe that inspector training did not exist or was inadequate before 1981. This was not the case at BLN. Before 1981 TVA did not have a uniform program of certification of welding inspectors. Each site certified inspectors to site implementing procedures. Complete details of the Welding Project review of the issue are in Welding Project Employee Concern Evaluation Report WP-06-BLN, "Inspector Qualification at BLN."

4.2.4 Weld Monitoring Program

The results from the Weld Monitoring Program as of July 9, 1986 were as follow:

	<u>Total</u>	Unit 1	<u>Unit 2</u>	<u>Common</u>
Welds Completed	313,369	154,816	84,350	74,203
Welds Reworked	25,406	14,352	6,350	4,704
Rework Rate	8.11%	9.27%	7.53%	6.34 <i>%</i>

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4.3 Conclusions

The Construction welding program at BLN met code, quality assurance, and regulatory requirements and commitments.

4.4 Recommendations

The Welding Project recommended the following enhancements to the Construction welding program: The enhancements may not be directly applicable to the new documents and organizations involved in the completion of BLN. The recommended enhancements are included here to capture completely the impressions of the Welding Project reviewers of the Construction welding program.

- (a) TVA's Topical Report TVA-TR75-1A should be made clearer regarding exceptions and compliance with N45.2.6. It should reflect TVA's method of training NDE personnel. The Office of Construction Quality Training Program Manual and Quality Control Procedure - 10.29 should then be made clear and specific without duplication or overlaps.
- (b) In general, a subject such as base metal repair or welder qualification should be addressed in detail in one document. Presently, for example, welder qualification and continuity is addressed in General Construction Specification G-29, Office of Construction Quality Training Program Manual, and Construction's Quality Control Procedure series in several places all with specific requirements. All other documents should reference the principal document for technical details.
- (c) Revise BLN Construction Procedures listed in Attachment I "Discrepancies Identified from Review of BLN Construction Procedures" to resolve the discrepancies or to incorporate the enhancements identified.

5.0 Operations Review

Operations made no nuclear safety-related welds at Bellefonte Nuclear Plant. Operations' written program for welding had been prepared. Operations was committed to welding requirements through an assortment of source documents, all of which emanate from the Code of Federal Regulations. Attachment O - "Welding Requirements Commitment Summary" lists these documents, some of which involve programmatic requirements while others invoke technical requirements. All of these requirements, programmatic and technical, are applicable to safety-related items and activities.

Programmatic requirements were implemented through the Nuclear Quality Assurance Manual and its supporting procedures and instructions as was described in Chapter 17.2 of the TVA Topical Report (TVA-TR75-1A). Technical requirements, found in various codes and regulatory Bellefonte Nuclear Plant Welding Program Review - Page 22 of 25

guides, were implemented through site work instructions which were controlled by procedures and instructions implementing programmatic requirements.

When a plant item was to be replaced or modified by welding, an established program of written procedures and instructions was to be used to ensure conformance to applicable programmatic and technical requirements.

5.1 Methods

The Operations review was based on the following actions:

- (a) A review of the Operations procedures to determine whether they correctly incorporate and convey all of the necessary welding requirements.
- (b) Analysis of quality indicators and employce concerns applicable to Operations for indication of programmatic deficiencies.

The criteria for determining a procedure to be deficient was the failure of the procedure to include source document requirements. The criteria for determining an area for improvement was the procedure did not satisfy the criteria for a deficiency but was weak, unclear, or unnecessarily cumbersome.

It should be recognized that from July 2, 1985, when the fuel load schedule for BLN was delayed and the staffing levels were reduced until plant deferral in 1988, only those BLN procedures or portions of procedures that apply to current plant activities were kept up-to-date. With this special scope in mind, the Welding Project assessment of the Operations welding program for BLN did not include reviews for correct organizational titles and administrative type controls, but the assessments did review for the inclusion of the proper programmatic and technical requirements in BLN procedures and instructions.

5.2 Results

Source document requirements to which Operations was committed for welding-related activities were identified. Applicable procedures and instructions were reviewed to ensure conformance to source document requirements. Procedural deficiencies and areas for improvement are summarized in Attachment P - "Welding Requirements Commitment Matrices".

5.2.1 Programmatic Areas

Refer to Attachment P - "Welding Requirements Commitment Matrices" for an assessment of procedural implementation of the following programmatic requirement areas:

Procurement Document Control Instructions, Procedures, and Drawings Bellefonte Nuclear Plant Welding Program Review - Page 23 of 25

Document Control Control of Purchased Material, Equipment, and Services Identification and Control of Material, Parts, and Components Control of Special Processes Inspection Handling, Storage, and Shipping Quality Assurance Records Maintenance and Modifications

Programmatic requirements were reflected in the implementing procedures and instructions.

5.2.2 Technical Areas

Refer to Attachment P - "Welding Requirements Commitment Matrices" for an assessment of procedural implementation of the following technical requirement areas.

ASME Section XI Repairs (IWA-4000) and Replacements (IWA-7000) ASME Section XI Pressure Tests ASME Section XI Preservice Inspection (PSI) Program ASME Section IX AWS Structural Welding Code - Steel Regulatory Guide 1.31, "Control of Ferrite Content in Stainless Steel Weld Metal

Technical requirements for AWS D1.1; ASME Section IX; and ASME Section XI, IWA-4000 and IWA-7000 were considered to be adequately addressed by procedures and instructions.

Technical requirements for ASME Section XI preservice inspection program following the repair and replacement of components which require welding on the pressure retaining boundary of the component were considered to be adequately implemented in procedures and instructions.

Technical requirements for ASME Section XI pressure testing following the repair and replacement of components which require welding on the pressure retaining boundary of the component were considered to be adequately implemented in procedures and instructions.

5.2.3 Analysis of Quality Indicators

An analysis of Quality Indicators was not conducted for the Operations welding program at BLN. Operations has not performed any safety-related welding at BLN. Operations had written only four discrepancy reports.

52.4 Results Summary

Sixteen requirement areas were assessed to ensure conformance of the written welding program to source document requirements. Ten areas contain programmatic requirements. Six areas

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contain technical requirements. Matrices were not prepared for Inspection and Enforcement Bulletins or Licensing Letters as no welding-related requirements were found in either Inspection and Enforcement Bulletin files or Licensing correspondence.

5.3 Conclusions

Programmatic welding requirements were described adequately through the Nuclear Quality Assurance Manual, procedures and instructions. Bellefonte Nuclear Plant Operations had not performed any safety-related welding.

5.4 Recommendations

5.4.1 Programmatic Areas

One specific area for improvement was identified during the preparation of the "Handling, Storage, and Shipping" matrix. A recommendation was made for specific storage instructions for welding materials. This item is not considered to be a condition adverse to quality.

5.4.2 Technical Areas

Two areas for improvement in the area of ASME Section XI Repairs and Replacements were identified which require revisions to Program Procedure 1402.02 (BLN) and BLN Standard Practice BLM11.3. These are further discussed in Attachment P in the implementation matrix package on ASME Section XI Repairs and Replacements. These areas for improvement do not reflect any breakdowns in the quality assurance program that could potentially result in a condition adverse to quality.

Two areas for improvement in the area of ASME Section XI Pressure Testing were identified. These items are addressed in detail in Attachment P in the implementation matrix package for ASME Section XI Pressure Tests. These areas for improvement represent procedure clarification of procedure BLN SP-BLE6.8 and the establishment of program procedure for ASME Section XI pressure test when a more definite construction schedule is established. These are not indicative of a potential condition adverse to quality. Bellefonte Nuclear Plant Welding Program Review - Page 25 of 25

LIST OF ATTACHMENTS

Attachment A - "Welding Commitments for Engineering."

Attachment B - "Structural Welding Commitment Consistency Sample"

Attachment C - "Mechanical Welding Commitment Consistency Sample"

Attachment D - "Welding and NDE Procedure Specification Adequacy"

Attachment E - "Comparison of G29C to D1.1"

Attachment F - "Employce Concerns Evaluation and Classification"

Attachment G - "Bellefonte Construction Procedures Reviewed"

Attachment H - "Weld Monitoring Program Description"

Attachment I - "Discrepancies Identified from Review of BLN Construction Procedures"

Attachment J - "Significant Administrative Monitoring Programs"

Attachment K - "Quality Indicators by Category"

Attachment L - "Construction Quality Indicators by Category"

Attachment M - "Generic Employee Concerns"

Attachment N - "BLN-Specific Employce Concerns"

Attachment O - "Welding Requirements Commitment Summary"

Attachment P - "Welding Requirements Commitment Matrices"

Attachment A Welding Commitments for Engineering page 1 of 1

10CFR50 Appendix B ASME Section III class 1 ASME Section III class 2 ASME Section III class 3 ASME B31.1 ANS N18.2 cl 1 ANS N18.2 cl 2 ANS N18.2 cl 2 ANS N18.2 cl 3 AISC AWS MSS-SP-66 SMACNA ASME Section IX ASME Section XI

Attachment B Structural Welding Commitment Consistency Sample

ACCEPTANCE CRITERIA FOR DESIGN REVIEW

Structural Design Output Documents

The acceptance criteria for determining the adequacy of delineation of welding commitments in design output documents consisted of:

- (a) Welding and nondestructive examination covered by reference to controlling specification or code (AISC/AWS or ASME).
- (b) Reference to appropriate General Construction Specification G-29, G-29C, G-29E or G-29M for welding and NDE procedures.

ITEMS SAMPLED	REACTOR	AUXILIARY	CONTROL	DIESEL	INTAKE		VARD	MULTIPLE	TOTAL
	BLDG	BLDG	BLDG	GENERATOR		BOOM	17410	BLDG	IUIAL
				BLDG	STATION			5250	
NUMBER OF SAMPLES	27	28	10	10	10	5	5	5	100
EMBEDED PARTS	1	6	1	3		1			12
CABLE TRAY SUPPORTS	1	5	5	1	1				13
CONDUIT SUPPORTS	1				1			1	3
LIGHTING FIXTURE SUPPORTS						 		1	1
PIPE SUPPORTS	10	2	1			1			14
TANK SUPPORTS		1		1					2
HVAC EQUIPMENT & DUCT SUPPORTS	1	3	1	1	1				7
EQUIPMENT SUPPORTS		1		·					1
CRANE/MONORAIL SUPPORTS		1		1		1			3
INSTRUMENT TUBING SUPPORTS	1							3	4
MISCELLANEOUS STEEL	4	5	1	1	2				13
FRAMES, COVERS, GRATING OR HANDRAILS	2	1	1	1	2	1	2		10
LADDER/PLATFQRMS	2	1		1	1		1		6
BLOWOUT/PRESSURE RELIEF PANELS	2					1			3
TANK LINER							2		2
STRUCTUAL STEEL	2	2			2			+	6

STRUCTRUAL WELDING COMMITMENT CONSISTENCY SAMPLE



BELLEFONTE NUCLEAR PLANT

PACKAGE	COMMITM	IENT	SPEC/CODE		EVAL		
NUMBER	SOURCE	LOCATION	COMMITMENT	DESCRIPTION	STAT	BLDG	
BLEP C-1	FSAR	3.8.4.2	AISC/AWS	STR STL - ROOF FRAMING	C	AB	LEGEND
BLEP C-2	FSAR	3.8.4.2	AISC/AWS	STR STL - PIPE SUPPORTS	C	AB	STATUS OF EVALUATION
BLEP C-3	FSAR	3.8.4.2	AISC/AWS	MISC STL - STAIR	C	AB	C= CONSISTENT M= MINOR INCONSISTENCY
BLEP C-4	FSAR	3.8.4.2	AISC/AWS	MISC STL - ACCESS PLTFMS	С	AB	
BLEP C-5	FSAR	3.8.4.2	AISC/AWS	MISC STL - EMBED PARTS	C	AB	BUILDINGS
BLEP C-6	FSAR	3.8.4.2	AISC/AWS	MISC STL - EMBED PARTS	c	AB	
BLEP C-7	FSAR	3.8.4.2	AISC/AWS	MISC STL - EMBED PARTS	c	AB	CB=CONTROL BUILDING DGB=DIESEL-GENERATOR
BLEP C-6	FSAR	3.8.4.2	AISC/AWS	MISC STL - EMBED PARTS	С	AB	BUILDING
BLEP C-9	FSAR	3.8.4.2	AISC/AWS	MISC STL - EMBED PARTS	C	AB	STATION RB=REACTOR BUILDING
BLEP C-10	FSAR	3.8.4.2	AISC/AWS	MISC STL - EMBED PARTS	C	AB	RB=REACTOR BUILDING
BLEP C-11	FSAR	3.8.4.2	AISC/AWS	STR STL - WATCHTOWER	c	AB	<u> </u>
BLEP C-12	FSAR	3.8.4.2	AISC/AWS	MISC STL - TANK SUPPORTS	c	AB	
BLEP C-13	FSAR	3.8.4.2	AISC/AWS	STR STL - PIPE SUPPORTS	c	AB	-
BLEP C-14	FSAR	3.8.4.2	AISC/AWS	MISC STL - GRATING, HAND RAILING, & LADDERS	C	AB	-
BLEP C-15	FSAR	3.8.4.2	AISC/AWS	MISC STL - SHIELD PLUGS	C	AB	1
BLEP C-16	FSAR	3.8.4.2	AISC/AWS	MISC STL - H&V DCT SUPPORTS	Ċ	AB	
BLEP C-17	FSAR	3.8.4.2	AISC/AWS	MISC STL - H&V DCT SUPPORTS	c	AB	

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BELLEFONTE NUCLEAR PLANT

PACKAGE		COMMITMENT			EVAL	
NUMBER	SOURCE	LOCATION	COMMITMENT	DESCRIPTION	STAT	BLDG
BLEP C-18	FSAR	3.8.4.2	AISC/AWS	MISC STL - H&V DCT SUPPORTS	С	AB
BLEP C-19	FSAR	3.8.4.2	AISC/AWS	MISC STL - MONORAILS	С	AB
BLEP C-20	FSAR	3.8.4.2	AISC/AWS	STR STL - CBL TRAY SUPPORTS	C	AB ·
BLEP C-21	FSAR	3.8.4.2	AISC/AWS	STR STL - CBL TRAY SUPPORTS	C	AB
BLEP C-22	FSAR	3.8.4.2	AISC/AWS	STR STL - CBL TRAY SUPPORTS	C	AB
BLEP C-23	FSAR	3.8.4.2	AISC/AWS	STR STL - CBL TRAY SUPPORTS	C	АВ
BLEP C-24	FSAR	3.8.4.2	AISC/AWS	STR STL - CBL TRAY SUPPORTS	C	AB
BLEP C-25	FSAR	3.8.4.2	AISC/AWS	MISC STL - H2 SYS ENCLOSURE	С	AB
BLEP C-26	FSAR	3.8.4.2	AISC/AWS	MISC STL - EQPT SPT	C	AB
BLEP C-27	FSAR	3.8.4.2	AISC/AWS	MISC STL - MISSILE SHIELD	C	AB
BLEP C-28	FSAR	3.8.4.2	AISC/AWS	MISC STL - SPRAY SHIELD	C	AB
BLEP C-29	FSAR	3.8.4.2	AISC/AWS	MISC STL - GRATING	C	СВ
BLEP C-30	FSAR	3.8.4.2	AISC/AWS	MISC STL - EMBED PARTS	С	СВ
BLEP C-31	FSAR	3.8.4.2	AISC/AWS	MISC STL - SPT FRAMING	c	Св
BLEP C-32	FSAR	3.8.4.2	AISC/AWS	STR STL - CBL TRAY SUPPORTS	C	СВ
BLEP C-33	FSAR	3.8.4.2	AISC/AWS	STR STL - CBL TRAY SUPPORTS	C	СВ
BLEP C-34	FSAR	3.8.4.2	AISC/AWS	STR STL - CBL TRAY SUPPORTS	c	СВ

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PACKAGE COMM		IENT	SPEC/CODE			
NUMBER	SOURCE	LOCATION	COMMITMENT	DESCRIPTION	STAT	BLDG
BLEP C-35	FSAR	3.8.4.2	AISC/AWS	STR STL - CBL TRAY SUPPORTS	С	СВ
BLEP C-36	FSAR	3.8.4.2	AISC/AWS	STR STL - CBL TRAY SUPPORTS	C	СВ
BLEP C-37	FSAR	3.8.4.2	AISC/AWS	MISC STL - H&V DCT SUPPORTS	С	СВ
BLEP C-38	FSAR	3.8.4.2	AISC/AWS	STR STL - MS&FW PIPE SPT STL	С	СВ
BLEP C-39	FSAR	3.8.4.2	AISC/AWS	INSTRUMENT TUBING SPT	С	AB/IPS
BLEP C-40	FSAR	3.8.4.2	AISC/AWS	LIGHTING SUPPORTS	С	AB/CB/RB/ DGB/IPS
BLEP C-41	FSAR	3.8.4.2	AISC/AWS	CONDUIT SPT	С	AB/CB/ DGB
BLEP C-42	FSAR	3.8.4.2	AISC/AWS	CONDUIT SPT	С	IPS
BLEP C-43	FSAR	3.8.3.3.2	AISC	INSTRUMENT TUBING SPT	С	AB/RB/
BLEP C-44	FSAR	3.8.3.3.2	AISC	CONDUIT SPT	С	RB
BLEP C-45	FSAR	3.8.4.2	AISC/AWS	MISC STL GRATING & SPT FRAMING	С	DGB
BLEP C-46	FSAR	3.8.4.2	AISC/AWS	MISC STL - H&V EQPT SUPPORTS	С	DGB
BLEP C-47	FSAR	3.8.4.2	AISC/AWS	STR STL - CBL TRAY SUPPORTS	С	DGB
BLEP C-48	FSAR	3.8.1.2	AISC/AWS	STR STL - FLOOR FRAMING	С	RB
BLEP C-49	FSAR	3.8.1.2	AISC/AWS	STR STL - FLOOR FRAMING	С	RB
BLEP C-50	FSAR	3.8.1.2	AISC/AWS	MISC STL - COVERS & SCREENS	С	RB
BLEP C-51	FSAR	3.8.4.2	AISC/AWS	STR STL - CRANE RAILS	С	VALVE RM B

BELLEFONTE NUCLEAR PLANT

PACKAGE	COMMITM	COMMITMENT			EVAL	
NUMBER	SOURCE	LOCATION	COMMITMENT	DESCRIPTION	STAT	BLDG
BLEP C-52	FSAR	3.8.4.2	AISC/AWS	STR STL - PIPE SUPPORTS	С	VALVE RM B
BLEP C-53	FSAR	3.8.4.2	AISC/AWS	MISC STL - EMBED PARTS	С	VALVE RM B
BLEP C-54	FSAR	3.8.4.2	AISC/AWS	MISC STL - FRAMES, COVERS, GRATING & LADDERS	С	YARD
BLEP C-55	FSAR	3.9.1.4.1 3.9.3.4.1	AISC/ ASMEIII NF	PIPE SPT	C	RB
BLEP C-56	FSAR	3.9.1.4.1 3.9.3.4.1	AISC/ ASMEIII NF	PIPE SPT	C	RB
BLEP C-57	FSAR	3.9.1.4.1 3.9.3.4.1	AISC/ ASMEIII NF	PIPE SPT	С	RB
BLEP C-58	FSAR	3.9.1.4.1 3.9.3.4.1	AISC/ ASMEIII NF	PIPE SPT	С	RB
BLEP C-59	FSAR	3.9.1.4.1 3.9.3.4.1	AISC/ ASMEIII NF	PIPE SPT	С	RB
BLEP C-60	FSAR	3.9.1.4.1 3.9.3.4.1	AISC/ ASMEIII NF	PIPE SPT	С	RB
BLEP C-61	FSAR	3.8.3.3 3.13.1(C)	AISC	PIPE SPT	С	RB
BLEP C-62	FSAR	3.8.3.3 3.13.1(C)	AISC	PIPE SPT	С	RB
BLEP C-63	FSAR	3.8.3.3 3.13.1(C)	AISC	PIPE SPT	С	RB
BLEP C-64	FSAR	3.8.3.3 3.13.1(C)	AISC	PIPE SPT	С	RB
BLEP C-65	FSAR	3.8.3.3 3.8.3.3.2	AISC	MISC STL - MISSIEL BARRIERS	С	RB
BLEP C-66	FSAR	3.8.3.3 3.8.3.3.2	AISC	MISC STL - SPIRAL STAIRS	С	RB
BLEP C-67	FSAR	3.8.3.3 3.8.3.3.2	AISC	MISC STL - CURBS, DECKING, RAILING & EMBEDS	С	RB
BLEP C-68	FSAR	3.8.3.3 3.8.3.3.2	AISC	MISC STL - SUMP LINER	C	RB

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BELLEFONTE NUCLEAR PLANT

PACKAGE COMM		IENT	SPEC/CODE		EVAL	
NUMBER	SOURCE	LOCATION	COMMITMENT	DESCRIPTION	STAT	BLDG
BLEP C-69	FSAR	3.8.4	AISC/AWS	MISC STL - FRAMES, GRATING,	С	RB
		3.8.4.2		& EMBEDS		
BLEP C-70	FSAR	3.8.3.3	AISC	MISC STL - ACCESS PLTFRMS	С	RB
		3.8.3.3.2				
BLEP C-71	FSAR	3.8.3.3	AISC	MISC STL - PRESSURE RELIEF	C	RB
		3.8.3.3.2		PANELS		
BLEP C-72	FSAR	3.8.3.3	AISC	MISC STL - ACCESS LADDERS	C	RB
		3.8.3.3.2				
BLEP C-73	FSAR	3.8.3.3	AISC	MISC STL - PRESSURE RELIEF	C	RB
		3.8.3.3.2		PANELS		
BLEP C-74	FSAR	3.8.4	AISC/AWS	MISC STL - EMBED PARTS	С	RB
		3.8.4.2				
BLEP C-75	FSAR	3.8.3.3	AISC	MISC STL - INCORE	C	RB
		3.8.3.3.2		INSTRUMENTATION SUPPORTS		
BLEP C-76	FSAR	3.8.3.3	AISC	MISC STL - H&V DCT SUPPORT	C	RB
		3.8.3.3.2		SUPPORT TYPES		
BLEP C-77	FSAR	3.8.4	AISC/AWS	MISC STL - CBL TRAY SUPPORTS	C	RB
		3.8.4.2		& WALKWAYS	•	
BLEP C-78	FSAR	3.8.4	AISC/AWS	MISC STL - BRIDGE CRANE RAILS	C	DGB
		3.8.4.2				
BLEP C-79	FSAR	3.8.4	AISC/AWS	MISC STL - PARTITION WALL	C	DGB
· · ·		3.8.4.2		FRAMING		
BLEP C-80	FSAR	3.8.4	AISC/AWS	MISC STL - EMBED PARTS	C	DGB
		3.8.4.2				
BLEP C-81	FSAR	3.8.4	AISC/AWS	MISC STL - LADDERS & HANDRAILS	C	DGB
		3.8.4.2				
BLEP C-82	FSAR	3.8.4	AISC/AWS	MISC STL - EMBED STL	C	DGB
		3.8.4.2				
BLEP C-83	FSAR	3.8.4	AISC/AWS	MISC STL - TANK & PIPE	C	DGB
		3.8.4.2		SUPPORTS		
BLEP C-84	FSAR	3.8.4	AISC/AWS	MISC STL - EMBED PLATES	C	DGB
· · · · · · · · · · · · · · · · · · ·		3.8.4.2				
BLEP C-85	FSAR	3.8.4	AISC/AWS	MISC STL - HANDRAILS	C	VALVE
		3.8.4.2				RM B

SUMMARY OF STRUCTURAL WELDING REQUIREMENTS OUTPUT AISC - AWS - ASME

BELLEFONTE NUCLEAR PLANT

PACKAGE	COMMITMENT		SPEC/CODE		EVAL	
NUMBER	SOURCE	LOCATION	COMMITMENT	DESCRIPTION	STAT	BLDG
BLEP C-86	FSAR	3.8.4	AISC/AWS	MISC STL - BLOWOUT PANELS	C	VALVE
		3.8.4.2				RM B
BLEP C-87	FSAR	3.8.4	AISC/AWS	MISC STL - FRAMES, GRATING,	С	YARD
		3.8.4.2		& LADDERS		
BLEP C-88	FSAR	3.8.4	AISC/AWS	STR STL - TANK LINER	C	YARD
		3.8.4.2				
BLEP C-89	FSAR	3.8.4	AISC/AWS	STR STL - TANK LINER	С	YARD
		3.8.4.2				-
BLEP C-90	FSAR	3.8.4	AISC/AWS	MISC STL - LADDER & PLTFM	C	YARD
		3.8.4.2				
BLEP C-91	FSAR	3.8.4	AISC/AWS	STR STL - TRASHRACKS & GUIDES	C	IPS
		3.8.4.2				
BLEP C-92	FSAR	3.8.4	AISC/AWS	MISC STL - FRAMES & COVERS	С	IPS
		3.8.4.2				,
BLEP C-93	FSAR	3.8.4	AISC/AWS	MISC STL - LINER & GRATING	C	IPS
		3.8.4.2			•	
BLEP C-94	FSAR	3.8.4	AISC/AWS	MISC STL - PLTFMS, EMBEDS,	C	IPS
		3.8.4.2		& LADDERS		
BLEP C-95	FSAR	3.8.4	AISC/AWS	MISC STL - H&V AND PIPE	C	IPS
	1	3.8.4.2		SUPPORTS		
BLEP C-96	FSAR	3.8.4	AISC/AWS	MISC STL - CBL TRAY SUPPORTS	C	IPS
		3.8.4.2		· · · · · · · · · · · · · · · · · · ·		
BLEP C-97	FSAR	3.8.4	AISC/AWS	MISC STL - DIVIDER SCREENS	C	IPS
		3.8.4.2		•		
BLEP C-98	FSAR	3.8.4	AISC/AWS	STR STL - MISSILE PROTECTION	С	IPS
		3.8.4.2		FRAMING		L
BLEP C-99	FSAR	3.8.4	AISC/AWS	MISC STL - CRANE BOOM SPT	C	IPS
		3.8.4.2		1		
BLEP C-100	FSAR	3.8.4	AISC/AWS	INSTRUMENT TUBING SPT	C	AB/CB
		3.8.4.2			1	/DGB

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·	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 1985					
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Structural Steel - Roof Framing					
BLEP C-1	(3) Design Statement as Presented in FSAR					
	3.8.4.2 <u>Applicable Codes, Standards, and Specifications</u> Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the					
(4) FSAR Section 3.8.4.2	Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.					
(5) FSAR Page	B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969,					
 3.8-74 & 75 as amended through June 12, 1974. (6) Design Documents N4-A3-D701 N4-50-D705 G-29C as amended through June 12, 1974. E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concernations", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification Specification Specification G-29C 						
4AW0804-X2-1R14 4AW0800-X2-1R4	(7) Contact(s) N/A					
7A W 0000-72-114	 (8) DISPOSITION OF STATEMENT Besign Documents and FSAR consistent FSAR Consistent FSAR and Design Documents FSAR is not Consistent with Design Documents 					
(9) DISCUSSION OF FIND	DING					
Design output document	s and the FSAR are consistent.					
<u>Martin B. Bailey 12/17/8</u> Investigator Date	85E. Wayne Rosenbalm12/18/85WELDING PROJECT REVIEW:ApproverDateImage: ApproverImage: ApproverDateDateImage: ApproverDate					

	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 1985				
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Structural Steel - Pipe Supports				
BLEP C-2	(3) Design Statement as Presented in FSAR				
	3.8.4.2 Applicable Codes, Standards, and Specifications				
	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the				
(4) FSAR Section	Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific				
3.8.4.2	requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of				
	edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.				
(5) FSAR Page	B. American Institute of Steel Construction (AISC)				
3.8-74 & 75	"Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969 as amended through June 12, 1974.				
	E. American Welding Society (AWS)				
	"Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C.				
6) Design Documents	"Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61.				
N4-50-D702	"Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification				
N4-50-D717 G-29C	G-29C.				
4AW0805-X2-5R11 4AW0805-X2-1R15	(7) Contact(s) N/A				
-AW 0005-AZ-IRI5	(8) DISPOSITION OF STATEMENT				
·	Design Documents and Minor Inconsistencies Between FSAR is not Consistent				
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	NIC				
9) DISCUSSION OF FINI					
· · ·	s and the FSAR are consistent.				
· · ·	s and the FSAR are consistent.				







	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Stair		
BLEP C-3	 (3) Design Statement as Presented in FSAR 3.8.4.2 <u>Applicable Codes, Standards, and Specifications</u> 				
(4) FSAR Section 3.8.4.2	Primary Containment and int specifications. Modifications requirements of the structure edition, copyright, or addend	erior structures are based upon to these codes, standards and s. These modifications are not um is specified, earlier versior	astruction of the Seismic Category I structures other than a the appropriate section of the following codes, standard specifications are made where necessary to meet the spe ted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where dat as of the listed documents were not used. In some instar- ign safety was not compromised.	s and cific te of	
(5) FSAR Page 3.8-74 & 75	B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974.				
(6) Design Documents N4-50-D705 G-29C 4AW0810-X2-4R13	"Recommended Practice Connections", AWS D12	e", AWS D1.1-72 as modified for Welding Reinforcing Steel, .1-61.	by TVA General Construction Specification G-29C. , Metal Inlets, and Connections in Reinforced Concrete 1.0-69 as modified by TVA General Construction Specifi	ication	
4AW0810-X2-1R8	(7) Contact(s) N/A				
	(8) DISPOSITION OF STATEM	IENT Minor Inconsist FSAR and Desi			
(9) <u>DISCUSSION OF FIND</u>					
Design output document	s and the FSAR are consistent. 5 E. Wayne Rosenbalm 1	2/18/85	WELDING PROJECT REVIEW:		

Date

Approver

ന	Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Access Platforms
	BLEP C-4	(3) Design Statement as Present		
		3.8.4.2 Applicable Codes,	Standards, and Specifications	· · · · ·
· /	FSAR Section 3.8.4.2	Primary Containment and in specifications. Modification requirements of the structure edition, copyright, or addend	terior structures are based upon t s to these codes, standards and s es. These modifications are note	truction of the Seismic Category I structures other than the the appropriate section of the following codes, standards an pecifications are made where necessary to mect the specific d in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of of the listed documents were not used. In some instances gn safety was not compromised.
	FSAR Page 3.8-74 & 75	B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969 as amended through June 12, 1974.		
	Design Documents N4-50-D705 G-29C 4AW0812-X2-2R7	"Recommended Practice Connections", AWS D12	e", AWS D1.1-72 as modified h for Welding Reinforcing Steel, 1 2.1-61.	by TVA General Construction Specification G-29C. Metal Inlets, and Connections in Reinforced Concrete 0-69 as modified by TVA General Construction Specificati
	4AW0812-X2-1R12	(7) Contact(s) N/A		
		(8) DISPOSITION OF STATE	MENT	
		Design Documents and FSAR Consistent	Minor Inconsister FSAR and Design	
(9)	DISCUSSION OF FINI	DING and the FSAR are consistent.		
	rtin B. Bailey <u>12/17/2</u> estigator Date	85 <u>E. Wayne Rosenbalm</u>	12/18/85 Date	WELDING PROJECT REVIEW:



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	BELLEFONTE - FSAR/COM	MITMENT CONSISTENCY	REVIEW FORM - 1985		
(1) Design Statement No.		ellefonte Civil Section 3	Miscellaneous Steel - Embedded Parts		
BLEP C-5	(3) Design Statement as Presented in	FSAR	* 1 · · · · · · · · · · · · · · · · · · ·		
(4) FSAR Section 3.8.4.2	Primary Containment and interior specifications. Modifications to the requirements of the structures. The edition, copyright, or addendum	FSAR, the design and constru r structures are based upon the these codes, standards and spe- these modifications are noted i is specified, earlier versions of	action of the Seismic Category I structures other than the e appropriate section of the following codes, standards and cifications are made where necessary to meet the specific in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of f the listed documents were not used. In some instances,		
(5) FSAR Page 3.8-74 & 75	 later revisions of the listed documents were used where design safety was not compromised. B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 				
(6) Design Documents N4-50-D705 G-29C 4AW0820-X2-11R3	"Recommended Practice for Connections", AWS D12.1-6	WS D1.1-72 as modified by Welding Reinforcing Steel, Me 1.	TVA General Construction Specification G-29C. etal Inlets, and Connections in Reinforced Concrete 59 as modified by TVA General Construction Specification		
4AW0820-X2-1R10	(7) Contact(s) N/A				
	(8) DISPOSITION OF STATEMEN	Γ			
: :	Design Documents and FSAR Consistent	Minor Inconsistenci FSAR and Design D			
(9) DISCUSSION OF FINE	ING				
Design output document	s and the FSAR are consistent.				
<u>Martin B. Bailey</u> <u>12/17/8</u> Investigator Date		/85	WELDING PROJECT REVIEW:		

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		BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 1985				
(1)	Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Miscellaneous Steel - Embedded Parts				
	BLEP C-6	(3) Design Statement as Presented in FSAR				
		3.8.4.2 Applicable Codes, Standards, and Specifications				
(4)	FSAR Section 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances,				
	· · · · · · · · · · · · · · · · · · ·	later revisions of the listed documents were used where design safety was not compromised.				
(5)	FSAR Page 3.8-74 & 75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969 as amended through June 12, 1974. 				
(6)	Design Documents N4-50-D705 G-29C 4AW0822-X2-29R8	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. 				
	4AW0822-X2-1R9	(7) Contact(s) N/A				
		(8) DISPOSITION OF STATEMENT				
		 Design Documents and FSAR Consistent Minor Inconsistencies Between FSAR is not Consistent FSAR and Design Documents FSAR is not Consistent 				
(9)	DISCUSSION OF FINI	DING is and the FSAR are consistent.				
	artin B. Bailey <u>12/17/1</u> vestigator Date					





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		COMMITMENT CONSISTEN					
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel -	Embedded Parts			
BLEP C-7	(3) Design Statement as Present	ted in FSAR					
	,	3.8.4.2 Applicable Codes, Standards, and Specifications					
(4) FSAR Section 3.8.4.2	Primary Containment and ir specifications. Modification requirements of the structur edition, copyright, or adden	nterior structures are based upor is to these codes, standards and es. These modifications are not	the appropriate section of specifications are made wh red in Sections 3.8.4.3, 3.8 ns of the listed documents	ategory I structures other than the the following codes, standards and here necessary to meet the specific 4.4.4, and 3.8.4.6. Where date of were not used. In some instances, mised.			
(5) FSAR Page 3.8-74 & 75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969 as amended through June 12, 1974. 						
(6) Design Documents N4-50-D705 G-29C 4AW0823-X2-9R2	"Recommended Practice Connections", AWS D1	de", AWS D1.1-72 as modified for Welding Reinforcing Steel 2.1-61.	Metal Inlets, and Connect				
4AW0823-X2-1R6	(7) Contact(s) N/A	······································		· · · · · · · · · · · · · · · · · · ·			
	(8) DISPOSITION OF STATE	MENT					
	Design Documents and FSAR Consistent	Minor Inconsist FSAR and Desi		FSAR is not Consistent with Design Documents			
(9) DISCUSSION OF FINI	DING						
Design output documen	ts and the FSAR are consistent.						
<u>Martin B. Bailey</u> <u>12/17/</u> Investigator Date		<u>12/18/85</u> Date	WELDING PROJEC	W. Ketman 8-6-92			

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	BELLEFONTE - FSAR/COMMITMENT CONSIST	ENCY REVIEW FORM - 1985			
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section	3 Miscellaneous Steel - Embedded Parts			
BLEP C-8	(3) Design Statement as Presented in FSAR				
	3.8.4.2 <u>Applicable Codes, Standards, and Specification</u> Unless otherwise indicated in the FSAR, the design and	l construction of the Seismic Category I structures other than the			
(4) FSAR Section	Primary Containment and interior structures are based	upon the appropriate section of the following codes, standards and			
3.8.4.2	specifications. Modifications to these codes, standards and specifications are made where necessary to mect the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.				
(5) FSAR Page 3.8-74 & 75	B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February as amended through June 12, 1974.				
(6) Design Documents N4-50-D705 G-29C 4AW0824-X2-31R4	"Recommended Practice for Welding Reinforcing S Connections", AWS D12.1-61.	ified by TVA General Construction Specification G-29C. Steel, Metal Inlets, and Connections in Reinforced Concrete S D1.0-69 as modified hy TVA General Construction Specification			
4AW0824-X2-1R7	(7) Contact(s) N/A				
		nsistencies Between FSAR is not Consistent Design Documents with Design Documents			
(9) <u>DISCUSSION OF FIN</u> Design output documen	DING ts and the FSAR are consistent.				
Martin B. Bailey <u>12/17/</u> Investigator Date		WELDING PROJECT REVIEW: <u>Approver</u> Date			

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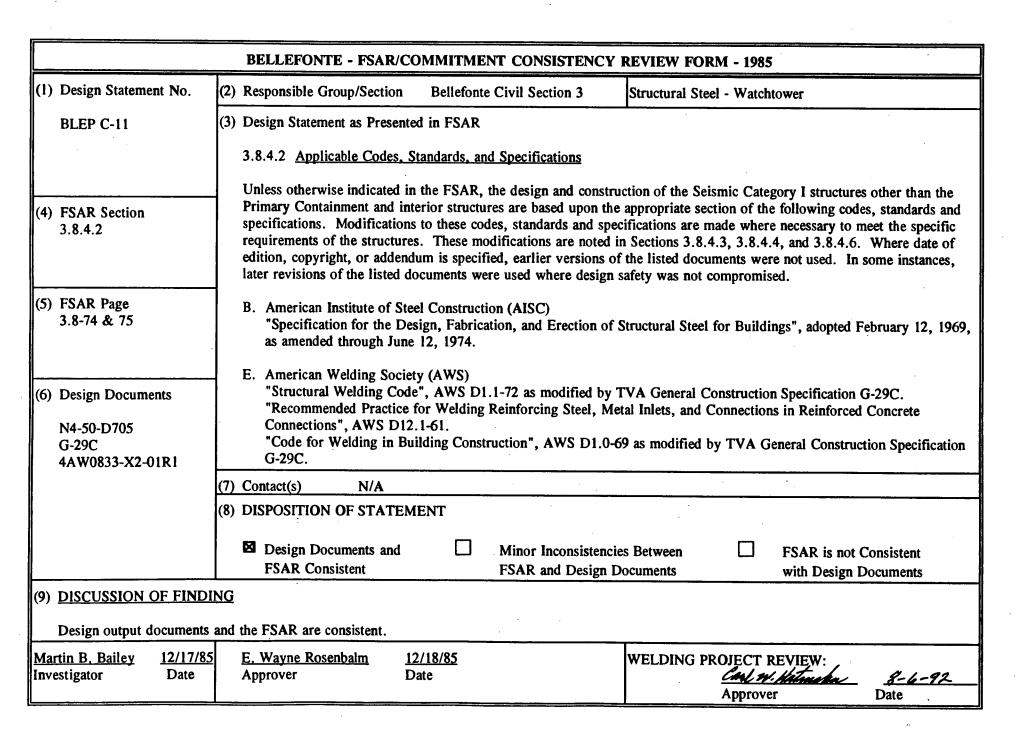
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	BELLEFONTE - FSAR/CO	OMMITMENT CONSISTENCY	Y REVIEW FORM - 1985			
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Embedded Parts			
BLEP C-9	(3) Design Statement as Presente	d in FSAR	·			
(4) FSAR Section 3.8.4.2	Primary Containment and int specifications. Modifications requirements of the structures edition, copyright, or addend	the FSAR, the design and constr erior structures are based upon the to these codes, standards and sp s. These modifications are noted	ruction of the Seismic Category I structures other than the he appropriate section of the following codes, standards and ecifications are made where necessary to meet the specific in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of of the listed documents were not used. In some instances, in safety was not compromised.			
(5) FSAR Page 3.8-74 & 75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 					
(6) Design Documents N4-50-D705 G-29C 4AW0825-X2-9R2	v TVA General Construction Specification G-29C. Ietal Inlets, and Connections in Reinforced Concrete -69 as modified hy TVA General Construction Specification					
4AW0825-X2-1R4	(7) Contact(s) N/A					
	(8) DISPOSITION OF STATEM	IENT	· · ·			
	Design Documents and FSAR Consistent	Minor Inconsistence FSAR and Design				
(9) DISCUSSION OF FIND	DING					
Design output document	s and the FSAR are consistent.	· · · · · · · · · · · · · · · · · · ·				
Martin B. Bailey <u>12/17/8</u> Investigator Date		2/18/85 Date	WELDING PROJECT REVIEW: August al. Harmanna <u>3-6-92</u> Approver Date			

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. ·	BELLEFONTE - FSAR/CO	DMMITMENT CONSISTENC	CY REVIEW FORM - 1985		
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Embedded Parts		
BLEP C-10	(3) Design Statement as Presente	d in FSAR			
	3.8.4.2 Applicable Codes, S	tandards, and Specifications			
(4) FSAR Section 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.				
(5) FSAR Page 3.8-74 & 75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 				
(6) Design Documents N4-50-D705 G-29C 4AW0827-X2-14R4	"Recommended Practice Connections", AWS D12	e", AWS D1.1-72 as modified for Welding Reinforcing Steel, .1-61.	by TVA General Construction Specification G-29C. Metal Inlets, and Connections in Reinforced Concrete .0-69 as modified by TVA General Construction Specification		
4AW0827-X2-1R5	(7) Contact(s) N/A				
	(8) DISPOSITION OF STATEM	IENT			
	Design Documents and FSAR Consistent	Minor Inconsiste FSAR and Desig			
(9) DISCUSSION OF FIN	DING				
Design output documen	ts and the FSAR are consistent.		· · · · · · · · · · · · · · · · · · ·		
Martin B, Bailey 12/17/	· · · · · · · · · · · · · · · · · · ·	2/18/85	WELDING PROJECT REVIEW:		







	BELLEFONTE - FSAR/CO	MMITMENT CONSISTENCY	REVIEW FORM - 1985			
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Tank Supports			
BLEP C-12	(3) Design Statement as Presented	l in FSAR				
	3.8.4.2 Applicable Codes, St	andards, and Specifications				
(4) FSAR Section 3.8.4.2	Primary Containment and inte specifications. Modifications requirements of the structures edition, copyright, or addendu	rior structures are based upon the to these codes, standards and spec . These modifications are noted in	ction of the Seismic Category I structures other than the appropriate section of the following codes, standards and cifications are made where necessary to meet the specific in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of the listed documents were not used. In some instances, safety was not compromised.			
(5) FSAR Page 3.8-74 & 75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969 as amended through June 12, 1974. 					
(6) Design Documents N4-50-D705 G-29C 4AW0840-X2-2R7	"Recommended Practice for Connections", AWS D12.	", AWS D1.1-72 as modified by T or Welding Reinforcing Steel, Met I-61.	TVA General Construction Specification G-29C. tal Inlets, and Connections in Reinforced Concrete 9 as modified hy TVA General Construction Specification			
4AW0840-X2-1R6	(7) Contact(s) N/A					
	 (8) DISPOSITION OF STATEM Design Documents and FSAR Consistent 	ENT Minor Inconsistencie FSAR and Design D				
(9) DISCUSSION OF FIND	NG					
Design output documents	and the FSAR are consistent.					
Martin B. Bailey <u>12/17/84</u> Investigator Date		1 <u>/18/85</u> ate	WELDING PROJECT REVIEW:			



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	BELLEFONTE - FSAR/CO	MMITMENT CONSISTENCY	REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Structural Steel - Pipe Supports
BLEP C-13	(3) Design Statement as Presented	in FSAR	
	3.8.4.2 Applicable Codes, Sta	andards, and Specifications	
(4) FSAR Section 3.8.4.2	Primary Containment and inter specifications. Modifications requirements of the structures. edition, copyright, or addendu	rior structures are based upon the to these codes, standards and spec . These modifications are noted in	action of the Seismic Category I structures other than the appropriate section of the following codes, standards and cifications are made where necessary to meet the specific in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of the listed documents were not used. In some instances, safety was not compromised.
(5) FSAR Page 3.8-74 & 75	as amended through June	ign, Fabrication, and Erection of S 12, 1974.	Structural Steel for Buildings", adopted February 12, 1969,
(6) Design Documents N4-50-D702 N4-50-D717 G-29C	"Recommended Practice for Connections", AWS D12.	", AWS D1.1-72 as modified by 7 or Welding Reinforcing Steel, Me 1-61.	TVA General Construction Specification G-29C. tal Inlets, and Connections in Reinforced Concrete 59 as modified hy TVA General Construction Specification
4AW0843-X2-7R7 4AW0843-X2-1R8	(7) Contact(s) N/A		
ANNOUND AL INC	(8) DISPOSITION OF STATEM	ENT	
	Design Documents and FSAR Consistent	Minor Inconsistencio FSAR and Design D	
(9) <u>DISCUSSION OF FIND</u> Design output documents	ING and the FSAR are consistent.		
<u>Martin B. Bailey</u> <u>12/17/8</u> Investigator Date	5 <u>E. Wayne Rosenbalm</u> <u>12</u> Approver Da	<u>/18/85</u> ate	WELDING PROJECT REVIEW: Leel 11. Hetroden 8-6-93 Approver Date

	BELLEFONTE - FSAR/C	OMMITMENT CONSISTENC	Y REVIEW FORM - 1985	
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Grating, hand ra	iling, & ladders
BLEP C-14	(3) Design Statement as Presente	ed in FSAR		
	3.8.4.2 Applicable Codes, S	Standards, and Specifications	· · · · · · · · · · · · · · · · · · ·	
(4) FSAR Section 3.8.4.2	Primary Containment and in specifications. Modification requirements of the structure edition, copyright, or addeno	terior structures are based upon s to these codes, standards and s s. These modifications are note	struction of the Seismic Category I structure the appropriate section of the following co- specifications are made where necessary to ad in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6 s of the listed documents were not used. In gn safety was not compromised.	des, standards and meet the specific b. Where date of
(5) FSAR Page 3.8-74 & 75	B. American Institute of Ste "Specification for the De as amended through June	sign, Fabrication, and Erection	of Structural Steel for Buildings", adopted	February 12, 1969,
 (6) Design Documents N4-50-D705 G-29C 4AW0848-X2-7R10 	"Recommended Practice Connections", AWS D12	le", AWS D1.1-72 as modified to for Welding Reinforcing Steel, 2.1-61.	by TVA General Construction Specification Metal Inlets, and Connections in Reinforce .0-69 as modified by TVA General Constru-	ed Concrete
4AW0848-X2-1R5	(7) Contact(s) N/A	(7) Contact(s) N/A		
4AW0846-X2-1R8	(8) DISPOSITION OF STATEM	MENT		
- - -	Design Documents and FSAR Consistent	Minor Inconsiste FSAR and Desig		t Consistent Documents
(9) DISCUSSION OF FIN	DING	· · · · · · ·	· · ·	
Design output documen	ts and the FSAR are consistent.			
Martin B. Bailey <u>12/17/</u> Investigator Date		<u>12/18/85</u> Date	WELDING PROJECT REVIEW:	<u>¥-6-92</u> Date

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(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Miscellaneous Steel - Shield plugs		
BLEP C-15	(3) Design Statement as Presented in FSAR		
	3.8.4.2 Applicable Codes, Standards, and Specifications		
4) FSAR Section 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other Primary Containment and interior structures are based upon the appropriate section of the following codes, stan specifications. Modifications to these codes, standards and specifications are made where necessary to meet the requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. When edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some i later revisions of the listed documents were used where design safety was not compromised.	idards and e specific re date of	
5) FSAR Page 3.8-74 & 75	B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted Februar as amended through June 12, 1974.	y 12, 1969,	
(6) Design Documents N4-50-D705 G-29C 4AW0859-X2-1R8	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Conce Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification Specification Specification Specification Specification Specification Specification G-29C 	rete	
	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATEMENT	•	
	Design Documents and FSAR ConsistentMinor Inconsistencies Between FSAR and Design DocumentsFSAR is not Consis with Design Documents		
(9) <u>DISCUSSION OF FIN</u>	NDING ents and the FSAR are consistent.		
Martin B. Bailey <u>12/17/</u> Investigator Date	7/85 E. Wayne Rosenbalm 12/18/85 WELDING PROJECT REVIEW:	- 6-92	

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(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3	Miscellaneous Steel - H&V Duct Supports
BLEP C-16	(3) Design Statement as Presented in FSAR	·
	3.8.4.2 Applicable Codes, Standards, and Specifications	
		struction of the Seismic Category I structures other than the
(4) FSAR Section 3.8.4.2	specifications. Modifications to these codes, standards and requirements of the structures. These modifications are not	the appropriate section of the following codes, standards and specifications are made where necessary to mect the specific ed in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of as of the listed documents were not used. In some instances, ign safety was not compromised.
(5) FSAR Page 3.8-74 & 75	B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection as amended through June 12, 1974.	of Structural Steel for Buildings", adopted February 12, 1969,
	E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified	by TVA General Construction Specification G-29C.
(6) Design Documents	"Recommended Practice for Welding Reinforcing Steel, Connections", AWS D12.1-61.	Metal Inlets, and Connections in Reinforced Concrete
N4-50-D716 G-29C 4AW0866-X2-2R14		.0-69 as modified by TVA General Construction Specification
	(7) Contact(s) N/A	
4AW0866-X2-1R16		
4AW0866-X2-1R16 4AW0865-X2-1R14	(8) DISPOSITION OF STATEMENT	
	 (8) DISPOSITION OF STATEMENT (8) Design Documents and Inconsistent FSAR Consistent 	
4AW0865-X2-1R14 (9) <u>DISCUSSION OF FIN</u>	 (8) DISPOSITION OF STATEMENT (8) Design Documents and Inconsistent FSAR Consistent 	
4AW0865-X2-1R14 (9) <u>DISCUSSION OF FIN</u>	 (8) DISPOSITION OF STATEMENT (8) Design Documents and Information Minor Inconsistent (8) Design Documents and FSAR Consistent (8) Disposition Minor Inconsistent (8) Disposition Minor Inconsistent (8) Disposition Minor Inconsistent (9) Disposition Minor Inconsistent (9) Disposition Minor Inconsistent (8) Disposition Minor Inconsistent (9) Disposition Minor Inconsistent	

	BELLEFONTE - FSÅR/C	OMMITMENT CONSISTE	NCY REVIEW FOR	RM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous	s Steel - H&V Duct Supports
BLEP C-17	(3) Design Statement as Present	ed in FSAR Standards, and Specifications		
4) FSAR Section 3.8.4.2	Unless otherwise indicated in Primary Containment and in specifications. Modification requirements of the structure edition, copyright, or adden	n the FSAR, the design and terior structures are based up s to these codes, standards a es. These modifications are	construction of the Sei on the appropriate sea nd specifications are n noted in Sections 3.8. ions of the listed docu	ismic Category I structures other than the ction of the following codes, standards and made where necessary to meet the specific 4.3, 3.8.4.4, and 3.8.4.6. Where date of uments were not used. In some instances, compromised.
(5) FSAR Page 3.8-74 & 75	B. American Institute of Sto "Specification for the De as amended through Jun	esign, Fabrication, and Erect	ion of Structural Steel	l for Buildings", adopted February 12, 1969
(6) Design Documents N4-50-D716 G-29C 4AW0868-X2-04-R11	"Recommended Practice Connections", AWS D12	le", AWS D1.1-72 as modifi for Welding Reinforcing Sta 2.1-61.	eel, Metal Inlets, and	Construction Specification G-29C. Connections in Reinforced Concrete by TVA General Construction Specification
4AW0868-X2-01-R12	(7) Contact(s) N/A			
	(8) DISPOSITION OF STATE	MENT		
	Design Documents and FSAR Consistent		istencies Between esign Documents	FSAR is not Consistent with Design Documents
(9) DISCUSSION OF FIN	DING			
Design output documen	ts and the FSAR are consistent.			
Martin B. Bailey <u>12/17/</u> Investigator Date		<u>12/18/85</u> Date	WELDING P	PROJECT REVIEW: <u>Arl W. Hatomkan</u> <u>8-6-93</u> Approver Date

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	BELLEFONTE - FSAR/COMMITMEN	NT CONSISTENCY REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte	Civil Section 3 Miscellaneous Steel - H&V Duct Supports
BLEP C-18	(3) Design Statement as Presented in FSAR	
	3.8.4.2 Applicable Codes, Standards, and	d Specifications
(4) FSAR Section 3.8.4.2	Primary Containment and interior structure specifications. Modifications to these code requirements of the structures. These mode edition, copyright, or addendum is specifie	the design and construction of the Seismic Category I structures other than the res are based upon the appropriate section of the following codes, standards and les, standards and specifications are made where necessary to meet the specific odifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of ied, earlier versions of the listed documents were not used. In some instances, are used where design safety was not compromised.
(5) FSAR Page 3.8-74 & 75	B. American Institute of Steel Construction "Specification for the Design, Fabricat as amended through June 12, 1974.	ion (AISC) ation, and Erection of Structural Steel for Buildings", adopted February 12, 1969
(6) Design Documents N4-50-D716 G-29C 4AW0871-X2-03R4	"Recommended Practice for Welding D Connections", AWS D12.1-61.	.1-72 as modified by TVA General Construction Specification G-29C. Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete cruction", AWS D1.0-69 as modified by TVA General Construction Specification
4AW0871-X2-01R11	(7) Contact(s) N/A	
	(8) DISPOSITION OF STATEMENT	
	Design Documents and FSAR Consistent	Minor Inconsistencies BetweenFSAR is not ConsistentFSAR and Design Documentswith Design Documents
(9) DISCUSSION OF FI	NDING ents and the FSAR are consistent.	
Martin B. Bailey 12/1		WELDING PROJECT REVIEW:
Investigator Dat		Carl N. Kitmaken 8-6-92







	BELLEFONTE - FSAR/CO	MMITMENT CONSISTENC	Y REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Monorails
BLEP C-19	(3) Design Statement as Presente	d in FSAR	
(4) FSAR Section 3.8.4.2	Primary Containment and int specifications. Modifications requirements of the structure edition, copyright, or addend	the FSAR, the design and const erior structures are based upon t to these codes, standards and sp s. These modifications are noted	truction of the Seismic Category I structures other than the he appropriate section of the following codes, standards and pecifications are made where necessary to meet the specific d in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of of the listed documents were not used. In some instances, in safety was not compromised.
 (5) FSAR Page 3.8-74 & 75 (6) Design Documents N4-50-D705 G-29C 4AW0878-X2-1R3 	E. American Welding Societ "Structural Welding Code "Recommended Practice Connections", AWS D12	sign, Fabrication, and Erection of 12, 1974. (AWS) e", AWS D1.1-72 as modified b for Welding Reinforcing Steel, 1 .1-61.	of Structural Steel for Buildings", adopted February 12, 1969, y TVA General Construction Specification G-29C. Metal Inlets, and Connections in Reinforced Concrete 0-69 as modified by TVA General Construction Specification
	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATEM	IENT	
	Design Documents and FSAR Consistent	Minor Inconsister FSAR and Design	
(9) DISCUSSION OF FIND	DING		
Design output document	s and the FSAR are consistent.		
<u>Martin B. Bailey</u> <u>12/17/8</u> Investigator Date	5 <u>E. Wayne Rosenbalm</u> 1	<u>2/18/85</u> Date	WELDING PROJECT REVIEW: <u>Aul W. Hatmann</u> Approver Date

	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 198	5		
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Structural Steel - Cable	Tray Supports		
BLEP C-20	(3) Design Statement as Presented in FSAR			
	3.8.4.2 Applicable Codes, Standards, and Specifications			
	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Cate			
(4) FSAR Section 3.8.4.2	Primary Containment and interior structures are based upon the appropriate section of the specifications. Modifications to these codes, standards and specifications are made when requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4 edition, copyright, or addendum is specified, earlier versions of the listed documents were later revisions of the listed documents were used where design safety was not compromi	re necessary to meet the specific .4, and 3.8.4.6. Where date of are not used. In some instances,		
(5) FSAR Page 3.8-74 & 75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Build as amended through June 12, 1974. 	"Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969,		
(6) Design Documents N4-50-D728 G-29C 4AW0881-X2-7R6	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connection Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA Ge-29C. 	ns in Reinforced Concrete		
4AW0881-X2-1R13	(7) Contact(s) N/A	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATEMENT			
	Design Documents and FSAR ConsistentMinor Inconsistencies Between FSAR and Design Documents	FSAR is not Consistent with Design Documents		
(9) DISCUSSION OF FINI	NDING			
Design output document	ents and the FSAR are consistent.	·		
<u>Martin B. Bailey</u> <u>12/17/5</u> Investigator Date		Hatraghen 8-6-92		
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	BELLEFONTE - FSAR/COMMITMENT CO	DNSISTENCY REVIEW FORM - 1985	
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil S	Section 3 Structural Steel - Cable Tray Supports	
BLEP C-21	 (3) Design Statement as Presented in FSAR 3.8.4.2 <u>Applicable Codes, Standards, and Speci</u> 	ifications	
(4) FSAR Section 3.8.4.2	Unless otherwise indicated in the FSAR, the desi Primary Containment and interior structures are specifications. Modifications to these codes, star requirements of the structures. These modification	sign and construction of the Seismic Category I structures other than the based upon the appropriate section of the following codes, standards ar indards and specifications are made where necessary to meet the specific ions are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of rlier versions of the listed documents were not used. In some instances	nd c f
(5) FSAR Page 3.8-74 & 75	B. American Institute of Steel Construction (AIS "Specification for the Design, Fabrication, and as amended through June 12, 1974.	SC) nd Erection of Structural Steel for Buildings", adopted February 12, 19	969,
(6) Design Documents N4-50-D728 G-29C 4AW0882-X2-14R7	"Recommended Practice for Welding Reinfor Connections", AWS D12.1-61.	as modified by TVA General Construction Specification G-29C. rcing Steel, Metal Inlets, and Connections in Remforced Concrete ", AWS D1.0-69 as modified by TVA General Construction Specificati	ion
4AW0882-X2-1R16 4AW0881-X2-1R13	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATEMENT		
	-	or Inconsistencies BetweenImage: FSAR is not ConsistentR and Design Documentswith Design Documents	
(9) DISCUSSION OF FIND	ING		
Design output documents	and the FSAR are consistent.		
<u>Martin B. Bailey</u> <u>12/17/8</u> Investigator Date	<u>E. Wayne Rosenbalm</u> <u>12/18/85</u> Approver Date	WELDING PROJECT REVIEW: Carl At Holmann <u>9-6-92</u> Approver Date	

(1) Design Statement 1	Io. (2) Responsible Group/Section Bellefonte Civil Section 3	Structural Steel - Cable Tray Supports
BLEP C-22	(3) Design Statement as Presented in FSAR	
	3.8.4.2 Applicable Codes, Standards, and Specifications	
(4) FSAR Section 3.8.4.2	Primary Containment and interior structures are based upo specifications. Modifications to these codes, standards and requirements of the structures. These modifications are no	onstruction of the Seismic Category I structures other than the on the appropriate section of the following codes, standards an d specifications are made where necessary to meet the specific oted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of ons of the listed documents were not used. In some instances, esign safety was not compromised.
(5) FSAR Page 3.8-74 & 75	B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erectio as amended through June 12, 1974.	on of Structural Steel for Buildings", adopted February 12, 19
(6) Design Documents N4-50-D728 G-29C 4AW0883-X2-24R	"Recommended Practice for Welding Reinforcing Stee Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D	d by TVA General Construction Specification G-29C. I, Metal Inlets, and Connections in Reinforced Concrete D1.0-69 as modified by TVA General Construction Specificat
4AW0883-X2-1R1	II / J U.ORI/ACUS) (N/A	
4AW0881-X2-1R1	(8) DISPOSITION OF STATEMENT	
		stencies Between FSAR is not Consistent sign Documents with Design Documents
(9) DISCUSSION OF	FINDING	· · · · · · · · · · · · · · · · · · ·
Design output doc	ments and the FSAR are consistent.	
Martin B. Bailey 1	E. Wayne Rosenbalm12/18/85DateApproverDate	WELDING PROJECT REVIEW: <u>Carl W. Matrialus</u> <u>8-6-92</u> Approver Date

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	BELLEFONTE - FSAR/CON	MMITMENT CONSISTENCY	REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Structural Steel - Cable Tray Supports
BLEP C-23	(3) Design Statement as Presented 3.8.4.2 <u>Applicable Codes, Sta</u>		
(4) FSAR Section 3.8.4.2	Primary Containment and inter specifications. Modifications t requirements of the structures. edition, copyright, or addendu	ior structures are based upon th o these codes, standards and spo These modifications are noted	nuction of the Seismic Category I structures other than the e appropriate section of the following codes, standards and ecifications are made where necessary to meet the specific in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of of the listed documents were not used. In some instances, safety was not compromised.
(5) FSAR Page 3.8-74 & 75	B. American Institute of Steel "Specification for the Designal as amended through June 1	gn, Fabrication, and Erection of	Structural Steel for Buildings", adopted February 12, 1969
(6) Design Documents N4-50-D728 G-29C 4AW0884-X2-25R9	"Recommended Practice fo Connections", AWS D12.1	, AWS D1.1-72 as modified by r Welding Reinforcing Steel, M -61.	TVA General Construction Specification G-29C. letal Inlets, and Connections in Reinforced Concrete -69 as modified by TVA General Construction Specification
4AW0884-X2-1R7	(7) Contact(s) N/A		
4AW0881-X2-1R13	(8) DISPOSITION OF STATEME	ENT	
	Design Documents and FSAR Consistent	Minor Inconsistence FSAR and Design	
(9) <u>DISCUSSION OF FINE</u> Design output document	DING s and the FSAR are consistent.		
Martin B. Bailey <u>12/17/8</u> Investigator Date		/ <u>18/85</u> te	WELDING PROJECT REVIEW:

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	BELLEFONTE - F	SAR/COMMITMEN	CONSISTENCY REV	VIEW FORM - 1985	
(1) Design Statement No.	(2) Responsible Group/S	ection Bellefonte (Civil Section 3 Str	ructural Steel - Cable Ti	ray Supports
BLEP C-24	(3) Design Statement as	Presented in FSAR			
	3.8.4.2 Applicable (Codes, Standards, and	Specifications		
(4) FSAR Section 3.8.4.2	Primary Containment specifications. Modi requirements of the s edition, copyright, or	and interior structures fications to these codes tructures. These modi addendum is specified	s are based upon the apprised and specifications are noted in Sectional Section Sectio	propriate section of the f ations are made where r ections 3.8.4.3, 3.8.4.4, listed documents were	bry I structures other than the following codes; standards and necessary to meet the specific , and 3.8.4.6. Where date of not used. In some instances, d.
(5) FSAR Page 3.8-74 & 75	"Specification for	e of Steel Construction the Design, Fabrication gh June 12, 1974.		ctural Steel for Building	gs", adopted February 12, 1969
(6) Design Documents N4-50-D728 G-29C 4AW0886-X2-4R10	"Recommended F Connections", AV	ng Code", AWS D1.1 ractice for Welding Ro VS D12.1-61.	-72 as modified by TVA einforcing Steel, Metal In ction", AWS D1.0-69 as	inlets, and Connections	Specification G-29C. in Reinforced Concrete neral Construction Specification
4AW0886-X2-1R5 4AW0881-X2-1R13	(7) Contact(s) N	/A			
	(8) DISPOSITION OF S	FATEMENT			
	Design Document FSAR Consistent		Minor Inconsistencies Be FSAR and Design Docur		FSAR is not Consistent with Design Documents
(9) DISCUSSION OF FINI	DING	·····	····		
Design output document	ts and the FSAR are consiste	ent.			
Martin B. Bailey <u>12/17/3</u> nvestigator Date	<u>E. Wayne Rosenbalm</u> Approver	<u>12/18/85</u> Date	WE	ELDING PROJECT RE	EVIEW: Hatmahu. 8-6-92







		MMITMENT CONSISTENCY	
1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - H ₂ System Enclosure
BLEP C-25	(3) Design Statement as Presente	d in FSAR	
	3.8.4.2 <u>Applicable Codes, S</u>	tandards, and Specifications	
			ruction of the Seismic Category I structures other than the
4) FSAR Section 3.8.4.2	specifications. Modifications requirements of the structures edition, copyright, or addend	to these codes, standards and sp s. These modifications are noted	the appropriate section of the following codes, standards and becifications are made where necessary to meet the specific in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of of the listed documents were not used. In some instances, in safety was not compromised.
5) FSAR Page 3.8-74 & 75	as amended through June	sign, Fabrication, and Erection of I2, 1974.	f Structural Steel for Buildings", adopted February 12, 1969
(6) Design Documents N4-50-D705 G-29C 4AW0890-X2-1R4	"Recommended Practice 1 Connections", AWS D12	e", AWS D1.1-72 as modified by for Welding Reinforcing Steel, M .1-61.	y TVA General Construction Specification G-29C. Attal Inlets, and Connections in Reinforced Concrete 0-69 as modified by TVA General Construction Specification
	(7) Contact(s) N/A		· /
	(8) DISPOSITION OF STATEM	ENT	
	Design Documents and FSAR Consistent	Minor Inconsisten FSAR and Design	
(9) <u>DISCUSSION OF FIN</u> Design output documen	DING ts and the FSAR are consistent.		
Martin B. Bailey <u>12/17/</u> Investigator Date	85 <u>E. Wayne Rosenbalm</u> 12	2/18/85 Date	WELDING PROJECT REVIEW: <u>Approver</u> Date

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1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Ec	uipment Support
BLEP C-26	(3) Design Statement as Present	ed in FSAR		
	3.8.4.2 Applicable Codes.	Standards, and Specifications		
4) FSAR Section 3.8.4.2	Primary Containment and in specifications. Modification requirements of the structure edition, copyright, or adden	is to these codes, standards and es. These modifications are not	the appropriate section of the specifications are made where ed in Sections 3.8.4.3, 3.8.4. as of the listed documents we	e following codes, standards and e necessary to meet the specific 4, and 3.8.4.6. Where date of re not used. In some instances,
5) FSAR Page 3.8-74 & 75	B. American Institute of Sta "Specification for the De as amended through Jun	esign, Fabrication, and Erection	of Structural Steel for Build	ngs", adopted February 12, 196
(6) Design Documents N4-50-D705 G-29C 4AW0891-X2-02R0	"Recommended Practice Connections", AWS D1	de", AWS D1.1-72 as modified e for Welding Reinforcing Steel 2.1-61.	, Metal Inlets, and Connection	n Specification G-29C. ns in Reinforced Concrete General Construction Specificatio
4A W 0891-A2-02K0	(7) Contact(s) N/A		······································	
	 (8) DISPOSITION OF STATE Design Documents and FSAR Consistent 	_	encies Between	FSAR is not Consistent with Design Documents
(9) DISCUSSION OF FIN	DING			
	nts and the FSAR are consistent.			······································
Martin B. Bailey <u>12/17</u> Investigator Date		<u>12/18/85</u> Date	WELDING PROJECT	Hetman 8-692



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	BELLEFONTE - FSAR/CO	DMMITMENT CONSISTENC	Y REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Missile Shield
BLEP C-27	(3) Design Statement as Presente	ed in FSAR	
(4) FSAR Section 3.8.4.2	Primary Containment and int specifications. Modifications requirements of the structure edition, copyright, or addend	the FSAR, the design and considerior structures are based upon to to these codes, standards and s. These modifications are note	struction of the Seismic Category I structures other than the the appropriate section of the following codes, standards and pecifications are made where necessary to meet the specific d in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of s of the listed documents were not used. In some instances, gn safety was not compromised.
(5) FSAR Page 3.8-74 & 75	as amended through June E. American Welding Socie	sign, Fabrication, and Erection e 12, 1974. ty (AWS)	of Structural Steel for Buildings", adopted February 12, 1969,
 (6) Design Documents N4-50-D705 G-29C 4AW0892-X2-01R2 	"Recommended Practice Connections", AWS D12	for Welding Reinforcing Steel, 2.1-61.	by TVA General Construction Specification G-29C. Metal Inlets, and Connections in Reinforced Concrete 0-69 as modified by TVA General Construction Specification
	(7) Contact(s) N/A		· ·
	 (8) DISPOSITION OF STATEM Design Documents and FSAR Consistent 	AENT Minor Inconsister FSAR and Desig	
(9) DISCUSSION OF FIN	DING		
Design output documer	ts and the FSAR are consistent.		
Martin B, Bailey <u>12/17</u> Investigator Date		1 <u>2/18/85</u> Date	WELDING PROJECT REVIEW: Carl W. Hatmaker <u>8-6-92</u> Approver Date

1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Miscellaneous Steel - Spray Shield
BLEP C-28 (Sheet 1 of 2	(3) Design Statement as Presented in FSAR
	3.8.4.2 Applicable Codes, Standards, and Specifications
(4) FSAR Section 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.
(5) FSAR Page 3.8-74 & 75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969 as amended through June 12, 1974.
	as amended unough june 12, 1974.
(6) Design Documents N4-50-D705 G-29C 4AW0920-X2-08R2	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61.
N4-50-D705	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification
N4-50-D705 G-29C 4AW0920-X2-08R2	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C.
N4-50-D705 G-29C 4AW0920-X2-08R2	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. (7) Contact(s) N/A N/A
N4-50-D705 G-29C 4AW0920-X2-08R2	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT See Design Documents and I Minor Inconsistencies Between FSAR is not Consistent FSAR is not Consistent FSAR and Design Documents with Design Documents
N4-50-D705 G-29C 4AW0920-X2-08R2 4AW0920-X2-01R4 (9) <u>DISCUSSION OF FIND</u>	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT See Design Documents and I Minor Inconsistencies Between FSAR is not Consistent FSAR and Design Documents with Design Documents with Design Documents

BLEP-C-28

BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM

DESIGN STATEMENT BLEP C-28 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

Note 1 on 4AW0920-X2-08 refers to 4AW0920-X2-08 instead of 4AW0920-X2-01. This error on the drawing is not significant because general notes are typically on Sheet 1 of each drawing series. Note 1 should be changed to reflect the correct sheet number.

CHANGES TO MAKE PROGRAM WORK PROPERLY (Describe)

	BELLEFONTE - FSAR/COMM	IITMENT CONSISTENCY	REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section Be	ellefonte Civil Section 3	Miscellaneous Steel - Grating
BLEP C-29	(3) Design Statement as Presented in	FSAR	
	3.8.4.2 Applicable Codes, Standa	ards, and Specifications	
(4) FSAR Section 3.8.4.2	Primary Containment and interior specifications. Modifications to the requirements of the structures. T	structures are based upon the hese codes, standards and spe hese modifications are noted is specified, earlier versions o	uction of the Seismic Category I structures other than the e appropriate section of the following codes, standards and ecifications are made where necessary to meet the specific in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of f the listed documents were not used. In some instances, safety was not compromised.
(5) FSAR Page 3.8-74 & 75	 B. American Institute of Steel Co "Specification for the Design, as amended through June 12, E. American Welding Society (A 	Fabrication, and Erection of 1974.	Structural Steel for Buildings", adopted February 12, 1969,
(6) Design Documents 4CW0913-X2-1R10 G-29C N4-50-D705	"Structural Welding Code", A "Recommended Practice for V Connections", AWS D12.1-6	WS D1.1-72 as modified by Welding Reinforcing Steel, Mo 1.	TVA General Construction Specification G-29C. etal Inlets, and Connections in Reinforced Concrete 69 as modified by TVA General Construction Specification
	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATEMEN	Γ	
	Design Documents and FSAR Consistent	Minor Inconsistenc FSAR and Design	
(9) DISCUSSION OF FIND	DING		
Design output document	s and the FSAR are consistent.		
L. R. Madison, Jr. <u>12/17/8</u> Investigator Date	<u>Billy J. Britton</u> <u>12/17/85</u> Approver Date		WELDING PROJECT REVIEW: <u>Caul 11. Hatmann</u> <u>8-6-62</u> Approver Date





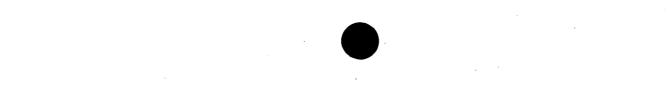


	BELLEFONTE - FSAR/COM	MITMENT CONSISTENCY	REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Embedded Parts
BLEP C-30	(3) Design Statement as Presented	in FSAR	
	3.8.4.2 Applicable Codes, Sta	ndards, and Specifications	
(4) FSAR Section 3.8.4.2	Primary Containment and inter specifications. Modifications to requirements of the structures. edition, copyright, or addendur	ior structures are based upon the othese codes, standards and sport These modifications are noted	ruction of the Seismic Category I structures other than the e appropriate section of the following codes, standards and ecifications are made where necessary to meet the specific in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of of the listed documents were not used. In some instances, a safety was not compromised.
(5) FSAR Page 3.8-74 & 75	as amended through June 1	gn, Fabrication, and Erection of 2, 1974.	f Structural Steel for Buildings", adopted February 12, 1969,
(6) Design Documents 4CW0919-X2-2R6 4CW0919-X2-1R13 G-29C	"Recommended Practice fo Connections", AWS D12.1	, AWS D1.1-72 as modified by r Welding Reinforcing Steel, M -61.	TVA General Construction Specification G-29C. Ietal Inlets, and Connections in Reinforced Concrete -69 as modified by TVA General Construction Specification
N4-50-D705	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATEME	NT	
	Design Documents and FSAR Consistent	Minor Inconsistence FSAR and Design	
(9) DISCUSSION OF FIND Design output documents	VING s and the FSAR are consistent.	· · ·	
<u>L. R. Madison, Jr.</u> 12/17/8 Investigator Date			WELDING PROJECT REVIEW: Land M. Hetmann <u>3-6-93</u> Approver Date

	BELLEFONTE - FSAR/CO	MMITMENT CONSISTENCY	Y REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Support Framing
BLEP C-31	(3) Design Statement as Presente	d in FSAR	· · · ·
	3.8.4.2 Applicable Codes, S	tandards, and Specifications	
(4) FSAR Section 3.8.4.2	Primary Containment and int specifications. Modifications requirements of the structure edition, copyright, or addend	erior structures are based upon the to these codes, standards and space. These modifications are noted	truction of the Seismic Category I structures other than the he appropriate section of the following codes, standards and pecifications are made where necessary to meet the specific d in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of of the listed documents were not used. In some instances, in safety was not compromised.
(5) FSAR Page 3.8-74 & 75	B. American Institute of Ste "Specification for the De as amended through June	sign, Fabrication, and Erection o	of Structural Steel for Buildings", adopted February 12, 19
 (6) Design Documents 4CW0938-X2-3R5 4CW0938-X2-1R11 G-29C 	"Recommended Practice Connections", AWS D12	e", AWS D1.1-72 as modified by for Welding Reinforcing Steel, N 2.1-61.	y TVA General Construction Specification G-29C. Metal Inlets, and Connections in Reinforced Concrete 0-69 as modified by TVA General Construction Specificati
N4-50-D705	(7) Contact(s) N/A		
	 (8) DISPOSITION OF STATEM Design Documents and FSAR Consistent 	IENT Minor Inconsister FSAR and Design	
(9) <u>DISCUSSION OF FIN</u>	IDING nts and the FSAR are consistent.		
L. R. Madison, Jr. 12/17 Investigator Date	/85 Billy J. Britton	1 <u>2/17/85</u> Date	WELDING PROJECT REVIEW: <u>Approver</u> <u>8-6-92</u> Date







	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Structural Steel - Cable Tray Supports
BLEP C-32	(3) Design Statement as Presented in FSAR
*. ·	3.8.4.2 Applicable Codes, Standards, and Specifications
(4) FSAR Section 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.
(5) FSAR Page 3.8-74 & 75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974.
 (6) Design Documents 4CW0940-X2-3R11 4CW0940-X2-1R9 G-29C 	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C.
N4-50-D728	(7) Contact(s) N/A
	(8) DISPOSITION OF STATEMENT
	Design Documents and FSAR ConsistentMinor Inconsistencies Between FSAR and Design DocumentsFSAR is not Consistent with Design Documents
(9) DISCUSSION OF FIND	ING
Design output documents	and the FSAR are consistent.
<u>L. R. Madison, Jr.</u> 12/17/8. Investigator Date	5 Billy J. Britton 12/17/85 Approver Date WELDING PROJECT REVIEW: Approver 12/17/85 Date Approver

1). Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3	Structural Steel - Cable Tray Supports
BLEP C-33	(3) Design Statement as Presented in FSAR	•
	3.8.4.2 Applicable Codes, Standards, and Specifications	
4) FSAR Section 3.8.4.2	Unless otherwise indicated in the FSAR, the design and constru Primary Containment and interior structures are based upon the specifications. Modifications to these codes, standards and spec requirements of the structures. These modifications are noted in edition, copyright, or addendum is specified, earlier versions of later revisions of the listed documents were used where design s	appropriate section of the following codes, standards and cifications are made where necessary to meet the specific in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of the listed documents were not used. In some instances,
(5) FSAR Page 3.8-74 & 75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of S as amended through June 12, 1974. 	Structural Steel for Buildings", adopted February 12, 1969,
 (6) Design Documents 4CW0942-X2-8R12 4CW0942-X2-1R9 G-29C 	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by 7 "Recommended Practice for Welding Reinforcing Steel, Me Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-6 G-29C. 	tal Inlets, and Connections in Reinforced Concrete
N4-50-D728	(7) Contact(s) N/A	
	(8) DISPOSITION OF STATEMENT	· ·
	 Design Documents and FSAR Consistent Minor Inconsistencie FSAR and Design D 	
(9) DISCUSSION OF FINI	DING	
Design output document	ts and the FSAR are consistent.	
<u>L. R. Madison, Jr.</u> <u>12/17/8</u> Investigator Date		WELDING PROJECT REVIEW:









<u></u>	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Structural Steel - Cable Tray Supports
BLEP C-34	(3) Design Statement as Presented in FSAR
	3.8.4.2 Applicable Codes, Standards, and Specifications
(4) FSAR Section 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.
(5) FSAR Page 3.8-74 & 75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974.
 (6) Design Documents 4CW0943-X2-12R5 4CW0943-X2-3R7 G-29C 	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C.
N4-50-D728	(7) Contact(s) N/A
	(8) DISPOSITION OF STATEMENT
· · · · · · · · · · · · · · · · · · ·	Design Documents andImage: Minor Inconsistencies BetweenImage: FSAR is not ConsistentFSAR ConsistentFSAR and Design Documentswith Design Documents
(9) DISCUSSION OF FIN	DING
Design output documen	its and the FSAR are consistent.
L. R. Madison, Jr. <u>12/17/</u> Investigator Date	Billy J. Britton 12/17/85 WELDING PROJECT REVIEW: Approver Date Image: Contraction of the second se

	BELLEFONTE - FSAR/C	OMMITMENT CONSISTI	ENCY REVIEW FORM - 1985					
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section	Structural Steel - Cable	Tray Supports				
BLEP C-35	(3) Design Statement as Presente	ed in FSAR						
	3.8.4.2 Applicable Codes, Standards, and Specifications							
(4) FSAR Section 3.8.4.2	Primary Containment and in specifications. Modification requirements of the structure edition, copyright, or addence	terior structures are based up s to these codes, standards a s. These modifications are dum is specified, earlier vers	construction of the Seismic Cate oon the appropriate section of the nd specifications are made wher noted in Sections 3.8.4.3, 3.8.4 sions of the listed documents we design safety was not compromise	e following codes, standards and e necessary to meet the specific .4, and 3.8.4.6. Where date of re not used. In some instances,				
(5) FSAR Page 3.8-74 & 75	"Specification for the De	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 						
(6) Design Documents 4CW0943-X2-16R9 4CW0943-X2-3R7 G-29C	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. 							
N4-50-D728	(7) Contact(s) N/A		· • • • • • • • • • • • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·				
	(8) DISPOSITION OF STATEM	MENT						
	Design Documents and FSAR Consistent		sistencies Between esign Documents	FSAR is not Consistent with Design Documents				
(9) DISCUSSION OF FIN	DING	· · ·						
Design output docume	nts and the FSAR are consistent.							
<u>L. R. Madison, Jr. 12/17</u> Investigator Date		1 <u>2/17/85</u> Date	WELDING PROJECT	1. Hatmaker 8-6-92				



		BELLEFONTE - FSAR/CO	OMMITMENT CONSISTENC	Y REVIEW FORM - 1985	-
(1)	Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Structural Steel - Cable Tray Supports	
	BLEP C-36 (Sheet 1 of 2)	(3) Design Statement as Presente	ed in FSAR	· · · · · · · · · · · · · · · · · · ·	
		3.8.4.2 Applicable Codes, S	Standards, and Specifications		
				truction of the Seismic Category I structures other than	
(4)	FSAR Section 3.8.4.2	specifications. Modification requirements of the structure edition, copyright, or addence	s to these codes, standards and s s. These modifications are note	he appropriate section of the following codes, standard pecifications are made where necessary to meet the specifications 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where da of the listed documents were not used. In some instant in safety was not compromised.	ecific te of
(5)	FSAR Page 3.8-74 & 75	B. American Institute of Ste "Specification for the De as amended through June	sign, Fabrication, and Erection	of Structural Steel for Buildings", adopted February 12	2, 196
(6)	Design Documents 4CW0944-X2-2R4 4CW0944-X2-1R7 N4-50-D728	"Recommended Practice Connections", AWS D12	e", AWS DI.1-72 as modified b for Welding Reinforcing Steel, 2.1-61.	y TVA General Construction Specification G-29C. Metal Inlets, and Connections in Reinforced Concrete 0-69 as modified by TVA General Construction Specif	ficatio
	N+ 50 D / 20	(7) Contact(s) N/A	······································		
		(8) DISPOSITION OF STATEM	MENT		
		Design Documents and FSAR Consistent	Minor Inconsister FSAR and Desig		•
(9)	DISCUSSION OF FINDI	NG and the FSAR are consistent.			
_	<u>R. Madison, Jr.</u> <u>12/17/85</u> restigator Date	Billy J. Britton	12/17/85 Date	WELDING PROJECT REVIEW:	<u>a</u> a

EP C-36

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BELI	EFONTE - FS	SAR/COMMITME	NT CONSISTEN	ICY REVIEW	FORM	
	DESIG	GN STATEMENT I	BLEP C-36 (Shee	et 2 of 2)		
INCONSISTENCY (D	escribe)					
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direct tie could be conf						
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CHANGES TO MAKE	PROGRAM W	/ORK PROPERLY	(Describe)			
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	BELLEFONTE - FSAR/CON	MITMENT CONSISTENCY	REVIEW FORM - 1985				
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellancous Steel - H&V Duct Supports				
BLEP C-37	(3) Design Statement as Presented	in FSAR					
	3.8.4.2 Applicable Codes, Sta	ndards, and Specifications					
	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.						
(4) FSAR Section 3.8.4.2							
(5) FSAR Page 3.8-74 & 75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 						
(6) Design Documents 4CW0945-X2-8R3 4CW0945-X2-1R13 G-29C	"Recommended Practice for Connections", AWS D12.1	, AWS D1.1-72 as modified by r Welding Reinforcing Steel, M -61.	TVA General Construction Specification G-29C. fetal Inlets, and Connections in Reinforced Concrete -69 as modified by TVA General Construction Specification				
N4-50-D716	(7) Contact(s) N/A						
	(8) DISPOSITION OF STATEME	NT					
	Design Documents and FSAR Consistent	Minor Inconsistent FSAR and Design					
(9) DISCUSSION OF FINI	DING						
Design output document	s and the FSAR are consistent.						
<u>L. R. Madison, Jr. 12/17/8</u> Investigator Date	35 <u>Billy J. Britton</u> <u>12/17/85</u> Approver Date	· · · · · · · · · · · · · · · · · · ·	WELDING PROJECT REVIEW: Art al Matmalan 8-6-92 Approver Date				

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(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Structural Steel - MS & FW Pipe Support Steel					
BLEP C-38	(3) Design Statement as Presented in FSAR 3.8.4.2 Applicable Codes Standards and Specifications							
		3.8.4.2 <u>Applicable Codes, Standards, and Specifications</u>						
(4) FSAR Section 3.8.4.2	 Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised. B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 							
(5) FSAR Page 3.8-74 & 75								
(6) Design Documents 4CW0950-X2-9R4 4CW0950-X2-1R7 G-29C N4-50-D702	"Recommended Practice Connections", AWS D12	e", AWS D1.1-72 as modified b for Welding Reinforcing Steel, N .1-61.	y TVA General Construction Specification G-29C. Metal Inlets, and Connections in Reinforced Concrete 0-69 as modified by TVA General Construction Specification					
N4-50-D717	(7) Contact(s) N/A	· · · · · · · · · · · · · · · · · · ·						
	(8) DISPOSITION OF STATEM	IENT						
	Design Documents and FSAR Consistent	Minor Inconsister FSAR and Design	· · · · · · · · · · · · · · · · · · ·					
(9) <u>DISCUSSION OF FINI</u> Design output document	DING ts and the FSAR are consistent.		,					
L. R. Madison, Jr. 12/17/2 Investigator Date	85 Billy J. Britton 12/17/85 Approver Date		WELDING PROJECT REVIEW: <u>And M. Matmake</u> <u>8-6-92</u> Approver Date					



BLEP C-39

(4) FSAR Section

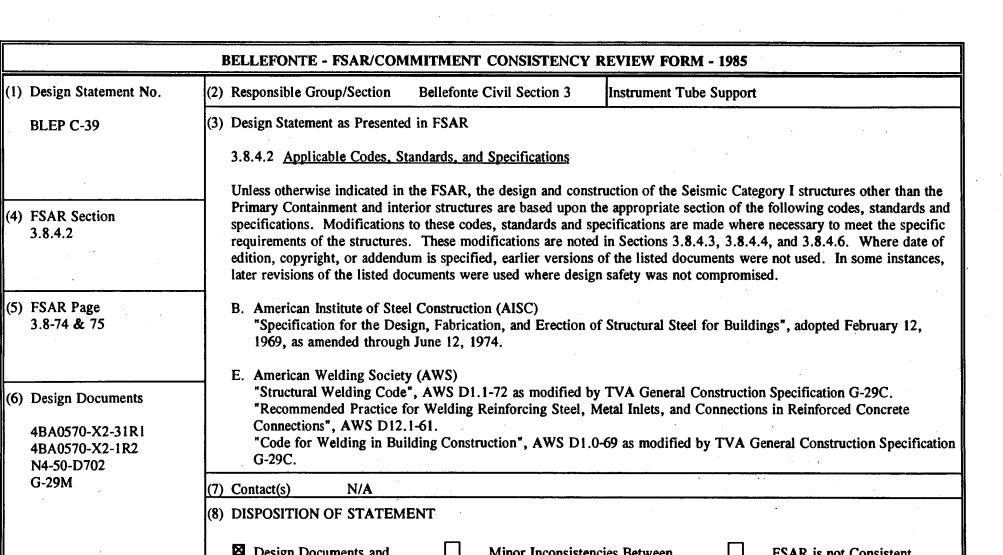
3.8.4.2

(5) FSAR Page

3.8-74 & 75

N4-50-D702 G-29M





Design Documents and FSAR Consistent

Minor Inconsistencies Between FSAR and Design Documents

FSAR is not Consistent with Design Documents

(9)	DISCUSSION	OF FINDING
~//	DIOCODDIOI	

Design output documents and the FSAR are consistent.

E. Wayne Rosenbalm 12/16/85 Investigator Date

WELDING PROJECT REVIEW: Carl m. Hatmaha Date

Approver

8-6-92

(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Lighting Supports						
BLEP C-40	(3) Design Statement as Presented in FSAR						
	3.8.4.2 <u>Applicable Codes, Standards, and Specifications</u> Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the						
(4) FSAR Section 3.8.4.2	Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.						
(5) FSAR Page 3.8-74, 3.8-75	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 						
 (6) Design Documents 4BA0893-X2-57R1 4BA0893-X2-1R8 N4-50-D719 	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. 						
G-29C N4-50-D705	(7) Contact(s) N/A						
CD/ U-DC-471	(8) DISPOSITION OF STATEMENT						
	Design Documents andMinor Inconsistencies BetweenFSAR is not ConsistentFSAR ConsistentFSAR and Design Documentswith Design Documents						
(9) <u>DISCUSSION OF FIND</u> Design output documents	ING and the FSAR are consistent.						
E. Wayne Rosenbalm 12/10 Investigator Date							

• •





(1)	Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Conduit Support
	BLEP C-41	(3) Design Statement as Presented in FSAR
		3.8.4.2 Applicable Codes, Standards, and Specifications
(4)	FSAR Section 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.
(5)	FSAR Page 3.8-74, 3.8-75, 3.8-77a	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. E. American Welding Society (AWS)
(6)	Design Documents 4BA0892-X2-61R1 4BA0892-X2-1R4 G-29C	"Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C.
(6)	4BA0892-X2-61R1	"Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification
(6)	4BA0892-X2-61R1 4BA0892-X2-1R4 G-29C	"Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C.
(6)	4BA0892-X2-61R1 4BA0892-X2-1R4 G-29C	 "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. (7) Contact(s) N/A
	4BA0892-X2-61R1 4BA0892-X2-1R4 G-29C N4-50-D718 <u>DISCUSSION OF FINDIN</u>	 "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT Minor Inconsistencies Between FSAR is not Consistent FSAR Consistent FSAR and Design Documents with Design Documents

<u> </u>	BELLEFONTE -	FSAR/COM	MITMENT CONSISTENC	Y REVIEW FORM	<u>/</u> I - 1985		
(1) Design Statement No.	(2) Responsible Grou	p/Section	Bellefonte Civil Section 3	Conduit Suppo	rt		
BLEP C-42	(3) Design Statement	as Presented	in FSAR			· - · · · · · ·	
	3.8.4.2 Applicat	le Codes, Sta	andards, and Specifications				
			the FSAR, the design and co				
(4) FSAR Section 3.8.4.2	l chartened boditions to these anderes and chartened and chartened and subare needed where needed to meet the mean						
(5) FSAR Page 3.8-74, 3.8-75, 3.8-77a	"Specification	for the Desi	Construction (AISC) gn, Fabrication, and Erectio June 12, 1974.	n of Structural Steel	l for Buildings", add	opted February 12,	
 (6) Design Documents 4BA0892-x2-106R0 4BB0892-X2-1R4 N4-50-D718 	"Recommend Connections"	elding Code ed Practice fo , AWS D12.	, AWS D1.1-72 as modified or Welding Reinforcing Steel	, Metal Inlets, and	Connections in Rei	nforced Concrete	
G-29C	(7) Contact(s)	N/A		· · · · · · · · · · · · · · · · · · ·	<u></u>	· · · · · · · · · · · · · · · · · · ·	
	(8) DISPOSITION C	F STATEMI	ENT				
	Design Docur FSAR Consis		Minor Inconsis FSAR and Des	tencies Between ign Documents		is not Consistent Design Documents	
(9) DISCUSSION OF FINDI	NG						
Design output documents	and the FSAR are consis	tent.					
E. Wayne Rosenbalm <u>12/16/</u> Investigator Date	85 <u>Martin Bailey</u> Approver	<u>12/18/85</u> Date		WELDING P	ROJECT REVIEW: <u>Case w. Hata</u> Approver	Date	

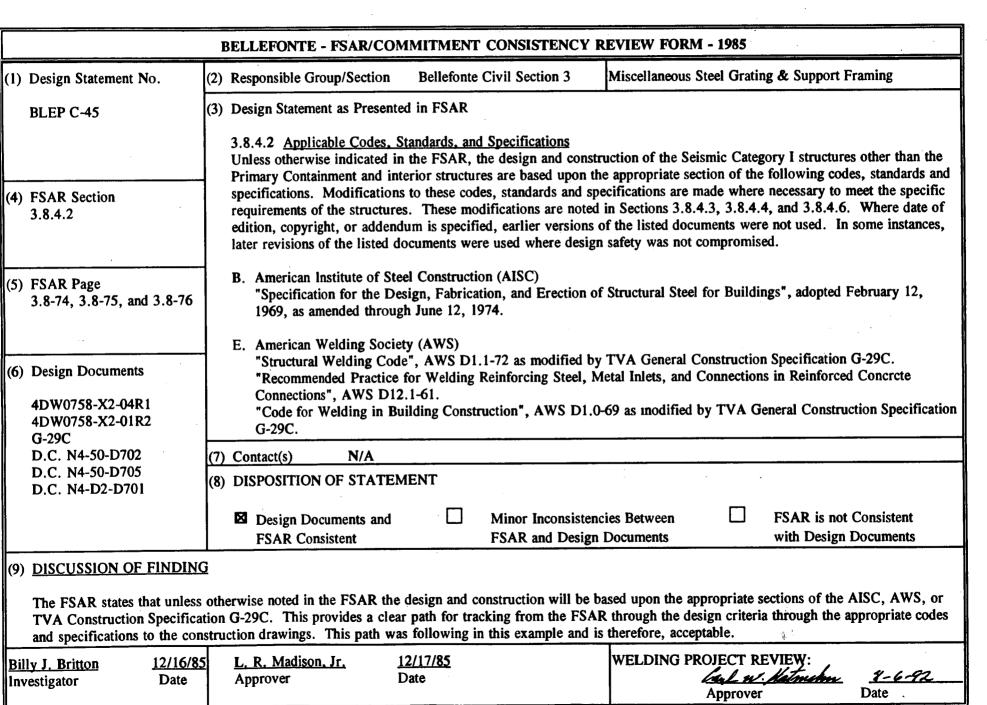


]	BELLEFONTE - F	SAR/COM	MITMENT CONSISTENCY R	EVIEW FORM - 1985			
(1)	Design Statement No.	(2)	Responsible Group	/Section	Bellefonte Civil Section 3	Instrument Tubing Support			
	BLEP C-43	(3)	Design Statement a	as Presented	in FSAR				
(4)	FSAR Section		All steel structures, except the Reactor Coolant System supports and supports for Seismic Category I and systems are designed in accordance with the AISC specification for the Design, Fabrication, and Erection						
	3.8.3.3.2		Steel for Buildings	, by the elas	s are designed in accordance with the same specification. ctions 3.6, 3.7, 3.9, and 5.4.14.				
(5)	FSAR Page		•						
	3.8-61, 3.8-62, 3.8-4a	-			· ·				
(6)	Design Documents								
	4BA0570-X2-21R0 4BA0570-X2-2R2 4BA0570-X2-2AR4								
	N4-50-D702 G-29C	(7)	Contact(s)	N/A					
			DISPOSITION OF	STATEME	ENT				
			Design Docum FSAR Consiste		Minor Inconsistenci FSAR and Design I	•			
(9)	DISCUSSION OF FINDING	Ì							
	Design output documents and Bldg., see Note 26 on 4BA0			ent. Drawin	g title block refers to Aux. Bldg.	/ERCW Pump Station. For applicability to Reactor			
	Wayne Rosenbalm 12/17/85 estigator Date		Martin Bailey Approver	<u>12/18/85</u> Date		WELDING PROJECT REVIEW:			
		L	·			Approver Date			

	BELLEFONTE - FSAR/COM	MITMENT CONSISTENCY	REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Conduit Support
BLEP C-44	(3) Design Statement as Presented	l in FSAR	· .
(4) FSAR Section			orts and supports for Seismic Category I and I(L) piping ion for the Design, Fabrication, and Erection of Structural
3.8.3.3.2	Steel for Buildings, by the ela	stic analysis method. Connecti	ions are designed in accordance with the same specification. Sections 3.6, 3.7, 3.9, and 5.4.14.
(5) FSAR Page			
3.8-61, 3.8-62, 3.8-4a			
(6) Design Documents			
4RA0560-X2-95R0 4RA0560-X2-1R6 N4-50-D718			
G-29C	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATEM	ENT	
	Design Documents and FSAR Consistent	Minor Inconsister FSAR and Design	
(9) DISCUSSION OF FIND	ING		
Design output documents	and the FSAR are consistent.		
<u>E. Wayne Rosenbalm</u> <u>12/16</u> Investigator Date		· · · · · · · · · · · · · · · · · · ·	WELDING PROJECT REVIEW: <u>All 41. Matmathin</u> <u>8-10-92</u> Approver Date







 (1) Forme operations 3.8.4.2 (5) FSAR Page 3.8-74, 3.8-75, and 3.8-76 (6) Design Documents 4DW0759-X2-1R15 4DW0759-X2-1R15 4DW0759-X2-2R9 G-29C (7) FSAR Page 3.8-76 (7) FSAR Page 3.8-76 (8) American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 1969, as amended through June 12, 1974. (6) Design Documents 4DW0759-X2-1R15 4DW0759-X2-2R9 G-29C (7) Design Documents 4DW0759-X2-2R9 G-29C (7) Design Documents 4DW0759-X2-2R9 (7) Design Document 4DW0759-X2-2R9 (7) Design Document 4DW0759-X2-2R9<th></th>								
 3.8.4.2 <u>Applicable Codes, Standards, and Specifications</u> Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other th Primary Containment and interior structures are based upon the appropriate section of the following codes, standards specifications. Modifications to these codes, standards and specifications are made where necessary to meet the requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some ins later revisions of the listed documents were used where design safety was not compromised. B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 1969, as amended through June 12, 1974. E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concret Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification Specificati								
 (4) FSAR Section 3.8.4.2 (5) FSAR Page 3.8-74, 3.8-75, and 3.8-76 (6) Design Documents 4DW0759-X2-1R15 4DW0759-X2-2R9 G-29C (4) FSAR Section 3.8.4.2 (5) FSAR Page 3.8-74, 3.8-75, and 3.8-76 (6) Design Documents Sectification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 1969, as amended through June 12, 1974. (6) Design Documents B. American Welding Society (AWS) Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concret Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification Specifi								
 (5) FSAR Fage 3.8-74, 3.8-75, and 3.8-76 "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 1969, as amended through June 12, 1974. E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concret Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification Specifica	specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances,							
 (6) Design Documents *Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. *Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concret Connections", AWS D12.1-61. *Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. G-29C 	12,							
	"Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification							
D.C. N4-50-D716 (7) Contact(s) N/A								
(8) DISPOSITION OF STATEMENT								
Design Documents andMinor Inconsistencies BetweenFSAR is not ConsistenceFSAR ConsistentFSAR and Design Documentswith Design Documents								
(9) DISCUSSION OF FINDING								
Design output documents and the FSAR are consistent.								
Martin Bailey Investigator12/17/85 DateL. R. Madison, Jr. Approver12/18/85 DateWELDING PROJECT REVIEW: Caular. HatmanInvestigatorDate12/17/85 Approver8-6- Date	F2							







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	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Structural Steel - Cable Tray Supports
BLEP C-47	(3) Design Statement as Presented in FSAR
	3.8.4.2 <u>Applicable Codes, Standards, and Specifications</u> Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and
(4) FSAR Section 3.8.4.2	specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.
(5) FSAR Page 3.8-74, 3.8-75, and 3.8-76	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974.
	E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C.
 (6) Design Documents 4DW0760-X2-1R11 4DW0760-X2-6R16 G-29C 	"Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C.
D.C. N4-50-D728	(7) Contact(s) N/A
	(8) DISPOSITION OF STATEMENT
	Design Documents and FSAR ConsistentMinor Inconsistencies Between FSAR and Design DocumentsFSAR is not Consistent with Design Documents
(9) <u>DISCUSSION OF FINDIN</u>	
	and the FSAR are consistent.
Martin Bailey12/17/InvestigatorDate	85 L. R. Madison, Jr. 12/18/85 WELDING PROJECT REVIEW: Approver Date Image: State

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1) Design Statement	No. (2)	Responsible Group/Section	Bellefonte Civil Section 3	Structural Steel - Floor Framing					
BLEP C-48	(3)	Design Statement as Presente	d in FSAR	• • • • • • • • • • • • • • • • • • •	-				
4) FSAR Section 3.8.1.2		Containment. Modifications requirements of the structure edition, copyright, or addend	to these codes, standards, and s. These modifications are no um is specified, earlier version	basis for the design and construction o specifications are made where necess ted in Sections 3.8.1.3, 3.8.1.4, and 3 ns of the listed documents were not us ign safety was not compromised.	ary to meet the specific 3.8.1.6. Where date of				
(5) FSAR Page 3.8-4, 4a, 4b, 4c, 3.8-61, 62, 63	4d,	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. E. American Welding Society (AWS) 							
· · · · · · · · · · · · · · · · · · ·									
(6) Design Documents N4-R4-D701 G-29C 4RW0418-X2-01R		"Structural Welding Code	e", AWS D1.1-72 as modified for Welding Reinforcing Steel	by TVA General Construction Specif , Metal Inlets, and Connections in Re					
N4-R4-D701 G-29C	27	"Structural Welding Code "Recommended Practice	e", AWS D1.1-72 as modified for Welding Reinforcing Steel						
N4-R4-D701 G-29C 4RW0418-X2-01R	۲۶ ۲۱۶	"Structural Welding Code "Recommended Practice Connections", AWS D12	e", AWS D1.1-72 as modified for Welding Reinforcing Steel .1-61.						
N4-R4-D701 G-29C 4RW0418-X2-01R	۲۶ ۲۱۶	"Structural Welding Code "Recommended Practice Connections", AWS D12	e", AWS D1.1-72 as modified for Welding Reinforcing Steel .1-61.	, Metal Inlets, and Connections in Re					
N4-R4-D701 G-29C 4RW0418-X2-01R 4RW0418-X2-02R (9) <u>DISCUSSION OF</u>	27 215 (7) (8) F FINDING	 "Structural Welding Code "Recommended Practice Connections", AWS D12 <u>Contact(s)</u> N/A DISPOSITION OF STATEM Design Documents and 	e", AWS D1.1-72 as modified for Welding Reinforcing Steel .1-61. IENT IENT Minor Inconsist	, Metal Inlets, and Connections in Re	inforced Concrete R is not Consistent				
N4-R4-D701 G-29C 4RW0418-X2-01R 4RW0418-X2-02R (9) <u>DISCUSSION OF</u>	27 215 (7) (8) F FINDING	 "Structural Welding Code "Recommended Practice Connections", AWS D12 <u>Contact(s)</u> N/A <u>DISPOSITION OF STATEM</u> <u>Design Documents and FSAR Consistent</u> the FSAR are consistent. <u>L. R. Madison, Jr.</u> 1 	e", AWS D1.1-72 as modified for Welding Reinforcing Steel .1-61. IENT IENT Minor Inconsist	, Metal Inlets, and Connections in Re	inforced Concrete R is not Consistent Design Documents				







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			BELLEFONTE - FSAR/C	ОМ	MITMEN	CONSISTENCY R	REVIEW FORM - 1985		
(1)	Design Statement No.	(2)	Responsible Group/Sectio	n ·	Bellefonte	Civil Section 3	Structural Steel - Floor	Framing	
	BLEP C-49	(3)	Design Statement as Prese The following codes, stan Containment, Modificatio	dard	s, and spec				
(4)	FSAR Section 3.8.1.2		 Containment. Modifications to these codes, standards, and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.1.3, 3.8.1.4, and 3.8.1.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised. B. American Institute of Steel Construction (AISC) 						
(5)	FSAR Page			Desi	gn, Fabrica	ation, and Erection of	Structural Steel for Buil	dings", adopted	February 12,
	3.8-4, 4a, 4b, 4c, 4d, 3.8-61, 62		E. American Welding So			1.72 as modified by	TVA General Construct	ion Specification	n G-29C
(6)	Design Documents G-29C N4-R4-D701 4RW0417-X2-01R4		"Recommended Practi Connections", AWS I	ce fo	or Welding		etal Inlets, and Connecti		
	4RW0418-X2-02R15		Contact(s) N/A			·····		· · · · · · · · · · · · · · · · · · ·	
		(8)	DISPOSITION OF STAT Design Documents and FSAR Consistent			Minor Inconsistenc FSAR and Design			t Consistent Documents
(9)	DISCUSSION OF FINDING	i				• · · · · · · · · · · · · · · · · · · ·			• •
	Design output documents and	i th	e FSAR are consistent.	•					
_	artin Bailey <u>12/17/85</u> vestigator Date		<u>L. R. Madison, Jr.</u> Approver	<u>12</u> Da	/18/85 nte		WELDING PROJECT	1. Hatmahn	<u>8-6-12</u> Date

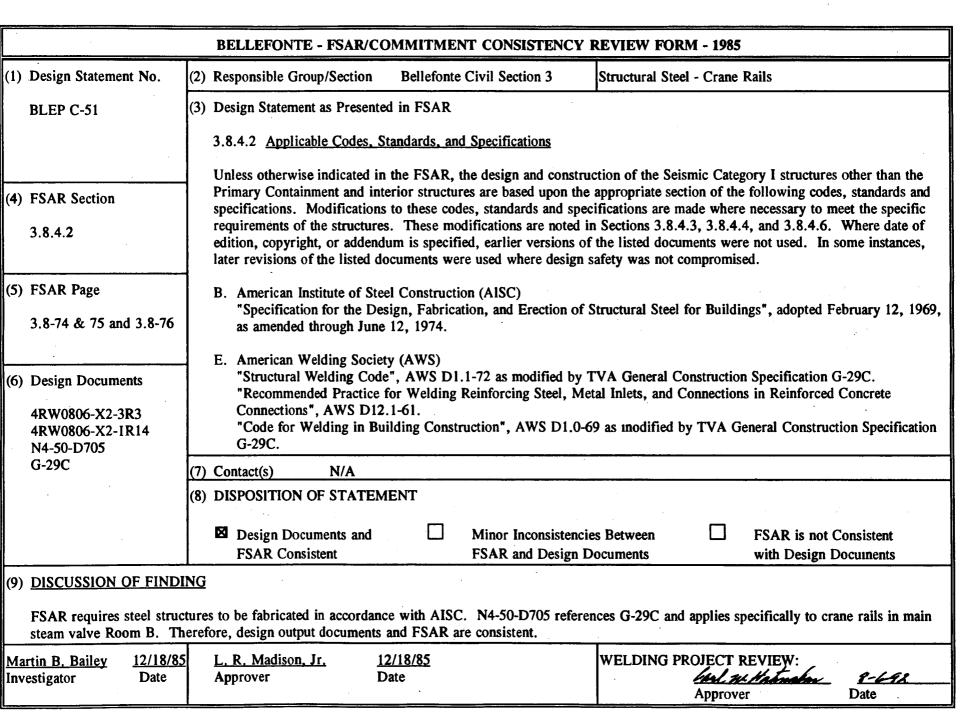
	BELLEFONTE - FSAR/COM	MITMENT CONSISTENCY I	REVIEW FORM - 1985						
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Covers & Screens						
BLEP C-50	(3) Design Statement as Presented	1 in FSAR							
	Containment. Modifications t	to these codes, standards, and sp	tis for the design and construction of the Primary becifications are made where necessary to meet the specific						
(4) FSAR Section	edition, copyright, or addendu	. These modifications are noted im is specified, earlier versions cuments were used where design	I in Sections 3.8.1.3, 3.8.1.4, and 3.8.1.6. Where date of of the listed documents were not used. In some instances, n safety was not compromised.						
3.8.1.2	B. American Institute of Stee	l Construction (AISC)							
(5) FSAR Page	"Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974.								
3.8-4, 4a, 4b, 4c, 4d, 3.8-61, 62		E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C.							
(6) Design Documents	"Recommended Practice f Connections", AWS D12.	or Welding Reinforcing Steel, N	Metal Inlets, and Connections in Reinforced Concrete						
N4-R4-D701 G-29C									
4RW0513-X2-01R6	(7) Contact(s) N/A	· · · · · · · · · · · · · · · · · · ·							
	(8) DISPOSITION OF STATEM	ENT							
	Design Documents and FSAR Consistent	Minor Inconsisten FSAR and Design							
(9) DISCUSSION OF FINDING	G								
Design output documents ar	nd the FSAR are consistent.								
Martin Bailey <u>12/17/8</u> Investigator Date		2/18/85 ate	WELDING PROJECT REVIEW: <u>Asl w. Matnaden</u> <u>8-6-92</u> Approver Date						











	BELLEFONTE - FSAR/COMMITMEN	T CONSISTENCY REVIEW FO	RM - 1985
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte	Civil Section 3 Structural Ste	el - Pipe Supports
BLEP C-52	(3) Design Statement as Presented in FSAR	······································	
	3.8.4.2 Applicable Codes, Standards, and	Specifications	
(4) FSAR Section 3.8.4.2	Unless otherwise indicated in the FSAR, the Primary Containment and interior structure specifications. Modifications to these code requirements of the structures. These mode edition, copyright, or addendum is specified later revisions of the listed documents were	es are based upon the appropriate se es, standards and specifications are r lifications are noted in Sections 3.8. d, earlier versions of the listed docu	action of the following codes, standards and made where necessary to meet the specific 4.3, 3.8.4.4, and 3.8.4.6. Where date of uments were not used. In some instances,
(5) FSAR Page 3.8-74 & 75 and 3.8-76	B. American Institute of Steel Constructio "Specification for the Design, Fabricat as amended through June 12, 1974.		for Buildings", adopted February 12, 1969,
(6) Design Documents 4RW0806-X2-10R6 4RW0806-X2-1R14 G-29C	E. American Welding Society (AWS) "Structural Welding Code", AWS D1. "Recommended Practice for Welding F Connections", AWS D12.1-61. "Code for Welding in Building Constru G-29C.	teinforcing Steel, Metal Inlets, and	Construction Specification G-29C. Connections in Reinforced Concrete by TVA General Construction Specification
N4-50-D702 DC-N4-50-D717	(7) Contact(s) N/A		
DC-114-50-D117	 (8) DISPOSITION OF STATEMENT Design Documents and FSAR Consistent 	Minor Inconsistencies Between FSAR and Design Documents	FSAR is not Consistent with Design Documents
(9) DISCUSSION OF FIND	NG	· · · · · · · · · · · · · · · · · · ·	
Design output documents	and the FSAR are consistent.		
<u>Martin B. Bailey</u> <u>12/17/85</u> Investigator Date		WELDING F	PROJECT REVIEW: <i>Carl W. Hatrake <u>3-6-92</u> Approver Date</i>



	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 1985							
1) Design Statement No	. (2) Responsible Group/Section Bellefonte Civil Section 3 Miscellaneous Steel - Embedded Parts							
BLEP C-53	(3) Design Statement as Presented in FSAR							
	3.8.4.2 Applicable Codes, Standards, and Specifications							
	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the							
) FSAR Section	Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific							
3.8.4.2	requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of							
	edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.							
5) FSAR Page	B. American Institute of Steel Construction (AISC)							
3.8-74 & 75 and 3.8	"Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974.							
) Design Documents	E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C.							
4RW0809-X2-03R5	"Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61.							
4RW0809-X2-01R2	"Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C.							
G-29C N4-50-D705	(7) Contact(s) N/A							
	(8) DISPOSITION OF STATEMENT							
	Design Documents and Minor Inconsistencies Between FSAR is not Consistent							
	Design Documents andImage: Minor Inconsistencies BetweenImage: FSAR is not ConsistentFSAR ConsistentFSAR and Design Documentswith Design Documents							
) DISCUSSION OF FI								
Design output docum	ents and the FSAR are consistent.							
	7/85 L. R. Madison, Jr. 12/18/85 WELDING PROJECT REVIEW:							

	BELLEFONTE - FSA	AR/COMMITMENT CONSI	STENCY REVIEW FORM - 19	85				
(1) Design Statement No.	(2) Responsible Group/Sec	tion Bellefonte Civil Section	on 3 Miscellaneous Steel -	Frames, Covers, Grating, and Ladders				
BLEP C-54	(3) Design Statement as Pr	esented in FSAR						
	3.8.4.2 Applicable Co	odes, Standards, and Specificat	<u>ions</u>	· .				
(4) FSAR Section	Primary Containment a	and interior structures are base	d upon the appropriate section of	ategory I structures other than the the following codes, standards and here necessary to meet the specific				
3.8.4.2	edition, copyright, or a	requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.						
(5) FSAR Page		of Steel Construction (AISC)						
3.8-74 & 75 and 3.8-76	"Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February as amended through June 12, 1974.							
(6) Design Documents 8YW0206-X2-01R5 G-29C DC-N4-50-D702	"Recommended Pr Connections", AW	g Code", AWS D1.1-72 as mo actice for Welding Reinforcing 'S D12.1-61.	odified by TVA General Construc g Steel, Metal Inlets, and Connect WS D1.0-69 as modified by TVA	tion Specification G-29C. ions in Reinforced Concrete General Construction Specification				
DC-N4-Y7-D701A	(7) Contact(s) N/	Α						
	 (8) DISPOSITION OF ST Design Documents FSAR Consistent 	and D Minor In	consistencies Between	FSAR is not Consistent with Design Documents				
(9) DISCUSSION OF FIND				ŭ				
	s and the FSAR are consister	nt.						
Martin B. Bailey <u>12/17/8</u> Investigator Date		<u>12/18/85</u> Date		n. Hatmahn 8-6-92				
			Appr					







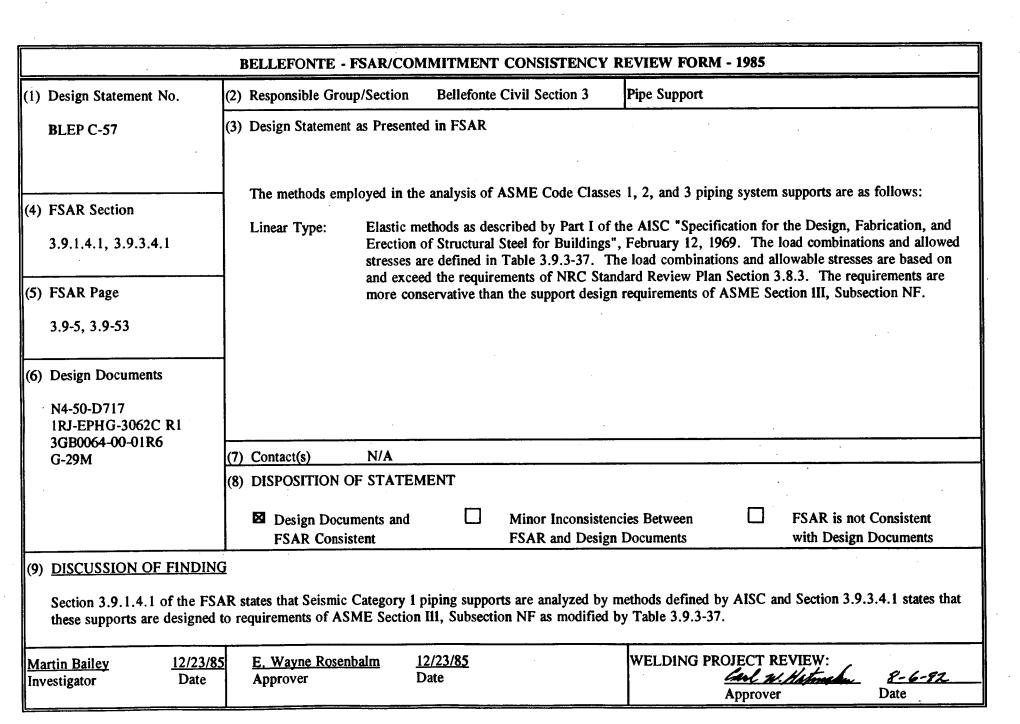
	BELLEFONTE - F	SAR/COMMI	ITMENT	CONSISTENCY I	REVIEW FORM -	1985	
(1) Design Statement No.	(2) Responsible Group	o/Section B	ellefonte	Civil Section 3	Pipe Support		
BLEP C-55	(3) Design Statement	as Presented in	FSAR				
(4) FSAR Section 3.9.1.4.1, 3.9.3.4.1	- The methods emp Linear Type:	Elastic metho Erection of S stresses are d	ds as des tructural s lefined in	cribed by Part I of t Steel for Buildings" Table 3.9.3-37. Th	s 1, 2, and 3 piping the AISC "Specificat , February 12, 1969 he load combinations	tion for the Design . The load combi s and allowable str	n, Fabrication, and nations and allowed esses are based on
(5) FSAR Page 3.9-5, 3.9-53					dard Review Plan So requirements of AS		
(6) Design Documents 1NK-MPHG-0092 R0 3GB0064-00-1 R6							
N4-50-D717 G-29M	(7) Contact(s)	N/A				· · · · · · · · · · · · · · · · · · ·	· · · · · · · · ·
0-2914	(8) DISPOSITION O		Ť	······································	•		
	Design Docum FSAR Consist			Minor Inconsisten FSAR and Design			not Consistent ign Documents
(9) DISCUSSION OF FINDIN	<u>G</u>						
Section 3.9.1.4.1 of the FS these supports are designed	AR states that Seismic (to requirements of ASM	Category I pipin ME Section III,	ng suppor Subsectio	ts are analyzed by r on NF as modified b	methods defined by A by Table 3.9.3-37.	AISC and Section	3.9.3.4.1 states that
<u>Martin Bailey 12/23/8</u> Investigator Date	5 <u>E. Wayne Rosent</u> Approver	<u>palm 12/2:</u> Date				ECT REVIEW:	<u> </u>

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	•	Ē	BELLEFONTE - FSAR/COM	IMITMENT	CONSISTENCY R	EVIEW FORM - 1985		
(1)	Design Statement No.	(2)	Responsible Group/Section	Bellefonte (Civil Section 3	Pipe Support		
	BLEP C-56	(3)	Design Statement as Presente	d in FSAR	<u>.</u>		· · ·	
(4)	FSAR Section 3.9.1.4.1, 3.9.3.4.1		Erection stresses a	ethods as desc of Structural S re defined in	ribed by Part I of the Steel for Buildings", Table 3.9.3-37. The	1, 2, and 3 piping system ne AISC "Specification for February 12, 1969. The load combinations and al lard Review Plan Section 3	the Design, Fa load combination lowable stresses	brication, and ons and allowed s are based on
(5)	FSAR Page 3.9-5, 3.9-53		and excee more con	aservative than	the support design	requirements of ASME Se	ction II1, Subse	ction NF.
(6)	Design Documents N4-50-D717 1NK-MPHG-0261 Sht 3 R4		· ·					
	3GB0064-02-01R6 G-29M	(7)	Contact(s) N/A					
		(8)	DISPOSITION OF STATEM Design Documents and FSAR Consistent		Minor Inconsistence FSAR and Design		FSAR is not with Design	
(9)	DISCUSSION OF FINDING Section 3.9.1.4.1 of the FSA these supports are designed	AR	states that Seismic Category I equirements of ASME Section	piping suppor 1 III, Subsectio	ts are analyzed by m on NF as modified b	nethods defined by AISC a by Table 3.9.3-37.	nd Section 3.9.	3.4.1 states tha
_	artin Bailey <u>12/23/8</u> vestigator Date	5		<u>12/23/85</u> Date		WELDING PROJECT R	Hatmahn	<u>8-6-52</u> Date

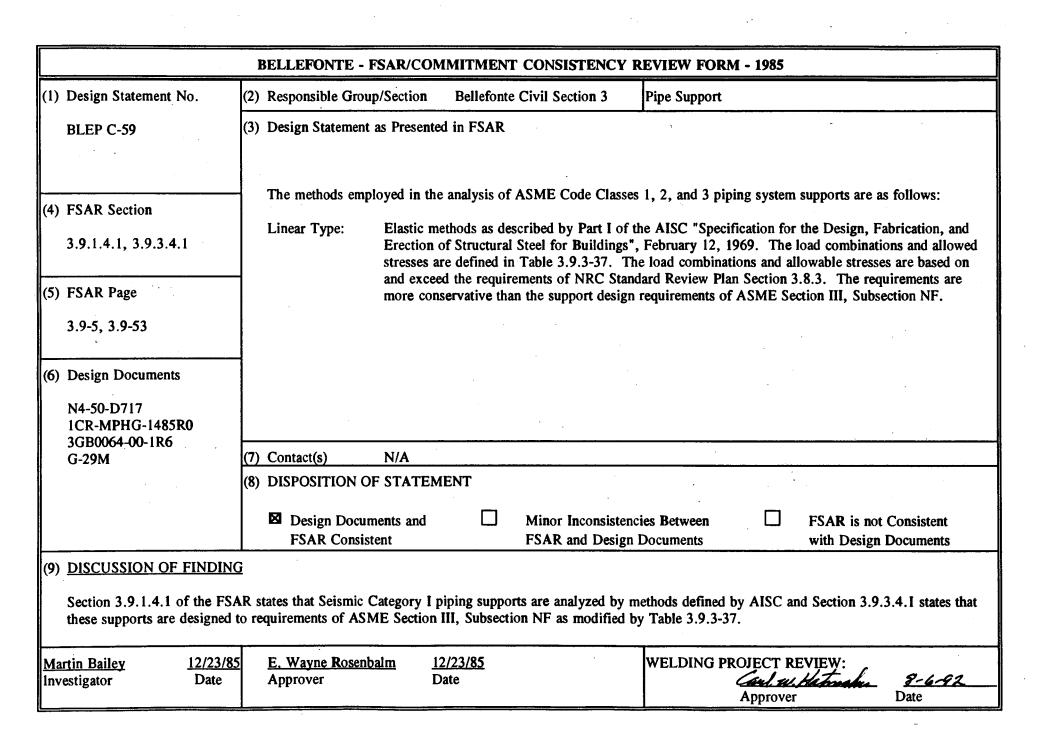




	BELLEFONTE - FSAR/CO	MMITMENT CONSISTENCY	REVIEW FORM - 1985
1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Pipe Support
BLEP C-58	(3) Design Statement as Present	ted in FSAR	
4) FSAR Section 3.9.1.4.1, 3.9.3.4.1	Linear Type: Elastic m Erection stresses	nethods as described by Part I of of Structural Steel for Buildings are defined in Table 3.9.3-37.	es 1, 2, and 3 piping system supports are as follows: f the AISC "Specification for the Design, Fabrication, and s", February 12, 1969. The load combinations and allowed The load combinations and allowable stresses are based on
(5) FSAR Page 3.9-5, 3.9-53	and exce more co	eed the requirements of NRC Stanservative than the support desig	undard Review Plan Section 3.8.3. The requirements are on requirements of ASME Section III, Subsection NF.
(6) Design Documents N4-50-D717 1RJ-EPHG-3000CR1			
G-29M 3GB0064-00-1R6	(7) Contact(s) N/A		
	 (8) DISPOSITION OF STATE Design Documents and FSAR Consistent 	MENT Minor Inconsiste FSAR and Desig	
(9) <u>DISCUSSION OF FIND</u> Section 3.9.1.4.1 of the these supports are design		I piping supports are analyzed by on 111, Subsection NF as modified	methods defined by AISC and Section 3.9.3.4.1 states that by Table 3.9.3-37.
<u>Martin Bailey</u> <u>12/2</u> Investigator Dat		<u>12/23/85</u> Date	WELDING PROJECT REVIEW: <u> <u> <u> </u> <u> </u></u></u>







	BELLEFONTE -	FSAR/COM	MITMENT CONSISTENC	Y REVIEW FORM - 19	85	
(1) Design Statement No.	(2) Responsible Grou	ıp/Section	Bellefonte Civil Section 3	Pipe Support		
BLEP C-60	(3) Design Statement	t as Presented	in FSAR			
(4) FSAR Section 3.9.1.4.1, 3.9.3.4.1	The methods emp Linear Type:	Elastic met Erection of	analysis of ASME Code Clash thods as described by Part I f Structural Steel for Building e defined in Table 3.9.3-37.	of the AISC "Specificatio gs", February I2, 1969.	n for the Design, F The load combinat	abrication, and ions and allowed
(5) FSAR Page	-	and exceed	the requirements of NRC S ervative than the support des	tandard Review Plan Sect	tion 3.8.3. The rec	juirements are
3.9-5, 3.9-53						
(6) Design Documents						
N4-50-D717 1SV-MPHG-0412R0						
3GB0064-00-1R6 G-29M	(7) Contact(s)	N/A			·	
	(8) DISPOSITION (OF STATEMI	ENT			
	Design Docu FSAR Consi		Minor Inconsis FSAR and Des	tencies Between ign Documents		t Consistent Documents
(9) DISCUSSION OF FINDIN	G					
Section 3.9.1.4.1 of the FS these supports are designed	AR states that Seismic to requirements of AS	Category I pi ME Section I	iping supports are analyzed t 11, Subsection NF as modified	by methods defined by AI and by Table 3.9.3-37.	SC and Section 3.9	0.3.4.1 states that
<u>Martin Bailey 12/23/8</u> Investigator Date	5 <u>E. Wayne Roser</u> Approver		2/23/85 ate		CT REVIEW:	<u>8-6-92</u> Date



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			BELLEFONTE - FSAR/CO	OMMITME	NT CONSISTENCY	Y REVIEW FO	RM - 1985	
(1)	Design Statement No.	(2)	Responsible Group/Section	Bellefonte	Civil Section 3	Pipe Support		
	BLEP C-61	(3)	Design Statement as Presente	d in FSAR	·····		• • • • •	
			Structural Steel Structures All steel structures, except th designed in accordance with t	the AISC sp	ecification for the D	esign, Fabricatio	n, and Erection of S	tructural Steel for
	FSAR Section 3.8.3.3 3.13.1(c)		Buildings, by the elastic analy Seismic Category I(L) - Thos	se portions of	f structure, systems,	or components	which perform secon	ndary safety functions to
(5)	FSAR Page 3.8-62 3.13-1, 3.13-2		the extent that only limited st seismic requirements) and are times including a concurrent either position retention (rem full extent of the design, cons	e designed an SSE. The li ain in place) struction, QA	nd constructed to ass mited structural inte or pressure boundar A, and other regulated	sure achievement grity requirement ry retention. The pry requirements	t of their limited stru- nts associated with the is may be accomplise normally specified	Inctural integrity at all nese plant features are shed without meeting the for Seismic Category I
6)	Design Documents N4-50-D717 G-29C		structures, systems, or compo- should be determined on a ca of jeopardy to the achievement	ise-by-case b	asis with regard for	credible failure	modes and circumsta	ances and for the extent
	1ND-MPHG-0117R0 3GB0065-00-1R6	(7)	Contact(s) N/A					
		(8)	DISPOSITION OF STATEM	1ENT				
			Design Documents and FSAR Consistent		Minor Inconsisten FSAR and Design			is not Consistent Design Documents
9)	DISCUSSION OF FIND	ING						
		and	the FSAR are consistent.					
	Design output documents							

	BELLEFONTE - FSAR/C	OMMITMENT CONSISTENC	Y REVIEW FORM - 1985	
1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Pipe Support	
BLEP C-62	(3) Design Statement as Presente	ed in FSAR		
 (4) FSAR Section 3.8.3.3 3.13.1(c) (5) FSAR Page 3.13-1 3.13-2 3.8-62 (6) Design Documents 	designed in accordance with Buildings, by the elastic anal <u>Seismic Category I(L)</u> - Tho the extent that only limited s seismic requirements) and ar times including a concurrent either position retention (rem full extent of the design, con structures, systems, or comp	the AISC specification for the D lysis method. Connections are d se portions of structure, systems tructural integrity is required. T re designed and constructed to as SSE. The limited structural inte- nain in place) or pressure boundar struction, QA, and other regulat conents wherein a primary safety	orts and supports for Seismic Category besign, Fabrication, and Erection of Str esigned in accordance with the same sp , or components which perform second hey are designated as Seismic Category sure achievement of their limited struct egrity requirements associated with these ary retention. This may be accomplished ory requirements normally specified fo function must be assured. The require	ructural Steel for pecification. lary safety functions to y I(L) (i.e., limited tural integrity at all se plant features are ed without meeting the or Seismic Category I
N4-50-D717		ase-by-case basis with regard for ent of primary safety functions.	credible failure modes and circumstan	aces and for the extent
			credible failure modes and circumstan	aces and for the extent
N4-50-D717 G-29C			credible failure modes and circumstan	ices and for the extent
N4-50-D717 G-29C 1NL-MPHG-0162R1	of jeopardy to the achieveme	ent of primary safety functions.	credible failure modes and circumstan	inces and for the extent
N4-50-D717 G-29C 1NL-MPHG-0162R1	of jeopardy to the achieveme (7) Contact(s) N/A	ent of primary safety functions.	credible failure modes and circumstan	not Consistent sign Documents
N4-50-D717 G-29C 1NL-MPHG-0162R1	 of jeopardy to the achieveme (7) Contact(s) N/A (8) DISPOSITION OF STATEM Ø Design Documents and FSAR Consistent 	ent of primary safety functions.	credible failure modes and circumstan	nces and for the extent
N4-50-D717 G-29C 1NL-MPHG-0162R1 3GB0065-00-01R6	 of jeopardy to the achieveme (7) Contact(s) N/A (8) DISPOSITION OF STATEM Ø Design Documents and FSAR Consistent 	ent of primary safety functions.	credible failure modes and circumstan	nces and for the extent



	BELLEFONTE - FSAR/CO	MMITMENT CONSISTENCY	REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Pipe Support
BLEP C-63	(3) Design Statement as Presented	in FSAR	
(4) FSAR Section 3.8.3.3 3.13.1(c)	designed in accordance with th Buildings, by the elastic analys <u>Seismic Category I(L)</u> - Those	e AISC specification for the Desi sis method. Connections are desi portions of structure, systems, or	s and supports for Seismic Category I piping systems, are ign, Fabrication, and Erection of Structural Steel for gned in accordance with the same specification. r components which perform secondary safety functions to y are designated as Seismic Category I(L) (i.e., limited
(5) FSAR Page 3.13-1 3.13-2 3.8-62	seismic requirements) and are times including a concurrent S either position retention (remai full extent of the design, const	designed and constructed to assur SE. The limited structural integr in in place) or pressure boundary ruction, QA, and other regulatory	re achievement of their limited structural integrity at all ity requirements associated with these plant features are retention. This may be accomplished without meeting the y requirements normally specified for Seismic Category I
 (6) Design Documents N4-50-D717 G-29C 1GN-MPHG-0145R0 		e-by-case basis with regard for cr	nction must be assured. The requirements and provisions edible failure modes and circumstances and for the extent
3GB0065-00-1R6	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATEME	ENT	
	Design Documents and FSAR Consistent	Minor Inconsistencie FSAR and Design D	
(9) DISCUSSION OF FIND	NG		
Design output documents	and the FSAR are consistent.	· · · · · · · · · · · · · · · · · · ·	
<u>E.Wayne Rosenbalm 12/23/85</u> Investigator Date	<u>Martin Bailey 12/85</u> Approver Date		WELDING PROJECT REVIEW:

	BELLEFONTE -	FSAR/COMMITM	IENT CONSISTENC	Y REVIEW FORM - 198	5
(1) Design Statement No.	(2) Responsible Group	/Section Bellefo	nte Civil Section 3	Pipe Support	in the second
BLEP C-64	(3) Design Statement a	s Presented in FSA	R		······································
(4) FSAR Section 3.8.3.3 3.13.1(c)	designed in accorda Buildings, by the e Seismic Category I	, except the Reactor ance with the AISC lastic analysis methor (L) - Those portions	specification for the D od. Connections are do s of structure, systems,	esign, Fabrication, and Ere esigned in accordance with or components which per	form secondary safety functions to
(5) FSAR Page 3.13-1 3.13-2 3.8-62	seismic requirement times including a constitution retent either position retent full extent of the do	nts) and are designed oncurrent SSE. The ntion (remain in pla- esign, construction,	l and constructed to ass e limited structural inte ce) or pressure bounda QA, and other regnlate	sure achievement of their light grity requirements associate ry retention. This may be ory requirements normally	nic Category I(L) (i.e., limited imited structural integrity at all ted with these plant features are accomplished without meeting the specified for Seismic Category I
 (6) Design Documents N4-50-D730 G-29C 3GB0067-00-1R8 	should be determin	ed on a case-by-case	erein a primary safety e basis with regard for hary safety functions.	runction must be assured. credible failure modes and	The requirements and provisions circumstances and for the extent
1GN-MPHG-0198R0	(7) Contact(s)	N/A	· · · · · · · · · · · · · · · · · · ·		
	(8) DISPOSITION OF	STATEMENT			
	Design Docume FSAR Consiste		Minor Inconsisten FSAR and Design		FSAR is not Consistent with Design Documents
(9) <u>DISCUSSION OF FINI</u>	DING				·
Design output document	s and the FSAR are consi	istent.			
E.Wayne Rosenbalm 12/23/8 Investigator Date	35 <u>Martin Bailey</u> Approver	<u>12/85</u> Date		WELDING PROJECT	W. Hatran 8-6-92





	BELLEFONTE - FSAR/CO	MMITMENT CONSISTENCY	REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Missile Barriers
BLEP C-65		e Reactor Coolant System supports	and supports for Seismic Category I and I(L) piping
(4) FSAR Section 3.8.3.3 3.8.3.3.2	Steel for Buildings, by the ela		a for the Design, Fabrication, and Erection of Structural s are designed in accordance with the same specification. stions 3.6, 3.7, 3.9, and 5.4.14.
(5) FSAR Page			
3.8-59 thru 3.8-62			
(6) Design Documents			
4RW0480-X2-O1R6 N4-9R-D701 G-29C			
0-270	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATEM	ENT	
	Design Documents and FSAR Consistent	Minor Inconsistencia FSAR and Design D	
(9) DISCUSSION OF FIND	ING		
Design output documents	and the FSAR are consistent.		· · ·
<u>E. Wayne Rosenbalm 1/14/86</u> Investigator Date		1/14/86 ate	WELDING PROJECT REVIEW:
			Approver Date

	BELLEFONTE - FSAR/C	OMMITMENT CONSISTEN	NCY REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Spiral Stairs
BLEP C-66	(3) Design Statement as Presente	ed in FSAR	
(4) FSAR Section 3.8.3.3 3.8.3.2	systems, are designed in according Steel for Buildings, by the elements of the steel for Buildings and the steel f	ordance with the AISC specifi astic analysis method. Conne	pports and supports for Seismic Category I and I(L) piping cation for the Design, Fabrication, and Erection of Structural ections are designed in accordance with the same specification. in Sections 3.6, 3.7, 3.9, and 5.4.14.
(5) FSAR Page	-		
3.8-59 thru 3.8-62			
(6) Design Documents			
4RW0501-X2-O1R5 N4-9R-D701 G-29C			
	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATE	MENT	
,	Design Documents and FSAR Consistent		stencies Between Sign Documents FSAR is not Consistent with Design Documents
(9) DISCUSSION OF FINI	DING		· ·
Design output document	is and the FSAR are consistent.		
<u>E. Wayne Rosenbalm</u> 1/14/2 Investigator Date	-	<u>)1/14/86</u> Date	WELDING PROJECT REVIEW: Cash w. Matrice 8-6-92 Approver Date



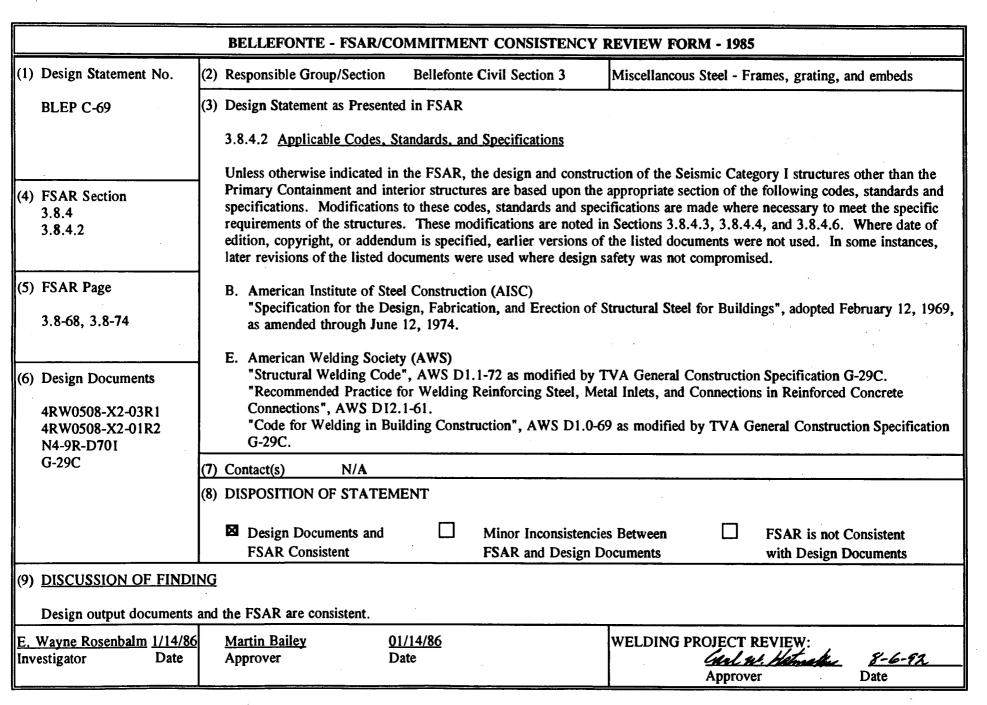
		JAIMITMENT CONS	ISTENCY REVIEW	FURM - 1985	
1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Sect	ion 3 Miscellan	eous Steel - Curbs, Decking,	, Railing & Embeds
BLEP C-67	(3) Design Statement as Presente	d in FSAR			
	All steel structures, except th				
(4) FSAR Section 3.8.3.3 3.8.3.3.2	systems, are designed in acco Steel for Buildings, by the ela The Reactor Coolant System	astic analysis method.	Connections are design	ned in accordance with the sa	
5) FSAR Page					
3.8-59 thru 3.8-62					
(6) Design Documents					
4RW0504-X2-03R6 4RW0503-X2-01R5 N4-9R-D701					
G-29C	(7) Contact(s) N/A				
	(8) DISPOSITION OF STATEM	IENT		. · · ·	
· ·	Design Documents and FSAR Consistent		consistencies Between nd Design Documents		t Consistent Documents
			· · · · · · · · · · · · · · · · · · ·		
(9) DISCUSSION OF FINDI	NG				
(9) <u>DISCUSSION OF FINDI</u> Design output documents	NG and the FSAR are consistent.		•	· .	
	and the FSAR are consistent. <u>Martin Bailey</u> 0	<u>1/14/86</u> Date	WELDIN	G PROJECT REVIEW:	8-6-92

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(1) Design Statement No.	(2) Responsible Group/Section	Ballaforta Civil Section 2		······································		
BLEP C-68	 (2) Responsible Group/Section Bellefonte Civil Section 3 Miscellaneous Steel - Sump Liner (3) Design Statement as Presented in FSAR All steel structures, except the Reactor Coolant System supports and supports for Seismic Category I and I(L) piping 					
(4) FSAR Section 3.8.3.3 3.8.3.3.2	systems, are designed in account Steel for Buildings, by the ela	rdance with the AISC specification support stic analysis method. Connection supports design is described in S	on for the Design, Fabricat	ion, and Erection of Structural nee with the same specification.		
(5) FSAR Page						
3.8-59 thru 3.8-62						
(6) Design Documents						
4RW0506-X2-03R7 4RW0506-X2-01R9 4RW0506-X2-02R8 N4-9R-D701						
G-29C	(7) Contact(s) N/A					
	(8) DISPOSITION OF STATEM	ENT				
	Design Documents and FSAR Consistent	Minor Inconsisten FSAR and Design		FSAR is not Consistent with Design Documents		
(9) DISCUSSION OF FINI	DING			· ·		
Design output document	s and the FSAR are consistent.					
E. Wayne Rosenbalm 1/14/8	<u> Martin Bailey 01</u>	/14/86	WELDING PROJECT	REVIĘW:		
Investigator Date	Approver Da	ate		1. Hatmahn 8-6-92		







(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Access Platform	ns
BLEP C-70	(3) Design Statement as Presente			
(4) FSAR Section 3.8.3.3 3.8.3.3.2	systems, are designed in according Steel for Buildings, by the el	ordance with the AISC specification	ts and supports for Seismic Category I a on for the Design, Fabrication, and Erec ns are designed in accordance with the s ections 3.6, 3.7, 3.9, and 5.4.14.	ction of Structural
(5) FSAR Page				
3.8-59 thru 3.8-62				
(6) Design Documents				
4RW0512-X2-01RI2 N4-9R-D70I G-29C				
0-270	(7) Contact(s) N/A			
	(8) DISPOSITION OF STATEN	1ENT		
	Design Documents and FSAR Consistent	Minor Inconsistence FSAR and Design		ot Consistent in Documents
(9) DISCUSSION OF FIN	DING			
Design output documen	ts and the FSAR are consistent.			
<u>E. Wayne Rosenbalm</u> 1/14/ Investigator Date		01/14/86 Date	WELDING PROJECT REVIEW:	<u>1-6-12</u> Date







	BELLER	ONTE - FSAR/CO)MMITMEN	T CONSISTENCY	REVIEW FORM - 198	5	
(1) Design Statement N	o. (2) Responsibl	le Group/Section	Bellefonte	Civil Section 3	Miscellaneous Steel - P	ressure Relief Pa	nels
BLEP C-71		 (3) Design Statement as Presented in FSAR All steel structures, except the Reactor Coolant System supports and supports for Seismic Category I and I(I 					
(4) FSAR Section 3.8.3.3 3.8.3.3.2	systems, a Steel for E	re designed in acco Buildings, by the ela	ordance with astic analysis	the AISC specification method. Connections	a for the Design, Fabrica s are designed in accorda tions 3.6, 3.7, 3.9, and	ation, and Erectio ance with the sam	on of Structural
(5) FSAR Page				•			
3.8-59 thru 3.8-62							
(6) Design Documents						· ·	
4RW0514-X2-01R4 N4-9R-D70I G-29C					•		
	(7) Contact(s)	N/A					
		TION OF STATEM	1ENT		. .		
		n Documents and Consistent		Minor Inconsistencie FSAR and Design D		FSAR is not (with Design I	
(9) DISCUSSION OF	FINDING						
Design output docu	ments and the FSAR	are consistent.					
<u>E. Wayne Rosenbalm 1</u> Investigator	/14/86 <u>Martin Ba</u> Date Approver) <u>1/14/86</u> Date		WELDING PROJECT	4. Ketnedon	<u>8-6-92</u> Date

BELLEFONTE - FSAR/CO	MMITMENT CONSISTER	NCY REVIEW FORM - 1985	
(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Access Ladders	
(3) Design Statement as Presented	d in FSAR		. •
systems, are designed in according Steel for Buildings, by the ela	rdance with the AISC specifi astic analysis method. Conne	cation for the Design, Fabrication, and Erec ections are designed in accordance with the s	tion of Structural
		· · ·	·
(7) Contact(s) N/A			
(8) DISPOSITION OF STATEM	ENT		
Design Documents and FSAR Consistent			ot Consistent n Documents
DING	<u> </u>		
s and the FSAR are consistent.			
6 Martin Bailey 01	<u>1/14/86</u> Date	WELDING PROJECT REVIEW:	8-6-92
5	 (2) Responsible Group/Section (3) Design Statement as Presented All steel structures, except the systems, are designed in acco Steel for Buildings, by the ela The Reactor Coolant System s (7) Contact(s) N/A (8) DISPOSITION OF STATEM (8) DISPOSITION OF STATEM (7) Design Documents and FSAR Consistent ING and the FSAR are consistent. 	 (2) Responsible Group/Section Bellefonte Civil Section 3 (3) Design Statement as Presented in FSAR All steel structures, except the Reactor Coolant System sursystems, are designed in accordance with the AISC specific Steel for Buildings, by the elastic analysis method. Conner The Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the Reactor Coolant System supports design is described in the FSAR are consistent. 	 (3) Design Statement as Presented in FSAR All steel structures, except the Reactor Coolant System supports and supports for Seismic Category I a systems, are designed in accordance with the AISC specification for the Design, Fabrication, and Erec Steel for Buildings, by the elastic analysis method. Connections are designed in accordance with the s The Reactor Coolant System supports design is described in Sections 3.6, 3.7, 3.9, and 5.4.14. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT Image: Design Documents and State FSAR and Design Documents with Design ING and the FSAR are consistent.



	BELLEFONTE - FSAR/COMMIT	MENT CONSISTENCY	REVIEW FORM - 1985
1) Design Statement No.	(2) Responsible Group/Section Bellef	onte Civil Section 3	Miscellaneous Steel - Pressure Relief Panels
BLEP C-73	(3) Design Statement as Presented in FSA	AR	
4) FSAR Section	systems, are designed in accordance v	with the AISC specification lysis method. Connections	and supports for Seismic Category I and I(L) piping for the Design, Fabrication, and Erection of Structur s are designed in accordance with the same specification tions 3.6, 3.7, 3.9, and 5.4.14.
3.8.3.3 3.8.3.3.2		-	
5) FSAR Page			
3.8-59 thru 3.8-62			
5) Design Documents			
4RW0523-X2-01R5 N4-9R-D701 G-29C			
0-290	(7) Contact(s) N/A	· · · · · · · · · · · · · · · · · · ·	
	(8) DISPOSITION OF STATEMENT		
	Design Documents and FSAR Consistent	Minor Inconsistenci FSAR and Design D	•
(9) DISCUSSION OF FIN	DING		
Design output documen	s and the FSAR are consistent.	· · · ·	
E, Wayne Rosenbalm 1/14/ Investigator Date	86Martin Bailey01/14/86ApproverDate	1	WELDING PROJECT REVIEW: Last w. Manualus g-6-9 Approver Date

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(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Miscellaneous Steel - Embedded Parts					
BLEP C-74	(3) Design Statement as Presented in FSAR					
	3.8.4.2 Applicable Codes, Standards, and Specifications					
(4) FSAR Section 3.8.4 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.					
(5) FSAR Page 3.8-68, 3.8-74	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 					
 (6) Design Documents 4RW0527-X2-05R4 4RW0527-X2-01R6 N4-9R-D701 	 E. American Welding Society (AWS) "Structural Welding Code", AWS DI.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. 					
4RW0527-X2-05R4 4RW0527-X2-01R6	"Structural Welding Code", AWS DI.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification					
4RW0527-X2-05R4 4RW0527-X2-01R6 N4-9R-D701	"Structural Welding Code", AWS DI.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C.					
4RW0527-X2-01R6 N4-9R-D701	 "Structural Welding Code", AWS DI.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.I-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. (7) Contact(s) N/A 					
4RW0527-X2-05R4 4RW0527-X2-01R6 N4-9R-D701 G-29C	 "Structural Welding Code", AWS DI.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT Minor Inconsistencies Between FSAR is not Consistent FSAR Consistent FSAR and Design Documents 					
4RW0527-X2-05R4 4RW0527-X2-01R6 N4-9R-D701 G-29C (9) <u>DISCUSSION OF FINI</u>	 "Structural Welding Code", AWS DI.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT Minor Inconsistencies Between FSAR is not Consistent FSAR Consistent FSAR and Design Documents 					
4RW0527-X2-05R4 4RW0527-X2-01R6 N4-9R-D701 G-29C (9) <u>DISCUSSION OF FINI</u>	 "Structural Welding Code", AWS DI.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT Design Documents and Arian Minor Inconsistencies Between FSAR is not Consistent FSAR Consistent FSAR and Design Documents with Design Documents DING ts and the FSAR are consistent. 86 Martin Bailey 01/14/86 WELDING PROJECT REVIEW:					







	BELLEFONTE - FSAR/COMMIT	MENT CONSISTENCY	REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section Belle	fonte Civil Section 3	Miscellaneous Steel - Incore Instrumentation Supports
BLEP C-75	(3) Design Statement as Presented in FS	AR	
(4) FSAR Section 3.8.3.3 3.8.3.3.2	systems, are designed in accordance	with the AISC specification alysis method. Connections	and supports for Seismic Category I and I(L) piping a for the Design, Fabrication, and Erection of Structural s are designed in accordance with the same specification. ations 3.6, 3.7, 3.9, and 5.4.14.
(5) FSAR Page			
3.8-59 thru 3.8-62			
 (6) Design Documents 4RW0531-X2-06R3 N4-9R-D701 G-29C 			
	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATEMENT		
	Design Documents and FSAR Consistent	Minor Inconsistencie FSAR and Design Do	
(9) <u>DISCUSSION OF FINDI</u>	NG		
Design output documents	and the FSAR are consistent.		
<u>E, Wayne Rosenbalm 1/14/86</u> Investigator Date	Martin Bailey 01/14/86 Approver Date		WELDING PROJECT REVIEW: All Al. Hatmades <u>8-6-92</u> Approver Date

supports for Seismic Category I and I(L) piping the Design, Fabrication, and Erection of Structural lesigned in accordance with the same specification. 3.6, 3.7, 3.9, and 5.4.14.
he Design, Fabrication, and Erection of Structural lesigned in accordance with the same specification.
he Design, Fabrication, and Erection of Structural lesigned in accordance with the same specification.
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ween FSAR is not Consistent ents with Design Documents
DING PROJECT REVIEW: <u>Casl. W. Hatmake</u> <u>8-6-42</u> Approver Date







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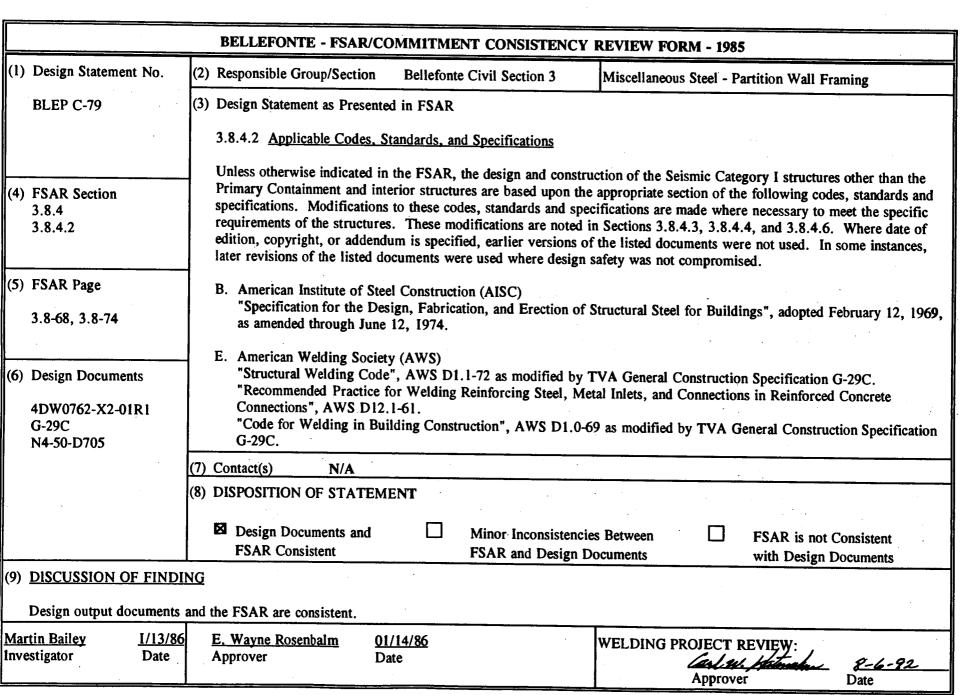
	······································	BELLEFONTE - FSAR/COMMITMENT COM	SISTENCY REVIEW FORM - 1985		
(1)	Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Se	ection 3 Miscellaneous Steel - Cable Tray Supports & Walkway		
	BLEP C-77	(3) Design Statement as Presented in FSAR			
		3.8.4.2 Applicable Codes, Standards, and Specifi	cations		
	FSAR Section 3.8.4 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.			
	FSAR Page 3.8-68, 3.8-74	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 			
	Design Documents 4RW0540-X2-13R12 4RW0540-X2-01R12 N4-50-D728 G-29C	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT 			
		Design Documents and Minor	Inconsistencies Between FSAR is not Consistent and Design Documents with Design Documents		
(9)	DISCUSSION OF FIND	ING			
	Design output documents	and the FSAR are consistent.			
	Wayne Rosenbalm 1/14/8 estigator Date	5 <u>Martin Bailey</u> <u>01/14/86</u> Approver Date	WELDING PROJECT REVIEW:		

	BELLEFONTE - FSAR/COMMITMENT CONSIS	TENCY REVIEW FORM - 1985		
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section	n 3 Miscellaneous Steel - Bridge Crane Rails		
BLEP C-78	(3) Design Statement as Presented in FSAR			
	3.8.4.2 Applicable Codes, Standards, and Specificati	<u>ons</u>		
4) FSAR Section 3.8.4 3.8.4.2	Primary Containment and interior structures are based specifications. Modifications to these codes, standard requirements of the structures. These modifications a	nd construction of the Seismic Category I structures other than the l upon the appropriate section of the following codes, standards and s and specifications are made where necessary to meet the specific re noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of versions of the listed documents were not used. In some instances, re design safety was not compromised.		
(5) FSAR Page 3.8-68, 3.8-74	AR Page B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted Feb			
(6) Design Documents 4DW0751-X2-1R2 G-29C N4-50-D705	"Recommended Practice for Welding Reinforcing Connections", AWS D12.I-61.	dified by TVA General Construction Specification G-29C. Steel, Metal Inlets, and Connections in Reinforced Concrete VS D1.0-69 as modified by TVA General Construction Specification		
	(7) Contact(s) N/A			
	(8) DISPOSITION OF STATEMENT			
		onsistencies BetweenImage: FSAR is not ConsistentDesign Documentswith Design Documents		
(9) DISCUSSION OF FI	NDING			
Design output docum	ents and the FSAR are consistent.	·		
	<u>1/86 E. Wayne Rosenbalm</u> <u>01/14/86</u> Date Approver Date	WELDING PROJECT REVIEW:		









	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 1985				
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Miscellaneous Steel - Embedded Parts				
BLEP C-80	(3) Design Statement as Presented in FSAR				
	3.8.4.2 <u>Applicable Codes. Standards, and Specifications</u> Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the				
(4) FSAR Section 3.8.4 3.8.4.2	Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.				
(5) FSAR Page 3.8-68, 3.8-74	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 				
(6) Design Documents 4DW0752-X2-1R9 G-29C N4-50-D705	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. 				
	(7) Contact(s) N/A				
	(8) DISPOSITION OF STATEMENT				
	Image: Design Documents and FSAR ConsistentMinor Inconsistencies Between FSAR and Design DocumentsFSAR is not Consistent with Design Documents				
(9) DISCUSSION OF FIND	ING				
Design output documents	and the FSAR are consistent.				
<u>Martin Bailey 1/13/8</u> Investigator Date	6 E. Wayne Rosenbalm 01/14/86 WELDING PROJECT REVIEW: Approver Date Cash at Hatmach \$-6-92 Approver Date Date				

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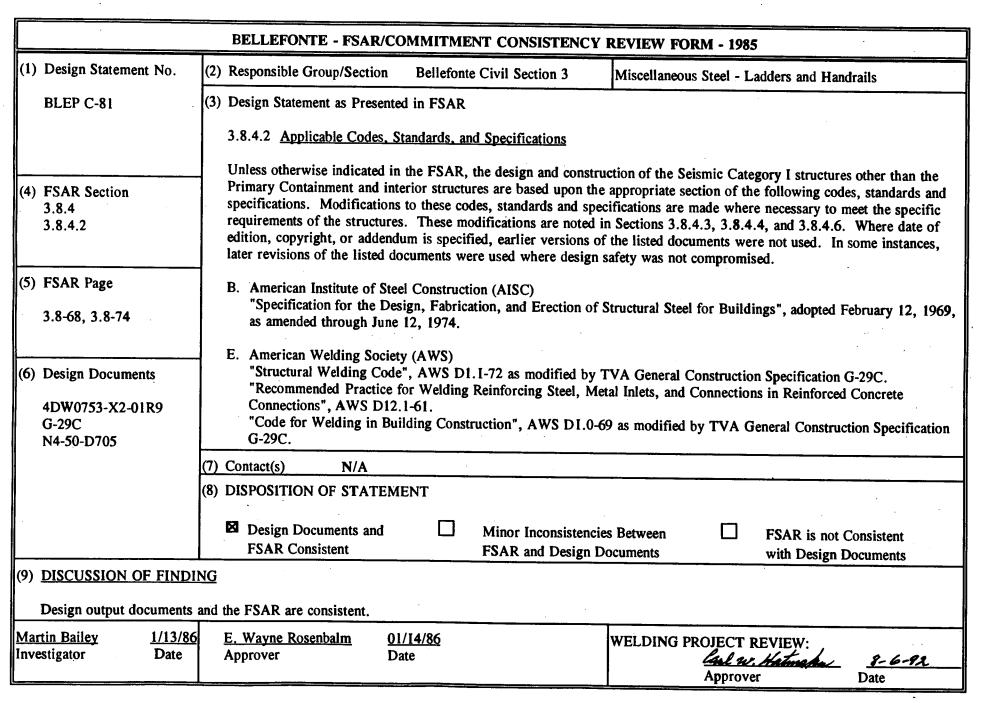
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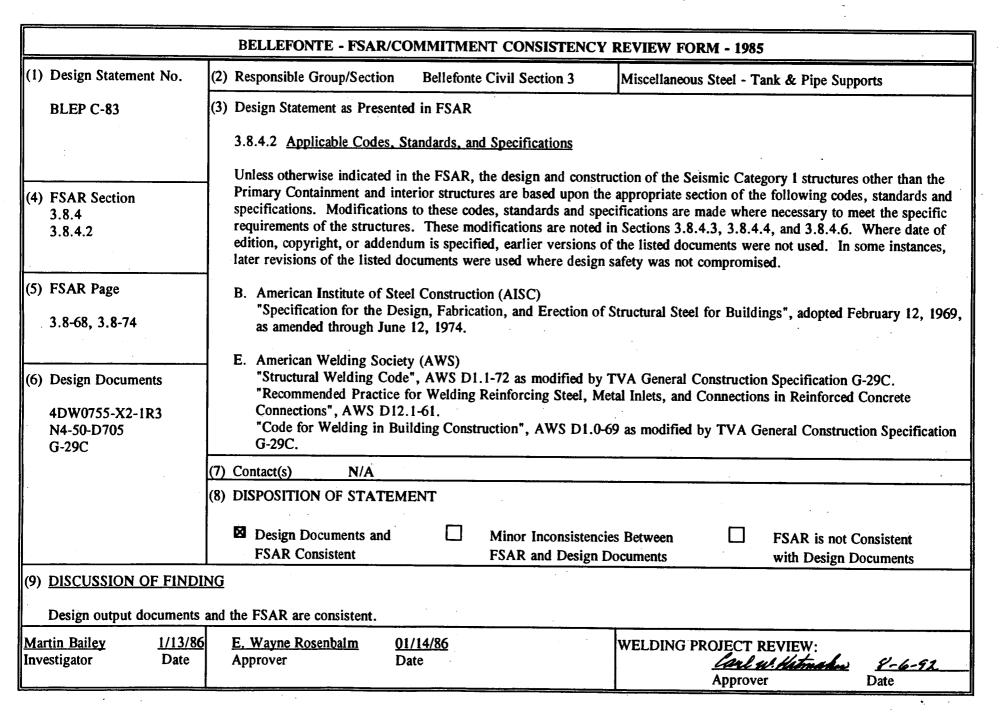




(1) Design Statement No.	(2) Responsible Group/Section Bel	llefonte Civil Section 3	Miscellaneous Steel - Embedded Steel	
BLEP C-82	(3) Design Statement as Presented in F 3.8.4.2 <u>Applicable Codes, Standar</u> Unless otherwise indicated in the F	rds, and Specifications	- -	
(4) FSAR Section 3.8.4 3.8.4.2	specifications. Modifications to the requirements of the structures. The edition, copyright, or addendum is	ese codes, standards and spe ese modifications are noted i specified, earlier versions of	uction of the Seismic Category I structures other than the e appropriate section of the following codes, standards an cifications are made where necessary to meet the specific in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of f the listed documents were not used. In some instances, safety was not compromised.	
(5) FSAR Page 3.8-68, 3.8-74	 later revisions of the listed documents were used where design safety was not compromised. B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 			
(6) Design Documents 4DW0754-X2-5R4 4DW0754-X2-1R7 G-29C	Connections", AWS D12.1-61.	VS D1.1-72 as modified by T elding Reinforcing Steel, Me	TVA General Construction Specification G-29C. etal Inlets, and Connections in Reinforced Concrete 69 as modified by TVA General Construction Specificatio	
N4-50-D705	(7) Contact(s) N/A	<u></u>		
	 (8) DISPOSITION OF STATEMENT Design Documents and FSAR Consistent 	Minor Inconsistencie FSAR and Design D		
(9) <u>DISCUSSION OF FIND</u> Design output documents	S and the FSAR are consistent.		ocuments with Design Documents	
Martin Bailey1/13/8nvestigatorDate	6 <u>E. Wayne Rosenbalm</u> 01/14/86 Approver Date	5	WELDING PROJECT REVIEW:	







	BELLEFONTE - FSAR/CO	OMMITMENT CONSISTENCY	Y REVIEW FORM - 1985	
1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Embedded Plates	
BLEP C-84	(3) Design Statement as Presente	ed in FSAR		
	3.8.4.2 Applicable Codes, S	Standards, and Specifications		
			truction of the Seismic Category I structures other than the	
4) FSAR Section3.8.43.8.4.2	specifications. Modifications requirements of the structure edition, copyright, or addence	s to these codes, standards and speed. These modifications are noted	he appropriate section of the following codes, standards and pecifications are made where necessary to meet the specific d in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of of the listed documents were not used. In some instances, in safety was not compromised.	
5) FSAR Page	B. American Institute of Ste			
3.8-68, 3.8-74	•	"Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974.		
(6) Design Documents G-29C N4-50-D705 4DW0756-X2-1R2	"Recommended Practice Connections", AWS D12	le", AWS D1.1-72 as modified b for Welding Reinforcing Steel, 1 2.1-61.	y TVA General Construction Specification G-29C. Metal Inlets, and Connections in Reinforced Concrete 0-69 as modified by TVA General Construction Specification	
4DW0756-X2-2R1	(7) Contact(s) N/A		· · · · · · · · · · · · · · · · · · ·	
	(8) DISPOSITION OF STATEM	MENT		
	Design Documents and FSAR Consistent	Minor Inconsister FSAR and Design		
(9) DISCUSSION OF FIN	<u>IDING</u>			
Design output docume	ents and the FSAR are consistent.			
Martin Bailey 1/14 Investigator Date		01/14/86 Date	WELDING PROJECT REVIEW: Carl w. Hatmahan 8-6-92	











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	BELLEFONTE - FSAR/COMMITMENT CONSISTENC	CY REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3	Miscellaneous Steel - Handrails
BLEP C-85	(3) Design Statement as Presented in FSAR	
	3.8.4.2 Applicable Codes, Standards, and Specifications	
(4) FSAR Section 3.8.4 3.8.4.2	Primary Containment and interior structures are based upon specifications. Modifications to these codes, standards and s requirements of the structures. These modifications are note	astruction of the Seismic Category I structures other than the the appropriate section of the following codes, standards and specifications are made where necessary to meet the specific ed in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of as of the listed documents were not used. In some instances, ign safety was not compromised.
5) FSAR Page 3.8-68, 3.8-74	B. American Institute of Steel Construction (AISC)	of Structural Steel for Buildings", adopted February 12, 196
6) Design Documents 4RW0807-X2-01R2 N4-50-D705 G-29C	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified to "Recommended Practice for Welding Reinforcing Steel, Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1. G-29C. 	by TVA General Construction Specification G-29C. Metal Inlets, and Connections in Reinforced Concrete .0-69 as modified by TVA General Construction Specification
	(7) Contact(s) N/A	
	(8) DISPOSITION OF STATEMENT	
	 Design Documents and FSAR Consistent Minor Inconsistent FSAR and Design 	
9) <u>DISCUSSION OF FINDI</u>	NG	
Design output documents	and the FSAR are consistent.	
Design output documents		

(1) Design Statement No. (2) Responsible Group/Section Bellefonte Civil Section 3 Miscellaneous Steel - Blowout Panels (3) Design Statement as Presented in FSAR (3) Design Statement as Presented in FSAR (4) FSAR Section 3.8.4 3.8.4.2 Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures primary Containment and interior structures are based upon the appropriate section of the following code specifications. Modifications to these codes, standards and specifications are made where necessary to m requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In s later revisions of the listed documents were used where design safety was not compromised. (5) FSAR Page B. American Institute of Steel Construction (AISC) 3.8-68, 3.8-74 "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted Fe as amended through June 12, 1974. (6) Design Documents "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Connections", AWS D1.0-69 as modified by TVA General Construct G-29C. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT Minor Inconsistencies Between FSAR is not O	· · · ·
3.8.4.2 Applicable Codes, Standards, and Specifications (4) FSAR Section 3.8.4 3.8.4.2 (4) FSAR Section 3.8.4 3.8.4 3.8.4.2 (5) FSAR Page 3.8-68, 3.8-74 (6) Design Documents 4RW0808-X2-01R3 (7) Contact(s) (8) DISPOSITION OF STATEMENT	
(4) FSAR Section 3.8.4 3.8.4 Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures primary Containment and interior structures are based upon the appropriate section of the following code specifications. Modifications to these codes, standards and specifications are made where necessary to m requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In s later revisions of the listed documents were used where design safety was not compromised. (5) FSAR Page 3.8-68, 3.8-74 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted F4 as amended through June 12, 1974. (6) Design Documents 4RW0808-X2-01R3 N4-50-D705 G-29C E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification O "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construct G-29C. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT	
3.8-68, 3.8-74 "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted For as amended through June 12, 1974. (6) Design Documents "Structural Welding Society (AWS) 4RW0808-X2-01R3 "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification Of "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Connections", AWS D12.1-61. G-29C "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construct G-29C. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT	s, standards and eet the specific Where date of
 (6) Design Documents * Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification C "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construct G-29C. (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT 	ebruary 12, 1969,
(8) DISPOSITION OF STATEMENT	Concrete
FSAR Consistent FSAR and Design Documents with Design D	
(9) <u>DISCUSSION OF FINDING</u> Design output documents and the FSAR are consistent.	
Martin Bailey Investigator1/15/86 DateE. Wayne Rosenbalm Approver01/16/86 DateWELDING PROJECT REVIEW: LateInvestigatorDateDateInvestigatorInvestigatorApproverDateDateApprover	<u>8-6-92</u> Date

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• •	BELLEFONTE - FSAR/CO	DMMITMENT CONSISTENC	Y REVIEW FORM - 1985	
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Frames, Gra	ting & Ladders
BLEP C-87	(3) Design Statement as Presente	d in FSAR	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
	3.8.4.2 Applicable Codes, Standards, and Specifications			
(4) FSAR Section 3.8.4 3.8.4.2	Primary Containment and into specifications. Modifications requirements of the structures edition, copyright, or addend	erior structures are based upon t to these codes, standards and s s. These modifications are note	truction of the Seismic Category I struct he appropriate section of the following pecifications are made where necessary d in Sections 3.8.4.3, 3.8.4.4, and 3.8. of the listed documents were not used in safety was not compromised	codes, standards and to meet the specific 4.6. Where date of
(5) FSAR Page 3.8-68, 3.8-74	B. American Institute of Stee	el Construction (AISC) sign, Fabrication, and Erection of 12, 1974.	of Structural Steel for Buildings", adop	ted February 12, 1969
(6) Design Documents D.C. N4-Y7D701A 8YW0200-X2-01R7 G-29C	"Structural Welding Code "Recommended Practice f Connections", AWS D12.	e", AWS D1.1-72 as modified b for Welding Reinforcing Steel, 1 .1-61.	y TVA General Construction Specifica Metal Inlets, and Connections in Reinfo D-69 as modified by TVA General Con	orced Concrete
	(7) Contact(s) N/A			
	 (8) DISPOSITION OF STATEM Design Documents and FSAR Consistent 	ENT Minor Inconsisten FSAR and Design		not Consistent ign Documents
(9) DISCUSSION OF FINI Design output document	DING and the FSAR are consistent.			
L. R. Madison, Jr. 1/13/8 Investigator Date		<u>1/14/86</u> ate	WELDING PROJECT REVIEW:	8-6-92

	BELLEFONTE - FSAR/CO	OMMITMENT CONSISTENC	Y REVIEW FORM - 1985	
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Structural Steel - Tank Liner	
BLEP C-88	(3) Design Statement as Presente	ed in FSAR		
· · · · ·	3.8.4.2 Applicable Codes. S	standards, and Specifications		
(4) FSAR Section 3.8.4 3.8.4.2	Primary Containment and inter- specifications. Modifications requirements of the structure edition, copyright, or addented	terior structures are based upon s to these codes, standards and s s. These modifications are note	truction of the Seismic Category I structure the appropriate section of the following cod pecifications are made where necessary to d in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6 of the listed documents were not used. In gn safety was not compromised.	les, standards and meet the specific . Where date of
(5) FSAR Page 3.8-68, 3.8-74	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 			
 (6) Design Documents D.C. N4-Y7D701A 8YW0208-X2-01R9 G-29C 	"Recommended Practice Connections", AWS D12	e", AWS D1.1-72 as modified to for Welding Reinforcing Steel, 2.1-61.	by TVA General Construction Specification Metal Inlets, and Connections in Reinforce 0-69 as modified by TVA General Constru	d Concrete
	(7) Contact(s) N/A			
· · · ·	(8) DISPOSITION OF STATEM	1ENT		
	Design Documents and FSAR Consistent	Minor Inconsister FSAR and Desig		
(9) DISCUSSION OF FINI	DING	······································	· · · · · ·	
Design output document	ts and the FSAR are consistent.			
L. R. Madison, Jr. 1/14/8 Investigator Date	86 <u>E. Wayne Rosenbalm</u> (01/14/86 Date	WELDING PROJECT REVIEW:	8-6-92
-			Approver	Date

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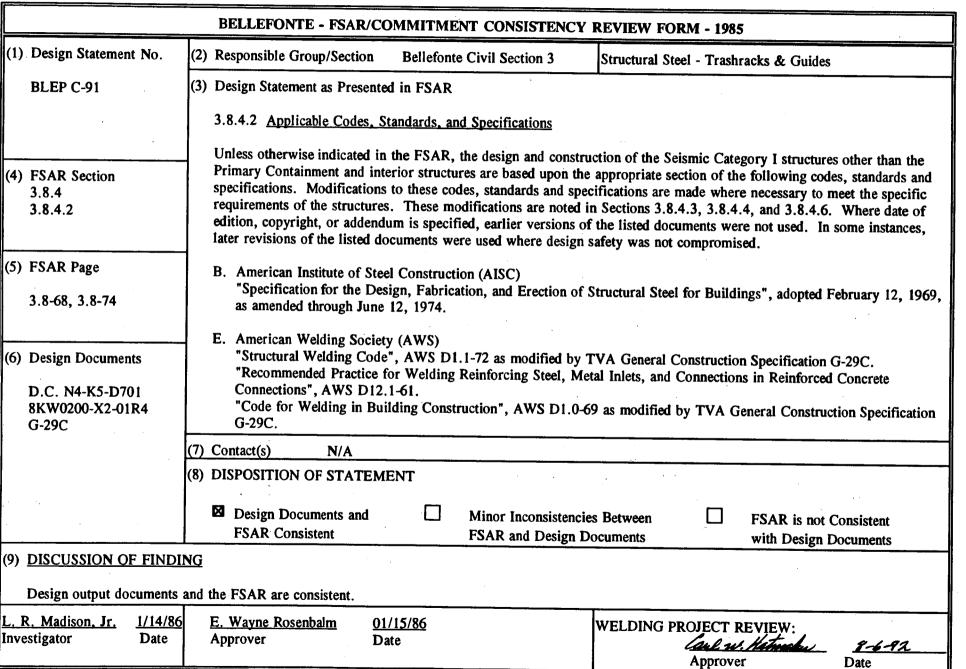


	BELLEFONTE - FSAR/C	OMMITMENT CONSISTENCY	REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Structural Steel - Tank Liner
BLEP C-89	(3) Design Statement as Present	ed in FSAR	
	3.8.4.2 <u>Applicable Codes</u> ,	Standards, and Specifications	
(4) FSAR Section 3.8.4 3.8.4.2	Primary Containment and in specifications. Modification requirements of the structure edition, copyright, or adden	terior structures are based upon th s to these codes, standards and spees. These modifications are noted	ruction of the Seismic Category I structures other than the e appropriate section of the following codes, standards and ecifications are made where necessary to mect the specific in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of of the listed documents were not used. In some instances, a safety was not compromised.
(5) FSAR Page 3.8-68, 3.8-74	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 196 as amended through June 12, 1974. 		Structural Steel for Buildings", adopted February 12, 1969,
(6) Design Documents D.C. N4-Y7D701A 8YW0208-X2-05R9 8YW0208-X2-01R9	"Recommended Practice Connections", AWS D12	e", AWS D1.1-72 as modified by for Welding Reinforcing Steel, M 2.1-61.	TVA General Construction Specification G-29C. etal Inlets, and Connections in Reinforced Concrete 69 as modified by TVA General Construction Specification
8YW0208-X2-02R6 G-29M	(7) Contact(s) N/A (8) DISPOSITION OF STATEM	IENT	
	Design Documents and FSAR Consistent	Minor Inconsistenc FSAR and Design	
(9) DISCUSSION OF FINDI	NG		
Design output documents	and the FSAR are consistent.		
<u>L. R. Madison, Jr. 1/14/86</u> Investigator Date		01/15/86 Date	WELDING PROJECT REVIEW:

	BELLEFONTE - FSAR/COMMITMENT CONSIST	ENCY REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section	3 Miscellaneous Steel - Ladder & Platform
BLEP C-90	(3) Design Statement as Presented in FSAR	
	3.8.4.2 Applicable Codes, Standards, and Specification	
(4) FSAR Section 3.8.4 3.8.4.2	Primary Containment and interior structures are based u specifications. Modifications to these codes, standards requirements of the structures. These modifications are	construction of the Seismic Category I structures other than the pon the appropriate section of the following codes, standards and and specifications are made where necessary to meet the specific noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of sions of the listed documents were not used. In some instances, design safety was not compromised.
(5) FSAR Page 3.8-68, 3.8-74	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 196 as amended through June 12, 1974. 	
	E. American Welding Society (AWS)	ied by TVA General Construction Specification G-29C.
 (6) Design Documents D.C. N4-Y7D701A 8YW0209-X2-02R3 8YW0209-X2-01R2 	"Recommended Practice for Welding Reinforcing S Connections", AWS D12.1-61.	teel, Metal Inlets, and Connections in Reinforced Concrete D1.0-69 as modified by TVA General Construction Specification
G-29C	(7) Contact(s) N/A	
	(8) DISPOSITION OF STATEMENT	
		Isistencies Between FSAR is not Consistent Design Documents with Design Documents
(9) DISCUSSION OF FIN	DING	
Design output documen	its and the FSAR are consistent.	
L. R. Madison, Jr. 1/14/ Investigator Date	<u>/86 E. Wayne Rosenbalm 01/15/86</u>	WELDING PROJECT REVIEW: Carl W. Hatmann 8-6-93 Approver Date





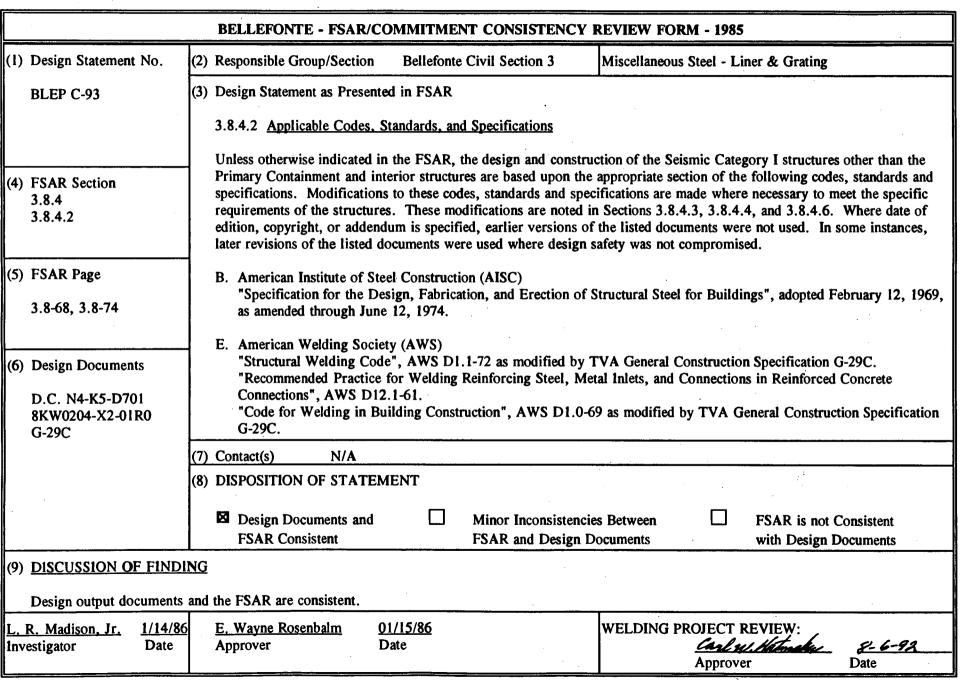


	BELLEFONTE - FSAR/C	OMMITMENT (CONSISTENCY REVIEW FO	PRM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civ	il Section 3 Miscellaneou	us Steel - Frames & Covers
BLEP C-92	(3) Design Statement as Presente	ed in FSAR		
· · · · · · · · · · · · · · · · · · ·	3.8.4.2 <u>Applicable Codes.</u>	-		eismic Category I structures other than the
(4) FSAR Section 3.8.4 3.8.4.2	Primary Containment and in specifications. Modification requirements of the structure edition, copyright, or addence	terior structures a s to these codes, es. These modifie dum is specified,	re based upon the appropriate s standards and specifications are cations are noted in Sections 3.8	ection of the following codes, standards and made where necessary to meet the specific 3.4.3, 3.8.4.4, and 3.8.4.6. Where date of cuments were not used. In some instances,
(5) FSAR Page 3.8-68, 3.8-74	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, as amended through June 12, 1974. 		el for Buildings", adopted February 12, 1969,	
(6) Design Documents D.C. N4-K5-D701 8KW0203-X2-01R9 G-29C	"Recommended Practice Connections", AWS D12	le", AWS D1.1-7 for Welding Rein 2.1-61.	nforcing Steel, Metal Inlets, and	Construction Specification G-29C. Connections in Reinforced Concrete by TVA General Construction Specification
	(7) Contact(s) N/A			
	 (8) DISPOSITION OF STATEM Ø Design Documents and FSAR Consistent 	Пм	inor Inconsistencies Between SAR and Design Documents	FSAR is not Consistent with Design Documents
(9) DISCUSSION OF FINE	DING	· •		
Design output document	s and the FSAR are consistent.			
<u>L. R. Madison, Jr. 1/14/8</u> Investigator Date		<u>)1/15/86</u> Date	WELDING	PROJECT REVIEW: <i>And Mathematic</i> <u>8-6-97</u> Approver Date









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	BELLEFONTE - FSAR/COMMITMENT CONSISTE	ENCY REVIEW FORM - 1985	
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3	Miscellaneous Steel - Platforms, Embeds, & Ladders	
BLEP C-94	(3) Design Statement as Presented in FSAR		
	3.8.4.2 Applicable Codes, Standards, and Specifications	L	
(4) FSAR Section 3.8.4 3.8.4.2	Primary Containment and interior structures are based up specifications. Modifications to these codes, standards and requirements of the structures. These modifications are n	construction of the Seismic Category I structures other than the bon the appropriate section of the following codes, standards and nd specifications are made where necessary to mect the specific noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of ions of the listed documents were not used. In some instances, lesign safety was not compromised.	
(5) FSAR Page 3.8-68, 3.8-74	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 		
(6) Design Documents D.C. N4-K5-D701 8KW0207-X2-01R10 G-29C	"Recommended Practice for Welding Reinforcing Ste Connections", AWS D12.1-61.	ed by TVA General Construction Specification G-29C. el, Metal Inlets, and Connections in Reinforced Concrete D1.0-69 as modified by TVA General Construction Specification	
	(7) Contact(s) N/A	· · · · · · · · · · · · · · · · · · ·	
	(8) DISPOSITION OF STATEMENT		
	•	istencies Between FSAR is not Consistent esign Documents with Design Documents	
(9) DISCUSSION OF FINI			
Design output document	ts and the FSAR are consistent.		
L. R. Madison, Jr. 1/14/2 Investigator Date	86 <u>E. Wayne Rosenbalm</u> <u>01/15/86</u>	WELDING PROJECT REVIEW:	





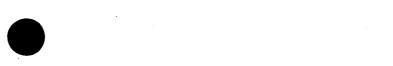




	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 1985	
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Miscellaneous Steel - H&V and Pipe Supports	
BLEP C-95	(3) Design Statement as Presented in FSAR	
	3.8.4.2 Applicable Codes, Standards, and Specifications	
(4) FSAR Section 3.8.4 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to meet the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.	
(5) FSAR Page 3.8-68, 3.8-74	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 196 as amended through June 12, 1974. 	
 (6) Design Documents D.C. N4-50-D716 8KW0208-X2-04R4 8KW0208-X2-01R8 	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C. 	
G-29C	(7) Contact(s) N/A	
	(8) DISPOSITION OF STATEMENT	
	 Design Documents and Minor Inconsistencies Between FSAR is not Consistent FSAR and Design Documents FSAR is not Consistent 	
(9) DISCUSSION OF FINI	DING	
Design output document	s and the FSAR are consistent.	
<u>L. R. Madison, Jr.</u> <u>1/14/3</u> Investigator Date		

······	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY	Y REVIEW FORM - 1985	
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3	Miscellaneous Steel - Cable Tray Supports	
BLEP C-96	(3) Design Statement as Presented in FSAR		
	3.8.4.2 Applicable Codes, Standards, and Specifications		
(4) FSAR Section 3.8.4 3.8.4.2	Unless otherwise indicated in the FSAR, the design and const Primary Containment and interior structures are based upon the specifications. Modifications to these codes, standards and sp requirements of the structures. These modifications are noted edition, copyright, or addendum is specified, earlier versions later revisions of the listed documents were used where design	he appropriate section of the following codes, standards and pecifications are made where necessary to meet the specific d in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of of the listed documents were not used. In some instances,	
(5) FSAR Page 3.8-68, 3.8-74	B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969,		
3.0-00, 3.0-74		as amended through June 12, 1974.	
 (6) Design Documents D.C. N4-50-D728 8KW0209-X2-01R17 G-29C 	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by "Recommended Practice for Welding Reinforcing Steel, N Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0 G-29C. 		
	(7) Contact(s) N/A		
	 (8) DISPOSITION OF STATEMENT Design Documents and Minor Inconsistent FSAR Consistent 		
(9) DISCUSSION OF FINI	DING		
Design output documen	its and the FSAR are consistent.		
<u>L. R. Madison, Jr. 1/14/</u> Investigator Date	/86 <u>E. Wayne Rosenbalm</u> 01/15/86	WELDING PROJECT REVIEW:	







	BELLEFONTE - FSAR/COMMITMENT CONSISTENC	CY REVIEW FORM - 1985	
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3	Miscellaneous Steel - Divider Screens	
BLEP C-97	(3) Design Statement as Presented in FSAR		
	3.8.4.2 <u>Applicable Codes, Standards, and Specifications</u>		
(4) FSAR Section 3.8.4 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction of the Seismic Category I structures other than the Primary Containment and interior structures are based upon the appropriate section of the following codes, standards and specifications. Modifications to these codes, standards and specifications are made where necessary to mect the specific requirements of the structures. These modifications are noted in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of edition, copyright, or addendum is specified, earlier versions of the listed documents were not used. In some instances, later revisions of the listed documents were used where design safety was not compromised.		
(5) FSAR Page 3.8-68, 3.8-74	 B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969, as amended through June 12, 1974. 		
(6) Design Documents D.C. N4-K5-D701 8KW0211-X2-01R2 G-29C	 E. American Welding Society (AWS) "Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specific G-29C. 		
	(7) Contact(s) N/A		
	(8) DISPOSITION OF STATEMENT		
· · ·	Design Documents and FSAR Consistent FSAR and Design		
(9) DISCUSSION OF FIND	DING		
Design output document	ts and the FSAR are consistent.		
L. R. Madison, Jr. 1/14/8 Investigator Date		WELDING PROJECT REVIEW: <u>Carl 11. Hatmak</u> <u>8-6-92</u> Approver Date	

•	BELLEFONTE - FSAR/C	OMMITMENT CONSISTER	NCY REVIEW FORM - 1985	
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Structural Steel - Missile Protection	Framing
BLEP C-98	(3) Design Statement as Presente	ed in FSAR		
	3.8.4.2 <u>Applicable Codes, S</u>			
(4) FSAR Section 3.8.4 3.8.4.2	Primary Containment and int specifications. Modifications requirements of the structure edition, copyright, or addend	terior structures are based upons to these codes, standards and s. These modifications are no lum is specified, earlier version	onstruction of the Seismic Category I structon on the appropriate section of the following d specifications are made where necessary oted in Sections 3.8.4.3, 3.8.4.4, and 3.8. ons of the listed documents were not used. sign safety was not compromised.	codes, standards and to mect the specific 4.6. Where date of
(5) FSAR Page		sign, Fabrication, and Erection	on of Structural Steel for Buildings", adopt	ed February 12, 1969,
3.8-68, 3.8-74	as amended through June	e 12, 1974.		
(6) Design Documents D.C. N4-K5-D701 8KW0212-X2-04R3 8KW0212-X2-01R0	"Recommended Practice Connections", AWS D12	e", AWS D1.1-72 as modified for Welding Reinforcing Stee 2.1-61.	d by TVA General Construction Specificat I, Metal Inlets, and Connections in Reinfo 01.0-69 as modified by TVA General Cons	rced Concrete
G-29C	🛿) Contact (\$) N/A			
	(8) DISPOSITION OF STATEM	IENT		
	Design Documents and FSAR Consistent			not Consistent
(9) DISCUSSION OF FIND	DING			
Design output documents	s and the FSAR are consistent.			
L. R. Madison, Jr. <u>1/14/8</u> Investigator Date		<u>1/15/86</u> Date	WELDING PROJECT REVIEW:	8-6-92
			Approver	Date







	BELLEFONTE - FSAR/CO	MMITMENT CONSISTENCY	REVIEW FORM - 1985						
(1) Design Statement No.	(2) Responsible Group/Section	Bellefonte Civil Section 3	Miscellaneous Steel - Crane Boom Support						
BLEP C-99	(3) Design Statement as Presented	in FSAR							
	3.8.4.2 Applicable Codes, Sta	andards, and Specifications							
	Unless otherwise indicated in t	the FSAR the design and constr	uction of the Seismic Category I structures other than the						
(4) FSAR Section	Primary Containment and inte	rior structures are based upon th	e appropriate section of the following codes, standards and ecifications are made where necessary to meet the specific						
3.8.4 3.8.4.2	requirements of the structures.	These modifications are noted	in Sections 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of						
5.0.7.2	edition, copyright, or addendu later revisions of the listed do	m is specified, earlier versions of cuments were used where design	of the listed documents were not used. In some instances, a safety was not compromised.						
(5) FSAR Page	-4		•						
	B. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", adopted February 12, 1969,								
3.8-68, 3.8-74	as amended through June 12, 1974.								
	E. American Welding Society	/ (AWS) " AWS D1 1-72 as modified by	TVA General Construction Specification G-29C.						
(6) Design Documents	"Recommended Practice for	or Welding Reinforcing Steel, N	letal Inlets, and Connections in Reinforced Concrete						
D.C. N4-K5-D701 8KW0213-X2-01R1	Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification								
G-29C	G-29C.		-						
	(7) Contact(s) N/A								
	(8) DISPOSITION OF STATEM	ENT							
	Design Documents and	Minor Inconsisten							
	FSAR Consistent	FSAR and Design	Documents with Design Documents						
(9) <u>DISCUSSION OF FIN</u>	DING								
Design output documen	ts and the FSAR are consistent.	· · · · · · · · · · · · · · · · · · ·							
L, R. Madison, Jr. 1/14/		/15/86	WELDING PROJECT REVIEW:						
Investigator Date	Approver D	ate	Approver Date						

· · · · · · · · · · · · · · · · · · ·	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVI	IEW FORM - 1985									
(1) Design Statement No.	(2) Responsible Group/Section Bellefonte Civil Section 3 Instr	rument Tubing Support									
BLEP C-100	(3) Design Statement as Presented in FSAR	(3) Design Statement as Presented in FSAR									
	3.8.4.2 Applicable Codes, Standards, and Specifications										
(4) FSAR Section 3.8.4 3.8.4.2	Unless otherwise indicated in the FSAR, the design and construction Primary Containment and interior structures are based upon the appro- specifications. Modifications to these codes, standards and specificat requirements of the structures. These modifications are noted in Sec edition, copyright, or addendum is specified, earlier versions of the l later revisions of the listed documents were used where design safety	opriate section of the following codes, standards and tions are made where necessary to meet the specific tions 3.8.4.3, 3.8.4.4, and 3.8.4.6. Where date of listed documents were not used. In some instances,									
(5) FSAR Page	B. American Institute of Steel Construction (AISC)										
3.8-68, 3.8-74	"Specification for the Design, Fabrication, and Erection of Struct as amended through June 12, 1974.	tural Steel for Buildings", adopted February 12, 1969,									
	E. American Welding Society (AWS)										
 (6) Design Documents D.C. N4-50-D702 4BA0895-X2-6R1 4BA0895-X2-1R0 	"Structural Welding Code", AWS D1.1-72 as modified by TVA General Construction Specification G-29C. "Recommended Practice for Welding Reinforcing Steel, Metal Inlets, and Connections in Reinforced Concrete Connections", AWS D12.1-61. "Code for Welding in Building Construction", AWS D1.0-69 as modified by TVA General Construction Specification G-29C.										
G-29M	(7) Contact(s) N/A										
	(8) DISPOSITION OF STATEMENT										
	 Design Documents and FSAR Consistent Minor Inconsistencies Ber FSAR and Design Documents 										
(9) DISCUSSION OF FIN	IDING	· ·									
Design output documer	nts and the FSAR are consistent.										
L. R. Madison, Jr. 1/14/ Investigator Date	<u>/86 E. Wayne Rosenbalm 01/15/86</u> WE	ELDING PROJECT REVIEW: <u>Arl W. Haturaka</u> <u>8-6-92</u> Approver Date									



Attachment C Mechanical Welding Commitment Consistency Sample

ACCEPTANCE CRITERIA FOR DESIGN REVIEW

Mechanical Design Output Documents

Acceptance criteria for judging adequate delineation of the welding commitments by the design output documents for mechanical systems were the identification of the TVA classification for the system and reference of the construction specification containing welding processes and requirements. The TVA classification identified applicable codes and standards for the system design, fabrication and testing. The construction specifications listed acceptable processes for welding and NDE requirements.

MECHANICAL WELDING ANSI - ASME - SMACNA QUANTITIES OF WELDING COMMITMENT PACKAGES BY SYSTEM



	SYSTEM	PKGS		SYSTEM	PKGS
CA	Auxiliary Feedwater	4	RK	Compressed Air	1
CF	Main Feedwater	6	RT	Standby Diesel Generator	1
CR	Startup and Recirculation	4	SA	Auxiliary Steam	1
FF	Diesel Generator Fuel Oil	2	SM	Main Steam	3
GN	Nitrogen	1	sv	Misc. Main Steam & Safety Vlv Vents	3
GS	Hydrogen	1	VA	Aux. Bldg. ESF Heat & Vent	1
кс	Component Cooling	3	VB	Aux. Bldg. Fuel Handling Area H&V	1
KD	Control Rod Drive	1	vc	Aux. Bldg. Common Area Heat & Vent	1
KE	Essential Raw Cooling Water	4	VE	Aux. Bldg. Trained Area Air Cond.	1
NB	Chemical Addition & Boron Recovery	1	VF	Aux. Bldg. Common Area Air Cond.	1
NC	Reactor Coolant	2	VH	Reactor Bldg. Vent & Purge	1
ND	Decay Heat Removal	4	VJ	Reactor Bldg. Cooling	
NI	Containment Isln. & Leak Test	1	VK	Control Bldg. ESF HVAC	1
NK	Reactor Coolant Drains & Vents	3	VL	Control Bldg. Non-ESF HVAC	1
NL	Core Flooding	3	VP	Intake Pumping Station Heat & Vent	1
NM	Spent Fuel Cooling	6	vx	Secondary Containment Air Cleanup	1
NS	Reactor Building Spray	3	WD	Liquid Waste Disposal	4
NV	Makeup and Purification	7	WG	Gaseous Waste Disposal	1
PT	Fuel Transfer Tube	1	YQ	Sampling and Water Quality	1
RE	Demin. Makeup Water	1	YQ	Post Accident Sampling	1
RF	High Pressure Fire Protection	1	YR	Steam Generator Chemical Cleaning	1
RG	Starting Air	1	ZR	Reactor Bldg. Vacuum Relief	1
RI	Control Air	1	ZT	Containment Integrated Leak Rate Test	1
RJ	Essential Air	1		TOTAL PKGS	92

TOTAL NUMBER OF SYSTEMS REVIEWED = 47

SUMMARY OF MECHANICAL WELDING REQUIREMENTS OUTPUT

LEGEND

BELLEFONTE NUCLEAR PLANT

STATUS	OF EVALUA	TION	SYSTEM LIST	
STAT -	C= CONS M= MINO I= INCON	R INCONSISTENCY	CA= AUXILIARY FEEDWATER CR= STARTUP & RECIRCULATION FF= DIESEL GEN FUEL OIL	RJ= ESSENTIAL AIR RK= COMPRESSED AIR RT= STANDBY DIESEL GENERATOR AND
TYPE OF	WELD JOI	π	GN≖ NITROGEN GS= HYDROGEN KC= COMPONENT COOLING	CONTROLS SA= AUXILIARY STEAM
WELD TYPE-	FW= FILL FP= FULL	KET WELD	KD= CONTROL ROD DRIVE COOLII KE= ESSENTIAL RAW COOLING W/ NB= CHEMICAL ADDITION AND BO RECOVERY NC= REACTOR COOLANT ND= DEACY HEAT REMOVAL	ATER MAIN STEAM DRON VA= AUX BLDG TRAINED AREA H&V VB= AUX BLDG FUEL HANDLING AREA H&V VC= AUX BLGD COMMON AREA H&V VE= AUX BLDG TRAINED AREA AC
PIPING SY	STEM CLA	SSIFICATION	NI= CONTAINMENT ISOLATION, PENETRATIONS, AND LEAKAGE NK= REACTOR COOLANT SYSTEM	VF= AUX BLDG COMMON AREA AC TEST VH= REACTOR BLDG VENT AND PURGE DRAINS VJ= REACTOR BLDG AC AND COOLING
	ANS SAFETY CLASS	CODE JURISDICTION	AND VENTS NL= CORE FLOODING NM= SPENT FUEL COOLING	VK= CONTROL BLDG ESF HVAC VL= CONTROL BLDG NON-ESF AREAS HVAC
III1S	1	ASME B&PV CODE SECTION III CLASS 1	NS= REACTOOR BUILDING SPRAY NV= MAKEUP AND PURIFICATION PT= SLEEVES (FUEL TRANSFER TU	WD= WASTE DISPOSAL INCLUDING WG WIL AND WS
III2S	2	ASME B&PV CODE SECTION III CLASS 2	RE= DEMINERALIZED WATER RF= HP FIRE PROTECTION	WG= GASEOUS RADWASTE DISPOSAL
11135	3	ASME B&PV CODE SECTION III CLASS 3	RG= DIESEL GENERATOR STARTIN RI= CONTROL AIR	
31.1		ANSI POWER PIPING		ZT= REACTOR BLDG PRESSURE LEAKAGE TEST
-	. 3	CODE B31.1.0 SMACNA H&V DUCT CONSTRUCTION STANDARD	APPLICATION LIST BOSS= RAISED FITTING	FLHS= FLEX HOSE SOCKET WELD STRT= STRUCTURAL
			DUCT≖ AIR PASSAGE FITT≖ FITTINGS	FLHS= FLEX HOSE SOCKET WELD STRT= STRUCTURAL FLNG= FLANGE TUBE= TUBING NOZZ= NOZZLE VALV= VALVE PIPE= PIPING WDOL= WELD-O-LET

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SUMMARY OF MECHANICAL WELDING REQUIRMENTS OUTPUT ANSI - ASME - SMACNA

BELLEFONTE NUCLEAR PLANT

PACKAG	ECN		CODE/STANDARD	FSAR	EVAL		TVA	OUTPUT	1			DESIGN	DECION
NUMBER	NUMBER	YR	COMMITMENT	LOCATION	STAT	Isys			APPLICATION			INPUT DOC	DESIGN
BLM01	NA		ASME III3	9.2.2.2			11135			the second second			OUTPUT DOCUMENTS
				0.2.2.2	Ĭ		11133	ASME IIIS	PIPE-BOSS	BR		FSAR,CODES	DCD, PHYS, NDE SHT,
BLM02	NA		ASME III3	9.2.2.2	c	кс	11135	A 0145 1110				DES CRITERIA	GEN NOTE DWG
				5.2.2.2		Inc.	11135	ASME IN3	PIPE-VALV	SW		FSAR,CODES	DCD, PHYS, NDE SHT,
BLM03	NA		ASME III3	9.2.2.2		10	11100	1.01.00					GEN NOTE DWG
				5.2.2.2	C	KC	11135	ASME III3	PIPE-VALV	BW		FSAR,CODES	DCD, PHYS, NDE SHT,
BLM04	NA		ASME III2	6.2.2.2.2.2	+	100							GEN NOTE DWG
				0.2.2.2.2.2	C	NS	11128	ASME 1112	PIPE-VALV	SW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM05	NA		ASME III2	6.2.2.2.2.2		-			ļ				GEN NOTE DWG
- 200				0.2.2.2.2.2	С	NS	11125	ASME III2	VALV-VALV	BW		FSAR,CODES	DCD, PHYS, NDE SHT,
BLM06	NA		ASME III2	60000		-						DES CRITERIA	GEN NOTE DWG
DEMOU				6.2.2.2.2.2	C	NS	11125	ASME III2	PIPE-FITT	BW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM07	NA		ASME III2	6 6 6 6		<u> </u>							GEN NOTÉ DWG
DEMOT				6.3.2.3	С	NL	11128	ASME III2	PIPE-FITT	SW	I	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM08	NA		ASME III2	6.3.2.3	<u> </u>	<u> </u>							GEN NOTE DWG
DEWIOU	110		AOME IIIZ	6.3.2.3	С	NL	1112 S	ASME III2	PIPE-VALV	SW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM09	NA		ASME III2	<u></u>	<u> </u>							DES CRITERIA	GEN NOTE DWG
DEMOS			ASME IIIZ	6.3.2.3	С	NL	1112S	ASME III2	PIPE-FLHD	BW			DCD, PHYS, NDE SHT,
BLM10	NA		ASME III1	545400									GEN NOTE DWG
DEWITO				5.1, 5.1.2 &	С	NC	III1S	ASME III1	PIPE-PIPE	BW			DCD,PHYS,NDE SHT,
BLM11	NA			5.2									GEN NOTE DWG
				5.1, 5.1.2 &	С	NC	III1S	ASME III1	PIPE-VALV	BW		FSAR,CODES	DCD,PHYS,NDE SHT,
BLM12	NA			5.2 5.1.2									GEN NOTE DWG
				5.1.2	С	NK	III1S	ASME III1	PIPE-VALV	sw			DCD,PHYS,NDE SHT,
BLM13	NA		ASME III3										GEN NOTE DWG
				5.1.2	С	NK	III3S	ASME III3	FITT-NOZZ	BW	1	FSAR,CODES	DCD,PHYS,NDE SHT,
BLM14	NA		ASME III1	<u> </u>									GEN NOTE DWG
				5.1.2	С	NK	III1S	ASME III1	FITT-FITT	BW		FSAR,CODES	DCD,PHYS,NDE SHT,
BLM15	2106												GEN NOTE DWG
DLMIS	2100	03	ASME III2	10.4.8	C	CR	III2S	ASME III2	PIPE-WDOL	BR	1	FSAR,CODES	DCD,PHYS,NDE SHT,
BLM16	2106		A 014/5 Hig									DES CRITERIA	GEN NOTE DWG
ULM 10	2100	03	ASME III2	10.4.8	С	CR	11125	ASME III2	STRT-PIPE	FP	1	FSAR,CODES	DCD,PHYS,NDE SHT,
BLM17	NA]	DES CRITERIA	GEN NOTE DWG
	NA	ľ		11.2.2 &	C	WD	III2S	ASME III2	VARIOUS	NĂ	1	FSAR,CODES	DCD, PHYS, NDE SHT,
				11.2.4		•			WELDS			DES CRITERIA	GEN NOTE DWG



SUMMARY OF MECHANICAL WELDING REQUIRMENTS OUTPUT ANSI - ASME - SMACNA

BELLEFONTE NUCLEAR PLANT

PACKAG			CODE/STANDARD	FSAR	EVAL		TVA	OUTPUT	1	WELD.	000	DESIGN	
NUMBER	NUMBER	N YR	COMMITMENT	LOCATION		ISYS		CODE	APPLICATIO		1	INPUT DOC	DESIGN
BLM18	NA		ASME III2/3	11.2.2 &	С	WD	11135		VARIOUS	NA			OUTPUT DOCUMENTS
				11.2.4	_				WELDS		'	FSAR,CODES	DCD,PHYS,NDE SHT,
BLM19	NA	Τ	ASME III2	9.2.1.7	C	KE	11125	ASME III2	VARIOUS	NA	<u> </u>	DES CHITEHIA	GEN NOTE DWG
			· .						WELDS			FSAH,CODES	DCD,PHYS,NDE SHT,
BLM20	NA		ASME III3	9.2.1.7	C	KE	11135	ASME III3	VARIOUS	NA		DES CRITERIA	GEN NOTE DWG
		1							WELDS	INA		FSAR,CODES	DCD,PHYS,NDE SHT,
BLM21	NA	1	ASME III2	9.1.3.3.3	c	NM	11125	ASME IN2	VARIOUS	NA			GEN NOTE DWG
									WELDS		1	FSAH,CODES	DCD,PHYS,NDE SHT,
BLM22	NA	1	ASME III3	9.1.3.3.3	C	NM	11135	ASMEINS	VARIOUS	NA		DES CRITERIA	GEN NOTE DWG
									WELDS	INA	1	FSAH,CODES	DCD, PHYS, NDE SHT,
BLM23	NA		ASME III3	9.1.3.3.3	C	NM	11135	A SAAE INO	PIPE-FITT	0.44			GEN NOTE DWG
										BW	1	FSAR,CODES	DCD,PHYS,NDE SHT,
BLM24	NA		ASME III3	9.1.3.3.3	C	NM	11135	AGALE INO	PIPE-FITT			DES CRITERIA	GEN NOTE DWG
					ľ			ASME IIIS		BW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM25	NA		ASME III2	9.2.1.7	c	KE	11125	A CHAIT INO	PIPE-VALV			DES CRITERIA	GEN NOTE DWG
					Ĭ		1112.3		PIPE-VALV	BW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM26	NA		ASME III2	9.2.1.7	C	KE	III2S	AGAE INO	PIPE-FITT			DES CRITERIA	GEN NOTE DWG
					Ŭ		11123	AOME IIIZ	PIPE-FILL	SW		FSAR,CODES	DCD, PHYS, NDE SHT,
BLM27	NA		ASME III2	11.2.4	C	WD	11126	III2ASME					GEN NOTE DWG
								IIIZAOME	WELD-PIPE	BR			DCD, PHYS, NDE SHT,
BLM28	NA	·	ASME III3	11.2.4	C	WD	11120	A SHAF UID	PIPE-VALV				GEN NOTE DWG
					Ŭ		11100	ASME III3	PIPE-VALV	BW	1	FSAR,CODES	DCD,PHYS,NDE SHT,
BLM29	NA		ASME III2	9.1.3.3.3	C	NM	III2S					DES CRITERIA	GEN NOTE DWG
				0.1.0.0.0			11123	ASMEIIIZ	PIPE-FLHD	BW	1	FSAR,CODES	DCD,PHYS,NDE SHT,
BLM30	NA		ASME III3	9.1.3.3.3	c	NM	11120	A CH 415 1110				DES CRITERIA	GEN NOTE DWG
				0.1.0.0.0			1135	ASME III3	PIPE-VALV	sw		FSAR,CODES	DCD,PHYS,NDE SHT,
BLM31	2106	83	ASME III2	10.4.8	C	CR	11125	10145 110					GEN NOTE DWG
		•••		10.4.0			11125	ASME III2	VALV-FITT	BW		FSAR,CODES	DCD,PHYS,NDE SHT,
BLM32	2106	83	ASME III2	10.4.8	c	CR	III2S	10145 1110				DES CRITERIA	GEN NOTE DWG
				10.4.0			11125	ASME III2	PIPE-FLHD	BW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM33	NA		ASME III3	9.5.6	c			4 01 4 7 11 10				DES CRITERIA	GEN NOTE DWG
-2				3.3.0		RG	11135	ASME III3	PIPE-FITT	BW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM34	NA		ASME III3	9.3.4.3									GEN NOTE DWG
				5.0.4.3	С	NB	11135	ASME III3	PIPE-VALV	BW		SAR,CODES	DCD, PHYS, NDE SHT,
			· · · · · · · · · · · · · · · · · · ·								_ 1	DES CRITERIA	GEN NOTE DWG

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BELLEFONTE NUCLEAR PLANT

PACKAG	ECN		CODE/STANDARD	FSAR	EVAL		TVA	OUTPUT	1	WELD	SEIS	DESIGN	DESIGN
NUMBER	NUMBER	YR	COMMITMENT	LOCATION	STAT	SYS	CLS	CODE	APPLICATION			INPUT DOC	OUTPUT DOCUMENTS
BLM35	NA		ASME III3	9.5.4.1	С	FF	11135	ASME III3	PIPE-FITT	BW		FSAR,CODES	DCD, PHYS, NDE SHT.
													GEN NOTE DWG
BLM36	NA		ASME III3	9.5.4.1	С	FF	11135	ASME III3	PIPE-FITT	sw			DCD,PHYS,NDE SHT,
							1			[GEN NOTE DWG
BLM37	NA		ASME III3	9.3.1.1 &	С	RK	11135	ASME III3	FITT-FITT	BW	1		DCD,PHYS,NDE SHT,
				9.3.1.2.2			1				ł		GEN NOTE DWG
BLM38	NA		ASME III2	5.4.7 &	C	ND	11125	III2 ASME	PIPE-FLHD	BW	1		DCD, PHYS, NDE SHT,
				6.3.2.3									GEN NOTE DWG
BLM39	NA		ASME III2	5.4.7 &	С	ND	11125	ASME III2	PIPE-VALV	SW	1		DCD, PHYS, NDE SHT,
				6.3.2.3									GEN NOTE DWG
BLM40	NA		ASME III1	5.4.7 &	С	ND	III1S	ASME III1	PIPE-VALV	BW	1		DCD, PHYS, NDE SHT,
				6.3.2.3								DES CRITERIA	GEN NOTE DWG
BLM41	NA			5.4.7 &	C	ND	11125	ASME III2	FITT-FITT	BW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
				6.3.2. 3								DES CRITERIA	GEN NOTE DWG
BLM42	NA			6.3.2.3 &	С	NV	III1S	ASME III1	PIPE-VALV	SW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
				9.3.6							•	DES CRITERIA	GEN NOTE DWG
BLM43	NA			6.3.2.3 &	С	NV	III1S	ASME III1	PIPE-WDOL	BR	1	FSAR,CODES	DCD, PHYS, NDE SHT,
				9.3.6								DES CRITERIA	GEN NOTE DWG
BLM44	NA			6.3.2.3 &	С	NV	III1S	ASME III1	PIPE-FLHD	BW		FSAR,CODES	DCD, PHYS, NDE SHT,
				9.3.6								DES CRITERIA	GEN NOTE DWG
BLM45	NA			6.3.2.3 &	С	NV	III1S	ASME III1	PIPE-VALV	BW			DCD, PHYS, NDE SHT,
				9.3.6								DES CRITERIA	GEN NOTE DWG
BLM46	NA			6.3.2.3 &	C	NV	III2S	ASME III2	PIPE-FLHD	BW			DCD, PHYS, NDE SHT,
				9.3.6									GEN NOTE DWG
BLM47	NA			6.3.2.3 &	С	NV	III2S	ASME III2	FITT-FITT	BW			DCD, PHYS, NDE SHT,
BLANKA				9.3.6									GEN NOTE DWG
BLM48	NA			6.3.2.3 &	C	NV	1112S	ASME III2	PIPE-VALV	SW	1	FSAR,CODES	DCD,PHYS,NDE SHT,
DI MARO				9.3.6									GEN NOTE DWG
BLM49	NA		ASME III2	10.4.7.3	С	CF	III2S	ASME III2	PIPE-FITT	BW			DCD, PHYS, NDE SHT,
													GEN NOTE DWG
BLM50	NA		ASME III2	10.4.7.3	С	CF	III2S	ASME III2	PIPE-FITT	sw			DCD,PHYS,NDE SHT,
DUME			10115 110										GEN NOTE DWG
BLM51	NA		ASME III2	10.4.7.3	C	CF	1112S	ASME III2	NOZZ-FITT	BW			DCD,PHYS,NDE SHT,
												DES CRITERIA	GEN NOTE DWG



BELLEFONTE NUCLEAR PLANT

PACKAG		CODE/STAN	IDARD FSAR	EVA		TVA	OUTPUT	1	LINE D	10000	1	
NUMBE	RNUMBER	YR COMMITME	NT LOCATION	STAT					WELD	SEIS	DESIGN INPUT DOC	DESIGN
BLM52	NA	ASME III2	10.4.7.3	C	CF	11125		PIPE-FLHD				OUTPUT DOCUMENTS
	1 1			Ŭ		11123	ASME IIIZ	PIPE-FLHD	BW		FSAR,CODES	DCD, PHYS, NDE SHT,
BLM53	NA	ASME III2	10.4.7.2	- c	CF	11125	A CAAE HUS	2 VALV-VALV	-		DES CRITERIA	GEN NOTE DWG
						11120	ASME III2	VALV-VALV	BW		FSAR,CODES	DCD, PHYS, NDE SHT,
BLM54	NA	ASME III2	10.4.7.2	+ c	CF	11125	A CRAFT HID	PIPE-FLHS			DES CRITERIA	GEN NOTE DWG
	1			Ĭ	M	11120	AOME IIIZ	PIPE-FLHS	SW		FSAR,CODES	DCD,PHYS,NDE SHT,
BLM55	NA	ASME III2	10.3.1	- c	SM	11125	A CHAFT INO				DES CRITERIA	GEN NOTE DWG
			10.0.1	Ŭ	OM	11123	ASME IIIZ	PIPE-VALV	BW		FSAR,CODES	DCD, PHYS, NDE SHT,
BLM56	NA	ASME III2	10.3.1	- c	SM	11125	A 01415 1110		-		DES CRITERIA	GEN NOTE DWG
	1 1				SM	11125	ASME III2	FITT-FITT	BW	· 1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM57	NA	ASME III2	10.3.1	Ċ	SM	11100					DES CRITERIA	GEN NOTE DWG
			10.0.1		SM	11125	ASME III2	PIPE-FITT	SW	I.	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM58	NA	ASME III3	10.3.1	+ c	01						DES CRITERIA	GEN NOTE DWG
¥.			10.3.1		SV	11135	ASME III3	PIPE-VALV	BW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM59	NA	ASME III2	10.3.1	- c	SV						DES CRITERIA	GEN NOTE DWG
,			10.3.1	C	SV	III2S	ASME III2	PIPE-PIPE	BW	I	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM60	· NA	ASME III2	10.3.1		014						DES CRITERIA	GEN NOTE DWG
			10.3.1	C	SV	11125	ASME III2	PIPE-VALV	SW		FSAR, CODES	DCD, PHYS, NDE SHT,
BLM61	NA	ASME III2	10.4.9.2		-						DES CRITERIA	GEN NOTE DWG
			10.4.9.2	C	CA	III2S	ASME III2	PIPE-FITT	BW	1	FSAR, CODES	DCD, PHYS, NDE SHT,
BLM62	NA	ASME III3	10.4.9.2	+	<u></u>					;	DES CRITERIA	GEN NOTE DWG
			10.4.9.2	С	CA	11135	ASME III3	PIPE-VALV	SW	1	FSAR,CODES	DCD,PHYS,NDE SHT,
BLM63	NA	ASME III3	10.4.9.2								DES CRITERIA	GEN NOTE DWG
			10.4.9.2	С	CA	11135	ASME III3	PIPE-FITT	BW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM64	NA		10.4.9.5								DES CRITERIA	GEN NOTE DWG
			10.4.9.5	, ,		1135	ASME III3	FITT-VALV	SW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM65	NA	AMSE III2	2010		(10)			-			DES CRITERIA	GEN NOTE DWG
DEMOS		AMOE IIIZ	3.2.1.2	C	GN	1125	ASME III2	PIPE-FLHD	BW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM66	NA	ASME III3		-			· · · · · · · · · · · · · · · · · · ·				DES CRITERIA	GEN NOTE DWG
		ASMEIIIS	10.2.2	C	GS	1135	ASME III3	PIPE-VALV	SW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM67	NA	ASME III3									DES CRITERIA	GEN NOTE DWG
	Π <u>Λ</u>	ASME III3	9.5.1.2		RF	1135	ASME III3	FITT-FITT	BW .	1	FSAR,CODES	DCD,PHYS,NDE SHT,
BLM68	NA		0 0 0 0 0 5 5								DES CRITERIA	GEN NOTE DWG
		ANS SAFETY	UL 3 9.4.5.1	C	VA I	NA	SMANCA	DUCT-DUCT	BW	1 1	FSAR,CODES	DCD, PHYS, MET SHT,
	I	SMACNA				1	1			l r	DES CRITERIA	GEN NOTE DWG

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BELLEFONTE NUCLEAR PLANT

PACKAG	ECN		CODE/STANDARD	FSAR	EVAL		TVA	OUTPUT		WELD	SEIS	DESIGN	DESIGN
NUMBER	NUMBER	YR	COMMITMENT	LOCATION	STAT	SYS	CLS	CODE	APPLICATION		1	INPUT DOC	OUTPUT DOCUMENTS
BLM69	NA		ANS SAFETY CL 3 SMACNA	9.4.1.1	C	VK	NA	SMANCA	DUCT-DUCT	BW	ŀ		DCD,PHYS,MET SHT, GEN NOTE DWG
BLM70	NA		AMSE III2	9.4.8.1	С	٧J	11125	1112	PIPE-FLHD	BW	1	FSAR,CODES	DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM71	NA		AMSE III2	9.2.3.3	С	RE	1112S	1112	PIPE-FLHD	BW	1		DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM72	NA		AMSE III2	9.2.2.2	C	KD	1112S	1112	PIPE-VALV	BW	1		DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM73	NA			6.2.4.2.1 & 6.2.4.2.3	С	РТ	1112S	1112	V-GROOVE	FP	1	FSAR,CODES	DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM74	NA		AMSE III3	9.4.5.2.1	C	VE	III3 S -	1113	FITT-VALV	BW	1	FSAR,CODES	DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM75	NA		AMSE III2	6.2.4.2.1	С	NI	11125	1112	PIPE-FLHD	BW	1	FSAR,CODES	DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM76	NA		AMSE III3	9.4.3.1	C	VF	11135	1113	PIPE-FITT	BW	l(L)	FSAR,CODES	DCD, PHYS, NDE SHT, GEN NOTE DWG
BLM77	NA		ANS SAFETY CL 3 SMACNA	9.4.2.1	C	VB	NA	SMANCA	DUCT-DUCT	BW	1	FSAR,CODES	DCD,PHYS,MET SHT, GEN NOTE DWG
BLM78	NA		ANS SAFETY CL 3 SMACNA	9.4.3.1	C	VC	NA	SMANCA	DUCT-DUCT	BW	1.		DCD, PHYS, MET SHT,
BLM79	NA		AMSE III3	6.2.3.2.3	С	vx	11135	ASME III3	PIPE-FLNG	BW	1	FSAR,CODES	DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM80	NA		AMSE III3	9.4.8.1	C	νн	11135	ASME III3	PIPE-FLNG	BW	1	FSAR,CODES	DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM81	NA		AMSE III2	9.4.8.1	С	ZR	11125	ASME III2	PIPE-VALV	sw	1		DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM82	NA		AMSE III3	9.3.1.2.2	C	RJ	1113 S	ASME III3	FITT-VALV	BW	1	FSAR,CODES	DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM83	NA		AMSE III2	9.3.1.2.2	С	RI	1112S	ASME III2	PIPE-FITT	SW		FSAR,CODES	DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM84	NA		AMSE III2	6.2.4.2.1 & 6.2.6.3	C	ΖT	1112S	ASME III2	PIPE-FITT	BW		FSAR,CODES	DCD,PHYS,NDE SHT, GEN NOTE DWG
BLM85	NA		AMSE III3	3.6.2.1.2.1.2	С	SA	11135	ASME III3	PIPE-VALV	BW	1	FSAR,CODES	DCD,PHYS,NDE SHT, GEN NOTE DWG

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BELLEFONTE NUCLEAR PLANT

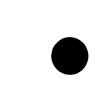
PACKAG			CODE/STANDARD	FSAR	EVAL		TVA	OUTPUT	T			DESIGN	DEBION
NUMBER	NUMBER	YR	COMMITMENT	LOCATION	STAT	SYS	CLS		APPLICATION		1		DESIGN
BLM86	NA		AMSE III3	9.4.1.2.1	С	VL	11135			BW	-		OUTPUT DOCUMENTS
BLM87	NA					<u> </u>	[GEN NOTE DWG
DLW07	NA .		AMSE III3	11.3.2	C	WG	11135	ASME III3	PIPE-FITT	BW			DCD, PHYS, NDE SHT,
BLM88	NA			0.0.1									GEN NOTE DWG
DEMOO				8.3.1	M	RT	11135	ASME III3	PIPE-VALV	SW			DCD, PHYS, NDE SHT,
BLM89	NA		AMSE III2	10.4.8									GEN NOTE DWG
				10.4.0	м	YR	11125	ASME III2	PIPE-FLHD	BW			DCD, PHYS, NDE SHT,
BLM90	NA		ANS SAFETY CL 3	0470		1.0							GEN NOTE DWG
			SMACNA	9.4.7.2	С	VP	NA	SMANCA	DUCT-DUCT	BW			DCD, PHYS, MET SHT,
BLM91	NA			0.0.0.4								DES CRITERIA	GEN NOTE DWG
UCINIS I				9.3.2.1	С	YQ	III2S	ASME III2	TUBE-VALV	SW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
BLM92	NA		AMSE III2									DES CRITERIA	GEN NOTE DWG
ULWIJZ	INA			9.3.2.6.6	С	YQ	1112S	ASME III2	TUBE-VALV	SW	1	FSAR,CODES	DCD, PHYS, NDE SHT,
	LI											DES CRITERIA	GEN INSTL NOTES

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BLM-01 (Sheet 1 of 2) (3) (4) FSAR Section 9.2.2.2 Fig. 9.2.2-1 thru 5 (5) FSAR Page 9.2-12 (6) Design Documents (1) DC-N4-KC-D740 R1 (2) DCD - 3BW0656-) Responsible Group/Section) Design Statement as Presented The FSAR references the FSA (The actual weld to be examin	R figure #'s 9.2.2-1 to 5.	Component Cooling V These figures shows various " pipe" SCH 160, Sect III C	Section III Class 1, 2, & 3 lines
 (4) FSAR Section 9.2.2.2 Fig. 9.2.2-1 thru 5 (5) FSAR Page 9.2-12 (6) Design Documents (1) DC-N4-KC-D740 R1 (2) DCD - 3BW0656- 	The FSAR references the FSA	R figure #'s 9.2.2-1 to 5.	These figures shows various " pipe" SCH 160, Sect III C	Section III Class 1, 2, & 3 lines CL3.)
 (5) FSAR Page 9.2-12 (6) Design Documents (1) DC-N4-KC-D740 R1 (2) DCD - 3BW0656- 		• • .		
(1) DC-N4-KC-D740 R1 (2) DCD - 3BW0656-				
KC-01 R13 & 03 R9 (3) 3BW0456-KC-01R16				
& 15R17 (4) 3BC0656-KC-01R3 (7)) Contact(s)		······································	
) DISPOSITION OF STATEME	NT		
	Design Documents and FSAR Consistent	Minor Inconsist FSAR and Desi	encies Between gn Documents	FSAR is not Consistent with Design Documents
and the design criteria diag. (R Fig. #'s 9.2.2-1 to 5. It desig (DOC #2) both support these des C #'s 2 & 3. DOC #4 reference	ignations. The physical dra	wings reference DOC #2 and	the general notes. The NDF

BELLEFONTE - FSAR/COMMITMENT	CONSISTENCY REVIEW FORM
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DESIGN STATEMENT BLM-01 (Sheet 2 of 2)

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INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The Welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.

CHANGES TO MAKE PROGRAM WORK PROPERLY (Describe)

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			BELLEFONTE - FSAR/O	COMMITM	ENT CONSIST	FENCY	REVIEW FORM - 1985
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Me	chanical #1		Component Cooling Water - KC
	BLM-02 (Sbeet 1 of 2)	(3)	Design Statement as Presen				
(4)	FSAR Section 9.2.2.2 Fig. 9.2.2-1 thru 5		The FSAR references the F (The actual weld to be exar	SAR figure nined "I	#'s 9.2.2-1 to 5 bipe to valve-SV	5. These W", 1" no	figures shows various Section III Class 1, 2, & 3 lines. om., SCH 160, Sect III CL3.)
(5)	FSAR Page 9.2-12						
(6)	Design Documents						
	 (1) DC-N4-KC-D740 R1 (2) DCD - 3BW0656- KC-01 R13 & 03 R9 (3) 3BW0456-KC-01R16 & 15R17 (4) 3BC0656-KC-01R3 & 04R6 		Contact(s) N/A DISPOSITION OF STATE Design Documents and FSAR Consistent	MENT	Minor Incon FSAR and I		
(9)	and the design criteria dia	SAF g. (1	DOC #2) both support these	designations	. The physical	drawings	tion III, Class 1, 2, or 3. The design criteria (DOC #1) s reference DOC #2 and the general notes. The NDE of the welding procedure. G29M references ASME
	vid M. Hammons 12/20/85 estigator Date		Howard Moore 12/20/8 Approver Date	5		<u></u>	WELDING PROJECT REVIEW: Approver <u>B/6/92</u> Date

DESIGN STATEMENT BLM-02 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The Welding and NDE requirements sbeets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.





			BELLEFONTE	- FSAR/CO	MMITME	NT CONSISTENCY I	REVIEW FORM - 1985					
(1)	Design Statement No.	(2)	Responsible Grou	p/Section	BLP Mec	hanical #1	Component Cooling Wa	iter-KC				
	BLM-03 (Sheet 1 of 2)	(3)	Design Statement	as Presented	l in FSAR		-					
(4)	FSAR Section 9.2.2.2 Fig. 9.2.2-1 thru 5		The FSAR references the FSAR figure #'s 9.2.2-1 to 5. These figures shows various Section III Class 1, 2, & 3 li (The actual weld to be examined "pipe to valve-BW", 3" nom., SCH 160, Sect III CL3.)									
(5)	FSAR Page							· · · · · · · · · · · · · · · · · · ·				
	9.2-12											
(6)	Design Documents											
	 (1) DC-N4-KC-D740 R1 (2) DCD - 3BW0656- KC-01 R13 & 03 R9 (3) 3BW0456-KC-01R16 											
	& 15R17 (4) 3BC0656-KC-01R3	(7)	Contact(s) N/A	: 				· · · · · · · · · · · · · · · · · · ·				
	& 04R6	(8)	DISPOSITION O	F STATEM	ENT							
			Design Docum FSAR Consist			Minor Inconsistencie FSAR and Design De		FSAR is not Consistent with Design Documents				
(9)	DISCUSSION OF FINDI	NG				· · · · · · · · · · · · · · · · · · ·						
	and the design criteria dia	g. (DOC #2) both sup	port these de	signations.	The physical drawings	s reference DOC #2 and t	The design criteria (DOC #1) the general notes. The NDE 6. G29M references ASME				
	vid M. Hammons <u>12/20/85</u> estigator Date		<u>Howard Moore</u> Approver	<u>12/20/85</u> Date			WELDING PROJECT F	Montron 8/6/92				

DESIGN STATEMENT BLM-03 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The Welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.



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			BELLEFONTE - 1	FSAR/CO	MMITME	NT CONSIST	ENCY R	REVIEW FORM - 1985	· · · · · · · · · · · · · · · · · · ·	
(1)	Design Statement No.	(2)	Responsible Group/	Section	BLP Mec	hanical #1		Reactor Building Spray	System - NS	
	BLM-04 (Sheet I of 2)	(3)	Design Statement as	Presented	in FSAR					
	FSAR Section 6.2.2.2.2.2 Table 6.2.2-2 Fig. 6.2.2-4		"Table 6.2.2-2 lists "All pipe" to be	the applicate ASME S	able codes a ection III,	to which the RI Class 2. (Weld	BS piping 1 to be ir	g is designed and inspect nspected is "pipe to valve	ed." Table 6.2 e-SW", 1" nom	2.2-2 indicates ., Sect III CL2.)
(5)]	FSAR Page									
	6.2-24									
(6) 1	Design Documents									
	 (1) DC-N4-NS-D740 R1 (2) DCD-3BW0615-NS- 01R16 (3) 3AW0416-NS-01R12 									
	& 03R15 (4) 3BC0615-NS-01R0 &	(7)	Contact(s) N/A				_			
	03R5	(8)	DISPOSITION OF S	STATEME	ENT		•			
			Design Documer FSAR Consisten			Minor Incons FSAR and De			FSAR is not with Design I	
(9) <u>I</u>	DISCUSSION OF FINDIN	١G								
0	The FSAR commits the RI commitment to ASME Sec identification of the weldin	t II	I, CL2. The physica	l drawings	(DOC #3)	reference DOC	d the des C #2. Th	sign criteria diag (DOC) he NDE sheets (DOC #4	#2) both reaffir) reference G-2	m this 9M through the
	d M. Hammons 12/20/85 stigator Date			1 <u>2/20/85</u> Date			ľ	WELDING PROJECT R	Marton	_ <u></u> Date

DESIGN STATEMENT BLM-04 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The Welding and NDE requirements sheets should be referenced from the physical drawings.

• The issuance of the general notes drawing should be completed.





		_	BELLEFONTE - FSA	R/CO	MMITME	INT CONSISTENCY	Y REVIEW FORM - 1989	5
(1)) Design Statement No.	(2)) Responsible Group/Sect	tion	BLP Mea	chanical #1	Reactor Building Spray	^y System - NS
	BLM-05 (Sheet 1 of 2)	(3)) Design Statement as Pre	esented	in FSAR			
(4)	FSAR Section 6.2.2.2.2.2 Table 6.2.2-2 Fig. 6.2.2-4		"Table 6.2.2-2 lists the "All pipe" to be A!	applica SME Se	ble codes ection III,	to which the RBS pip Class 2. (Weld to be	bing is designed and inspected is "valve to val	tted." Table 6.2.2-2 indicates ve-BW", 6" nom., Sect III CL2.)
(5)	FSAR Page							
	6.2-24							
(6)	Design Documents							
	 (1) DC-N4-NS-D740 R1 (2) DCD-3BW0615-NS- 01R16 (3) 3AW0416-NS-01R12 							
	6.07DC	(7)	Contact(s) N/A					·
	02R7	(8)	DISPOSITION OF STA	TEME	NT			
			Design Documents a FSAR Consistent	ınd		Minor Inconsistenci FSAR and Design I		FSAR is not Consistent with Design Documents
(9)	DISCUSSION OF FINDIN	١G						
	The FSAR commits the RE commitment to ASME Sect identification of the welding	лш	ii, CL2. The physical dra	'awings ((DUC #3)) reference DOC #2	design criteria diag (DOC The NDE sheets (DOC #4	#2) both reaffirm this4) reference G-29M through the
	vid M. Hammons <u>12/20/85</u> estigator Date		Howard Moore 12/20 Approver Date				WELDING PROJECT F	Killing Blake

BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW	FORM
DESIGN STATEMENT BLM-05 (Sheet 2 of 2)	

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The Welding and NDE requirements sheets should be referenced from the physical drawings.

• The issuance of the general notes drawing should be completed.





·	BELLEFONTE - FSAR/	COMMITMENT CONSISTI	ENCY REVIEW FORM - 1985	
(1) Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Reactor Building Spray System - NS	
BLM-06 (Sheet 1 of 2)) (3) Design Statement as Presen	nted in FSAR		
(4) FSAR Section 6.2.2.2.2.2 Table 6.2.2-2 Fig. 6.2.2-4	- "Table 6.2.2-2 lists the app "All pipe" to be ASMI Sect III-2S.)	blicable codes to which the RE E Section III, Class 2. (Weld	3S piping is designed and inspected." Table 6.2.2-2 indicates. I to be inspected is "pipe to fitting-BW", 12" nom. pipe size an	
(5) FSAR Page				
6.2-24	-			
(6) Design Documents				
 (1) DC-N4-NS-D740 R1 (2) DCD-3BW0615-NS- 01R16 (3) 3AW0416-NS-01R12 				
& 06R14	(7) Contact(s) N/A			
(4) 3BC0615-NS-01R0	(8) DISPOSITION OF STATE	MENT	•	
	Design Documents and FSAR Consistent		istencies Between FSAR is not Consistent esign Documents with Design Documents	
(9) DISCUSSION OF FINDI	NG	<u> </u>	· · · · · · · · · · · · · · · · · · ·	
commitment to ASME Se	RBS to ASME Sect III CL2. The ect III, CL2. The physical drawing procedure, which in turn references of the section of the sec	ngs (DOC #3) reference DOC	d the design criteria diag (DOC #2) both reaffirm this C #2. The NDE sheets (DOC #4) reference G-29M through th	he
<u>David M. Hammons</u> <u>12/20/85</u> Investigator Date	<u>Howard Moore</u> <u>12/20 85</u> Approver Date	5	WELDING PROJECT REVIEW: Approver Date	2
· · · · · · · · · · · · · · · · · · ·				

DESIGN STATEMENT BLM-06 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The Welding and NDE requirements sheets should be referenced from the physical drawings.

• The issuance of the general notes drawing should be completed.





			BELLEFONTE - FSAR/C	OMMITME	ENT CONSISTENCY	REVIEW FORM	1 - 1985		
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Me	chanical #1	Core Flooding	System -	NL	
	BLM-07 (Sheet 1 of 2)	(3)	Design Statement as Presen	ted in FSAR				<u></u>	
(4)	FSAR Section 6.3.2.3 Fig. 6.3.1-1		"ECCS systems and compo- (Weld to be examined			-			
(5)	FSAR Page								
	6.3-8								
(6)	Design Documents								
	 (1) DC-N4-NL-D740 R2 (2) DCD-3BW0614-NL- 01R14 (2) DCD-3BW0614-NL- 								• • • •
	(3) 3AW0414-NL-01R10 & 02R9	(7)	Contact(s) N/A						
	(4) 3BC0614-NL-01R3	(8)	DISPOSITION OF STATE	MENT					
			Design Documents and FSAR Consistent		Minor Inconsistence FSAR and Design I			FSAR is not (with Design I	
(9)	DISCUSSION OF FINDI	NG				···			
	support this. The physica	l dra	III CL2 as the design code for awings (DOC #3) are referent DOC #3 and refers to G-291	ced by DOC	2 #2 and in turn referer	nces DOC #2 and	the gene	ral system notes	. The NDE
	vid M. Hammons 12/18/85 estigator Date		Howard Moore12/18/85ApproverDate	ž		WELDING PRO	Approve	ENEW;	<u>8/6/92</u> Date

DESIGN STATEMENT BLM-07 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The Welding and NDE requirements sheets should be referenced from the physical drawings.





L			BELLEFONTE -	FSAR/CO	MMITME	NT CONSISTEN	CY REVIEW FOR	M - 1985	5	
(1)	Design Statement No.	(2)	Responsible Group	/Section	BLP Med	chanical #1	Core Flooding	System -	· NL	
(5)	FSAR Section 6.3.2.3 Fig. 6.3.1-1 FSAR Page 6.3-8 Design Documents (1) DC-N4-NL-D740 R2 (2) DCD-3BW0614-NL- 01R14 (3) 3AW0414-NL-01R10 & 02R9 & 08R10 (4) 2DC0614 NL 01D2	(7)	Design Statement a "ECCS systems and (Weld to be examined (Weld to be examined Contact(s) N/A DISPOSITION OF Design Docume FSAR Consister	d componented "Pi ned "Pi STATEME	its are desi	-	, Class 2 or higher". nom. Sch. 160.)		FSAR is not (with Design I	
Da	DISCUSSION OF FINDIN The FSAR designates ASM support this. The physical sheets reference DOC #2 a Ill code. vid M, Hammons 12/19/85 estigator Date	/E dra	awings (DOC #3) are DOC #3 and refers to Howard Moore	e referenced	i by DOC	#2 and in turn refe	erences DOC #2 and	the generic, which	ral system notes in turn reference REVIEW:	The NDE

The Gen. Spec., G-29M should be referenced from the physical drawings. The Welding and NDE requirements sheets should be referenced from the physical drawings.	
The Gen. Spec., G-29M should be referenced from the physical drawings. The Welding and NDE requirements sheets should be referenced from the physical drawings.	
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The Gen. Spec., G-29M should be referenced from the physical drawings. The Welding and NDE requirements sheets should be referenced from the physical drawings.	
The Gen. Spec., G-29M should be referenced from the physical drawings. The Welding and NDE requirements sheets should be referenced from the physical drawings.	
The Gen. Spec., G-29M should be referenced from the physical drawings. The Welding and NDE requirements sheets should be referenced from the physical drawings.	
The Gen. Spec., G-29M should be referenced from the physical drawings. The Welding and NDE requirements sheets should be referenced from the physical drawings.	
The Gen. Spec., G-29M should be referenced from the physical drawings. The Welding and NDE requirements sheets should be referenced from the physical drawings.	
The Welding and NDE requirements sheets should be referenced from the physical drawings.	
The Welding and NDE requirements sheets should be referenced from the physical drawings.	
HANGES TO MAKE PROGRAM WORK PROPERLY (Describe)	
HANGES TO MAKE PROGRAM WORK PROPERLY (Describe)	
HANGES TO MAKE PROGRAM WORK PROPERLY (Describe)	
HANGES TO MAKE PROGRAM WORK PROPERLY (Describe)	
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HANGES TO MAKE PROGRAM WORK PROPERLY (Describe)	
HANGES TO MAKE PROGRAM WORK PROPERLY (Describe)	

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		BELLEFONTE - FSAR/CO	OMMITMENT CONSISTER	NCY REVIEW FORM - IS	985
(1)	Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Core Flooding System	m - NL
• •	BLM-09 (Sheet 1 of 2) FSAR Section 6.3.2.3 Fig. 6.3.1-1	 (3) Design Statement as Presente "ECCS systems and compone (Weld to be examined "I 	ents are designed to ASME II		
(5)	FSAR Page 6.3-8				
(6)	Design Documents (1) DC-N4-NL-D740 R2 (2) DCD-3BW0614-NL- 01R14				
	(4) 2DC0614 NIL 01D2	 (7) Contact(s) N/A (8) DISPOSITION OF STATEM 			
		Design Documents and FSAR Consistent		stencies Between	FSAR is not Consistent with Design Documents
	support this. The physica	ME III CL2 as the design code for I drawings (DOC #3) are reference	ed by DOC #2 and in turn re	ferences DOC #2 and the g	design criteria diag. (DOC #2) eneral system notes. The NDE ich in turn references ASME Secti
	rid M. Hammons 12/19/85 estigator Date	Howard Moore <u>12/19/85</u> Approver Date		WELDING PROJEC	Hollow B/6/92

BELLEFONTE - FSA	R/COMMITMENT CONSISTENC	Y REVIEW FORM
DESIG	N STATEMENT BLM-09 (Sheet 2 d	of 2)
NCONSISTENCY (Describe)		
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•		
UGGESTION FOR IMPROVEMENT	OF PROGRAM (Describe)	
The Gen. Spec., G-29M should be r	eferenced from the physical drawings	
• '	., .	
The Welding and NDE requirements	s sheets should be referenced from the	e physical drawings.
		······································
HANGES TO MAKE PROGRAM WO	ORK PROPERLY (Describe)	

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			BELLEFONTE - FSA	R/COMMI	TMEN	T CONSISTENCY	REVIEW FO	RM - 1985	· ·
(1) De	esign Statement No.	(2)	Responsible Group/Section	on BLI	P Mech	anical #1	Reactor Cool	lant System	- NC
BL	LM-10 (Sheet 1 of 2)	(3)	Design Statement as Pres	ented in F	SAR				······································
		ł	"RCS components are de	signed to A	ASME	Class 1 "			
5.1	SAR Section 1, 5.1.2 & 5.2 g. 5.1.2-1		(Actual weld to be examined	ined "	pipe to	pipe-BW", 38" nom	n., III-1S.)		
(5) FS	SAR Page	1							
5 .1	1-2, 5.1-7 & 5.2-1								
(6) De	esign Documents	1							
) DC-N4-NC-D740 R1) DCD-3BW0617-NC- 01R11						·		
) 3BW0417-NC-01R6) 3BC0617-NC-01R11	$\overline{0}$	Contact(s) N/A						
		(8)	DISPOSITION OF STAT	rement					
			Design Documents as FSAR Consistent	nd		Minor Inconsistence FSAR and Design I			FSAR is not Consistent with Design Documents
(9) <u>DI</u>	ISCUSSION OF FINDI	NG							
rec	quirements. The physic	cal d		nce Doc #2	and th				diag. (DOC #2) reflects this G-29M through the identification
<u>David</u> Investi	<u>M. Hammons 12/20/85</u> igator Date		Howard Moore12/20ApproverDate	<u>)/85</u>			WELDING I	PROJECT H	2 Montary 8/6/92_

DESIGN STATEMENT BLM-10 (Sheet 2 of 2)

INCONSISTENCY (Describe)

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SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The issuance of the general notes drawing should be completed.







	BELL	EFONTE - FSAR/C	OMMITME	ENT CONSISTENCY	REVIEW FOI	RM - 1985		·
(1) Design Statement No.	(2) Respon	sible Group/Section	BLP Mec	chanical #1	Reactor Cool	ant System	- NC	
BLM-11 (Sheet 1 of 2)	(3) Design	Statement as Present	ed in FSAR					
(4) FSAR Section	RCS c	components are desig	ned to ASME	E Class 1 "		, ,	· . ·	•
5.1, 5.1.2 & 5.2 Fig. 5.1.2-1	(Actual	weld to be examined	l "pipe t	to valve-BW", 4" non	., III-1S.)			
(5) FSAR Page								
5.1-2								
(6) Design Documents								
 (1) DC-N4-NC-D740 R1 (2) DCD-3BW0617-NC- 01R11 								на, ул. С
(3) 3BW0417-NC-01R6 & 03R5	(7) Contact	t(s) N/A		·····				· · · · · · · · · · · · · · · · · · ·
(4) 3BC0617-NC-01R11	(8) DISPO	SITION OF STATE	MENT					
		sign Documents and AR Consistent		Minor Inconsistence FSAR and Design				ot Consistent n Documents
(9) DISCUSSION OF FIND	ING	<u> </u>		· · · · · · · · ·			· · ·	· · · · ·
The FSAR states that all requirements. The physic of the Weld Procedure w	cal drawings	(DOC #3) reference	Doc #2 and					
David M. Hammons <u>12/21/85</u> Investigator Date	5 <u>Howard</u> Approv	d Moore <u>12/21/8</u> ver Date	5		WELDING F	PROJECT I	alform	<u>9 8/4/92</u> Date

BELLEFONTE - FSAR/COMMITMENT C	CONSISTENCY REVIEW FORM
DESIGN STATEMENT BLM	I-11 (Sheet 2 of 2)
INCONSISTENCY (Describe)	
	· · ·
	·
SUGGESTION FOR IMPROVEMENT OF PROGRAM (Desci	ribe)
• The Gen. Spec., G-29M should be referenced from the phy	vsical drawings.
• The issuance of the general notes drawing should be comple	eted.
·	
CHANGES TO MAKE PROGRAM WORK PROPERLY (Des	cribe)
· ·	
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(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Me	chanical #1	Reactor Coo	lant Drains	and Vents Syste	m - NK
	BLM-12 (Sheet 1 of 2)	(3)	Design Statement as Presente	d in FSAR					<u></u>
(4)	FSAR Section 5.1.2 Fig. 5.1.2-1A		"Information concerning the p through 5.1.2-4." (Note: (Actual weld to be examined	DOC #2	below is FSAR Fig	; #5.1.2-1A.)	-		ares 5.1.2-1
(5)	FSAR Page								
	5.1-7			. •					
(6)	Design Documents								
	 (1) DC-N4-NK-D740 R1 (2) DCD-3BW0622-NK- 01R11 (3) 3BW0422-NK-01R14 	1							
	(4) 3BC0622-NK-01R3		Contact(s) N/A DISPOSITION OF STATEM	FNT	· · · · · · · · · · · · · · · · · · ·				
			 Design Documents and FSAR Consistent 		Minor Inconsist FSAR and Desig			FSAR is not C with Design D	
(9)	DISCUSSION OF FINDI	١G				<u> </u>		• ·····	····
	(DOC #1) references Doc	#2.	n code requirements to its Figu The physical drawings (DOC Procedure which in turn refere	2 #3) also re	eference DOC #2.	(DOC #2) is FSA The NDE sheets	AR Fig. #5. (DOC #4) 1	1.2-1A. The des reference G-29M	ign criteria through the
_	vid M. Hammons 12/21/85 estigator Date		Howard Moore12/21/85ApproverDate			WELDING	PROJECT	Le Montony	<u>8/6</u> 72 Date

BELLEFONTE -	FSAR/COMMITMENT	CONSISTENCY	REVIEW FORM

DESIGN STATEMENT BLM-12 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.







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(1)	Design Statement No.	(2) Responsible Group/Section	BLP Me	chanical #1	Reactor Coolant I	Drains and Vents System - NK
	BLM-13 (Sheet 1 of 2)	 (3) Design Statement as Presente "Information concerning the through 5.1.2-4." (Note: 	piping and	instrumentation for	r the reactor coolant syst	tem is provided in Figures 5.1.2-1
					- ,	
(4)	FSAR Section 5.1.2 Fig. 5.1.2-1A	(Actual weld to be examined	"fitting	g to nozzle-BW",	14" nom., ASME Sect I	II-3S.)
5)	FSAR Page					
	5.1-7				, · · ·	
(6)	Design Documents					
	 (1) DC-N4-NK-D740 R1 (2) DCD-3BW0622-NK- 01R11 (3) 3BW0422-NK-01R14 					
	& 02R11	(7) Contact(s) N/A				
	(4) 3BC0622-NK-02R3	(8) DISPOSITION OF STATEM	ENT			
		Design Documents and FSAR Consistent		Minor Inconsist FSAR and Desi	tencies Between ign Documents	FSAR is not Consistent with Design Documents
<u></u>	DISCUSSION OF FINDI	NG				
	The FSAR defers commer (DOC #1) references Doc	t on code requirements to its Figu	: #3) also re	eference DOC #2.	. (DOC #2) is FSAR Fig The NDE sheets (DOC	g. #5.1.2-1A. The design criteria C #4) reference G-29M through the
	vid M. Hammons 12/21/85 estigator Date	Howard Moore <u>12/21/85</u> Approver Date		· · · · · · · · · · · · · · · · · · ·	WELDING PROL	ECT REVIEW:

DESIGN STATEMENT BLM-13 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.



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ļ	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 1985								
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP I	Mechanical #1	Reactor Coolant Drains and Vents System - NK			
	BLM-14 (Sheet 1 of 2)	(3)	Design Statement as Present	ed in FSA	AR				
(4)	FSAR Section 5.1.2 Fig. 5.1.2-1A	"Information concerning the piping and instrumentation for the reactor coolant system is provided in Figures 5.1.2-1 through 5.1.2-4." (Note: DOC #3 below is FSAR Fig #5.1.2-1A.) (Actual weld to be examined "FTG to FTG-buttweld", 3/4" nom., ASME Sect III-1S.)							
(5)	FSAR Page								
	5.1-7								
(6)	Design Documents								
	 (1) DC-N4-NK-D740 R1 (2) DCD-3BW0622-NK- 01R11 (3) 3BW0422-NK-01R14 				•				
	0.00014	(7) Contact(s) N/A							
	& 04R4	(8)	DISPOSITION OF STATEMENT						
		 Design Documents and FSAR Consistent Minor Inconsistencies Between FSAR is not Consistent FSAR and Design Documents FSAR is not Consistent FSAR is not Consistent 							
(9)	(9) DISCUSSION OF FINDING								
	The FSAR defers comment on code requirements to its Figures. The design criteria diag. (DOC #2) is FSAR Fig. #5.1.2-1A. The design criteria (DOC #1) references Doc #2. The physical drawings (DOC #3) also reference DOC #2. The NDE sheets (DOC #4) reference G-29M through the identification of the Welding Procedure which in turn references ASME Section III.								
	id M. Hammons 12/21/85 stigator Date		Howard Moore <u>12/21/85</u> Approver Date			WELDING PROJECT REVIEW. Approver <u>B/u/92</u> Date			

	DESIGN STATEM	ENT BLM-14 (Sheet 2 of 2)	
NCONSISTENCY (Des	cribe)		
			ı.
UGGESTION FOR IM	PROVEMENT OF PROGR	AM (Describe)	
JUGESTION FOR IMI	ROVEMENT OF TROOR		
The Gen. Spec., G-2	9M should be referenced fr	om the physical drawings.	
The welding and ND	E requirements sheets shou	ld be referenced from the physical drawings.	
The welding and ND	E requirements sheets shou	ld be referenced from the physical drawings.	
The welding and ND	E requirements sheets shou	ld be referenced from the physical drawings.	
The welding and ND	E requirements sheets shou	ld be referenced from the physical drawings.	
The welding and ND	E requirements sheets shou	ld be referenced from the physical drawings.	
The welding and ND	E requirements sheets shou	ld be referenced from the physical drawings.	
The welding and ND	E requirements sheets shou	ld be referenced from the physical drawings.	
	E requirements sheets shou		
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			BELLEFONTE - 1	FSAR/CO	MMITMENT CONSIS	TENCY	REVIEW FORM - 1985	
(1)	Design Statement No.	(2)	Responsible Group/	Section	BLP Mecbanical #1		Startup and Recirculation System - CR	
	BLM-15 (Sheet 1 of 2)	(3)	Design Statement as	s Presented	in FSAR			
(4)	FSAR Section 10.4.8	The FSAR revision, Amendment #35, states that certain areas of the steam gen. blowdown system shall be designed i accordance with ASME Sect III. CL2. (The actual weld to be examined "2-1/2" weldolet to 8" pipe, ASME Sect III-2S.)						
(5)	FSAR Page From Rev Amendment							
	#35							
(6)	01R10.03R10 &		Contact(s) N/A DISPOSITION OF S	STATEME	:NT			
			Design Document FSAR Consisten		Minor Inco FSAR and			
(9)	DISCUSSION OF FINDIN	NG			· · · · · · · · · · · · · · · · · · ·			
The FSAR amendment is a result of ECN 2016 (DOC #1). The design criteria diag. (DOC #3) is to be the revised FSAR Fig. #10.4.8-1. The design criteria (DOC #2) reflects these modifications. The physical drawings (DOC #4) reference DOC #3. The NDE sheets (DOC #5) is referenced from DOC #4 by knowledge of drawing number relationship. G-29M is referenced on DOC #5 through the identification of welding procedure. G-29M references ASME Section III.								
	id M. Hammons 12/21/85 estigator Date			<u>12/21/85</u> Date			WELDING PROJECT, REVIEW. Auto Manyoning <u>9/6/92</u> Approver Date	

DESIGN STATEMENT BLM-15 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The draft revision of the FSAR statement should he issued.

• The physical drawings should be referenced from the design criteria diagram.



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	BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM - 1985									
(1)	Design Statement No.	(2)	Responsible Group/	Section	BLP Mec	hanical #1		Startup and Recirculation System - CR		
	BLM-16 (Sheet 1 of 2)	(3)	Design Statement as	Presented	in FSAR					
(4)	FSAR Section		The FSAR revision, Amendment #35, states that certain areas of the steam gen. blowdown system shall be designed in accordance with ASME Sect III. CL2. (The actual weld to be examined "strut to pipe, full penetration weld", 1", III-2S.)							
	10.4.8									
(5)	FSAR Page									
	From Rev Amendment #35									
(6)	Design Documents									
	 ECN-2016 DC-N4-CR-D740 R3 DCD-3BW0620-CR- 01R10 		· · ·			-				
	(4) 3BW0420-CR-	(7)	Contact(s) N/A		· · · · · · · · · · · · · · · · · · ·			·		
	01R10, 04R10 & 11R2	(8)	DISPOSITION OF	STATEME	NT					
	(5) 3BC0620-CR-06R1		Design Documen FSAR Consisten			Minor Incons FSAR and D				
(9) <u>DISCUSSION OF FINDING</u>										
	The FSAR amendment is a result of ECN 2016 (DOC #1). The design criteria diag. (DOC #3) is to be the revised FSAR Fig. #10.4.8-1. The design criteria (DOC #2) reflects these modifications. The physical drawings (DOC #4) reference DOC #3. The NDE sheets (DOC #5) is referenced from DOC #4 by knowledge of drawing number relationship. G-29M is referenced on DOC #5 through the identification of welding procedure. G-29M references ASME Section III.								l	
	vid M. Hammons 12/21/85 estigator Date			<u>12/21/85</u> Date				WELDING PROJECT REVIEW: Approver B/6/92 Date		

DESIGN STATEMENT BLM-16 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The draft revision of the FSAR statement should he issued.

• The physical drawings should be referenced from the design criteria diagram.





			BELLEFONTE - I	FSAR/CO	MMITME	NT CONSISTENCY	REVIEW FORM - 1985	5
(1)	Design Statement No.	(2)	Responsible Group/	Section	BLP Mec	hanical #1	Waste Disposal System	- WD
	BLM-17 (Sheet 1 of 2)	(3)	Design Statement as	Presented	in FSAR			·
	FSAR Section 11.2.2 & 11.2.4 Table 3.2.2-4 Fig. 11.0.0-1 & -2 FSAR Page 11.2-3 & 11.2-8		Waste disposal syste	em and cor	nponents ar	e designed to ASME	Section 111, Class 2 or Cl	ass 3 for some components.
(6)	Design Documents						· .	
	 (1) DC-N4-WL-D740 R2 (P. 9) (2) DCD-3BW0680-WD- 01R14 (3) DCD-2DW0680 WD 							
	(3) DCD-3BW0680-WD- 02R17	(7)	Contact(s) N/A	·				
	 (4) 3BW0480-WD- 01R15 (5) 3BW0480-WD-11R9 (6) 3BC0680-WD-01R2 (7) 3BC0680-WD-02R2 	(8)	DISPOSITION OF S Design Document FSAR Consisten	nts and	ENT	Minor Inconsistenc FSAR and Design		FSAR is not Consistent with Design Documents
	(8) 3GA0480-WD-01							-
(9)	DOC #2 (DCD) reflects th	nmi ne E DC	OC requirements. Ph OC #8 is referred to b	ysical pipin	ng drawing	s (DOC #4) refers to	DOC #2 & 3 and refers, 1	C #1 specifies this requirement. by knowledge, to DOC #6 & 7 6 refers to G-29M through the
	H. Burns <u>12/19/85</u> estigator Date			12/19/85 Date			WELDING PROJECT	REVIEW: Wrant y <u>8/6/92</u> er Date

DESIGN STATEMENT BLM-17 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.

			BELLEFONTE	- FSAR/CON	1MITME	NT CON	SISTENCY	REVIEW F	ORM - 1985	5		
(1) 1	Design Statement No.	(2)	Responsible Grou	p/Section	BLP Med	chanical #	1	Waste Dis	oosal System	- WD		
J	BLM-18 (Sheet 1 of 2)	(3)	Design Statement	as Presented	in FSAR				· · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · ·	,
	FSAR Section 11.2.2 & 11.2.4 Fable 3.2.2-4 (Sh. 9) Fig. 11.0.0-1 & -2		Waste disposal sy	stem and com	ponents a	re design	ed to ASME	Section III,	Class 2 or Cl	ass 3 for some	components.	•
5)	FSAR Page 11.2-3 & 11.2-8							•	·			•
6)]	Design Documents											,
	 (1) DC-N4-WL-D740 R2 (P. 9) (2) DCD-3BW0680-WD- 01R14 				•		· .					* .
((3) DCD-3BW0680-WD- 02R17		Contact(s) N/A				<u> </u>		·		· · · · · · · · · · · · · · · · · · ·	
((4) 3BW0480-WD-		DISPOSITION O	F STATEME	NT	- est	 		·			
(01R15 (5) 3BW0480-WD-11R9 (6) 3BC0680-WD-01R2 (7) 3BC0680-WD-07R0 (8) 3GA0480-WD-01		Design Docur FSAR Consis				Inconsistencio and Design D			FSAR is not with Design	•	• •
	DISCUSSION OF FINDI The FSAR defines the cor (DCD) reflects the DC rea welds specs., DOC #8 is the he welding procedure.	nmi quir	ements. Physical j	piping drawin	gs (DOC a	#4) refers	to DOC #2 d	& 3 and refe	rs, by knowl	edge, to DOC	46 & 7 which	gives
	<u>Burns 12/19/85</u> stigator Date		Howard Moore Approver	<u>12/19/85</u> Date				WELDING	F PROJECT	Hortson	<u>8/6/9</u> Date	2

DESIGN STATEMENT BLM-18 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.





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		BELLEFONTE	- FSAR/COM	IMITME	NT CONSIST	FENCY R	EVIEW FORM	1 - 1985	· · · · · · · · · · · · · · · · · · ·		
(1) Design Statement	No.	(2) Responsible Grou	p/Section	BLP Mec	hanical #1]	Essential Raw C	Cooling V	Water System -	KE	
BLM-19 (Sheet	t 1 of 2)	(3) Design Statement	as Presented	in FSAR			· · · · ·				
		ERCW (KE) Sys	tem								
(4) FSAR Section		Inside Reactor B	uilding are AS	ME III CI	ass 2						
9.2.1.7 Fig. 9.2.1-2A &	2B										
(5) FSAR Page 9.2-8											
(6) Design Document	ts										
(1) DC-N4-KE-D (2) DCD-3GW06 01R15 (3) DCD-3GW06	53-KE-										
02R3		(7) Contact(s) N/A									
(4) 3BW0453-KE (5) 3GC0653-KE	-12R5	(8) DISPOSITION C	F STATEME	NT							
(6) 3GA0453-KE	-01	Design Docu FSAR Consis			Minor Incor FSAR and I				FSAR is not with Design		
(9) DISCUSSION OF	<u>F FINDIN</u>	<u>1G</u>								· · · · ·	
DOC #2 (DCD) r	reflects th	unitment of the KE s e design criteria requ cs. DOC #5, referre	irements on th	e Design	Criteria Diagr	am. The	physical piping	drawings	s refers to DO	C#2&3.a	lso
E. H. Burns Investigator	<u>12/19/85</u> Date	<u>Howard Moore</u> Approver	<u>12/19/85</u> Date				WELDING PRO	Approve	Makony	<u><i>B]4/9</i></u> Date	۲

DESIGN STATEMENT BLM-19 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general notes drawing should be referenced from the physical drawings.



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	BELLEFONTE - FSAR/C	COMMITMENT CONSISTE	NCY REVIEW FORM - 1985	·
(1) Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Essential Raw Cooling Water Sy	stem - KE
BLM-20 (Sbeet 1 of	2) (3) Design Statement as Presen	ted in FSAR	·····	<u></u>
	ERCW (KE) System			
(4) FSAR Section	Inside Reactor Building are	ASME III Class 3		
9.2.1.7 Fig. 9.2.1-2A & 2B				
5) FSAR Page 9.2-8				
(6) Design Documents	-			
(1) DC-N4-KE-D740 R (2) DCD-3GW0653-KE				
01R15 (3) DCD-3GW0653-KE	-		······	
02R13 (4) 3BW0453-KE-01R1	(7) Contact(s) N/A	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
(5) 3GC0653-KE-12R5		MENT		
(6) 3GA0453-KE-01	Design Documents and FSAR Consistent			is not Consistent esign Documents
(9) DISCUSSION OF FINI	<u>DING</u>		· · ·	<u> </u>
DOC #2 (DCD) reflects	the design criteria requirements o	n the Design Criteria Diagram	ME Section III Class 2. DOC #1 also i . The physical piping drawings refers t he identification of welding procedures.	o DOC #2 & 3, also
E. H. Burns <u>12/19/</u> Investigator Date	85 <u>Howard Moore</u> <u>12/19/8</u> Approver Date	5	WELDING PROJECT REVIEW	Date 5/6/97

	DESIGN ST	TATEMENT BLM-20 (Sheet 2 of 2)	· · · · ·
INCONSISTE	NCY (Describe)		· · · · · · · · · · · · · · · · · · ·
	•		
	· •		
	·		
UGGESTION	FOR IMPROVEMENT OF P	PROGRAM (Describe)	
00201101			
The gener:	al notes drawing should be refe	erenced from the physical drawings.	
- no Ponoli		Active from the physical drawnigs.	
HANGES TO) MAKE PROGRAM WORK I	PROPERLY (Describe)	· · · · · · · · · · · · · · · · · · ·
HANGES TO) MAKE PROGRAM WORK I	PROPERLY (Describe)	· · · · · · · · · · · · · · · · · · ·
HANGES TO) MAKE PROGRAM WORK I	PROPERLY (Describe)	
HANGES TO) MAKE PROGRAM WORK]	PROPERLY (Describe)	
HANGES TO) MAKE PROGRAM WORK	PROPERLY (Describe)	
HANGES TO) MAKE PROGRAM WORK 1	PROPERLY (Describe)	•
HANGES TO) MAKE PROGRAM WORK I	PROPERLY (Describe)	· · · · · · · · · · · · · · · · · · ·
HANGES TO) MAKE PROGRAM WORK I	PROPERLY (Describe)	•
CHANGES TO) MAKE PROGRAM WORK I	PROPERLY (Describe)	•
CHANGES TO	MAKE PROGRAM WORK	PROPERLY (Describe)	





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			BELLEFONTE - I	FSAR/CO	MMITME	NT CONSISTENCY	REVIEW FORM - 1985	;	
(1)	Design Statement No.	(2)	Responsible Group/	Section	BLP Mec	hanical #1	Spent Fuel Cooling Syst	tem - NM	
	BLM-21 (Sheet 1 of 2)	(3)	Design Statement as	s Presented	in FSAR				
(4)	FSAR Section		Spent Fuel Cooling	System (N	M)				
	9.1.3.3.3 Fig. 9.1.3-1		Components and pip See DCD 3BW0654	ping are de 4-NM-01.	signed to A	SME Section III Class	s 2, where the piping pen	etrates into the F	Reactor Building
(5)	FSAR Page 9.1-13				·				
(6)	Design Documents								
	 (1) DC-N4-NM-D740 R2 (2) DCD-3BW0654-NM- 01R15 (3) 2DW0454 NM 01D8 					· · ·			
	(3) 3BW0454-NM-01R8(4) 3BW0454-NM-05R8	(7)	Contact(s) N/A				· · · · · · · · · · · · · · · · · · ·		
	(5) 3BC0654-NM-05R9 (6) 3BC0654-NM-06R5		DISPOSITION OF S	STATEME	ENT				
	(7) 3GA0454-NM-01R0		Design Documer FSAR Consisten			Minor Inconsistencie FSAR and Design D		FSAR is not C with Design D	
(9)	DISCUSSION OF FINDI	NG	· ·			-		•	
	The FSAR defines the con reflects the design criteria #7, ref by DOC #4 refers	req	uirements. The phys	sical piping	drawing fo	ollows DOC #2 and ref	ferences DOC #6 which	give weld proces	C #2 (DCD) s specs. DOC
	H. Burns <u>12/19/85</u> estigator Date			<u>12/19/85</u> Date			WELDING PROJECT J	Marting	<i>8/6/92</i> Date

DESIGN STATEMENT BLM-21 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The General Specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.





		BELLEFONTE	- FSAR/CO	MMITMENT CONSISTE	ENCY REVIEW FORM -	1985	<u>.</u>		
(1) Design State	ment No.	(2) Responsible Grou	p/Section	BLP Mechanical #1	Spent Fuel Cooling	System - NM			
BLM-22 (Sheet 1 of 2)	(3) Design Statement	as Presented	l in FSAR			÷.		
(4) FSAR Sectio	n	Spent Fuel Cooling System (NM)							
9.1.3.3.3 Fig. 9.1.3-1		Components and	piping are de	signed to ASME Section I	II Class 3, except for the pe	netrations into the Reactor B	Buildi		
(5) FSAR Page 9.1.3-1									
(6) Design Docu	iments								
(1) DC-N4-N (2) DCD-3B 01R15 (3) 3BW045									
(4) 3BW045	4-NM-05R8	(7) Contact(s) N/A			·		· · · ·		
(5) 3BC0654 (6) 3BC0654	-NM-06R5	(8) DISPOSITION O	F STATEMI	ENT					
(7) 3GA0454	4-NM-01R0	Design Docur FSAR Consis			istencies Between Esign Documents	FSAR is not Consister with Design Documen			
(9) <u>DISCUSSIO</u>	N OF FINDIN	NG	:			· · ·			
DOC #2 (DC	CD) reflects th rocess specs I	e design criteria requ	irements. Th	ne physical piping drawings	s, which refers to DOC #2,	DOC #1 specifies this req also refers to DOC #5 & 6, ation listing. G29M in turn	whic		
<u>E. H. Burns</u> Investigator	<u>12/19/85</u> Date	<u>Howard Moore</u> Approver	<u>12/19/85</u> Date			rover Date	19		

DESIGN STATEMENT BLM-22 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The General Specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.





			BELLEFONTE -	FSAR/CO	MMITME	NT CONSISTENCY	REVIEW FORM - 198	5	
(1)	Design Statement No.	(2)	Responsible Group	o/Section	BLP Mec	hanical #I	Spent Fuel Cooling Sys	stem - NM	,
	BLM-23 (Sheet 1 of 2)	(3)	Design Statement	as Presented	l in FSAR		· · · · · · · · · · · · · · · · · · ·		
(4)	FSAR Section		Spent Fuel Cooling	g System (N	NM)				
	9.1.3.3.3 Fig. 9.1.3-1					SME Section III Class of fitting-BW," nomination		ations into the Reactor Buildin	ıg.
(5)	FSAR Page 9.1-13								
(6)	Design Documents								
	 (1) DC-N4-NM-D740 R2 (2) DCD-3BW0654-NM- 01R15 (2) 2DW0454 NM 01B8 								
	(3) 3BW0454-NM-01R8 (4) 3BW0454-NM-03R7	(7)	Contact(s) N/A					· · · ·	
	(5) 3BW0454-NM-05R8 (6) 3BC0654-NM-05R9	(8)	DISPOSITION OF	STATEM	ENT	•			
	(7) 3GA0454-NM-01R0		Design Docum FSAR Consiste			Minor Inconsistenci FSAR and Design I		FSAR is not Consistent with Design Documents	
(9)	DISCUSSION OF FINDI	NG							
	DOC #2 (DCD) reflects th	ne d	lesign criteria requi	rements. T	he physical	piping drawings, which	ch refers to DOC #2, also	OC #1 specifies this requirement or refers to DOC #5 & 6, which on listing. G29M in turn refers	า
	H. Burns <u>12/21/85</u> estigator Date		<u>Howard Moore</u> Approver	<u>12/21/85</u> Date		•	WELDING PROFECT	Kllphang 8/6/92	

DESIGN STATEMENT BLM-23 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The General Specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.



(1) Design Statement No.

BLM-24

(4) FSAR Section

9.1.3.3.3

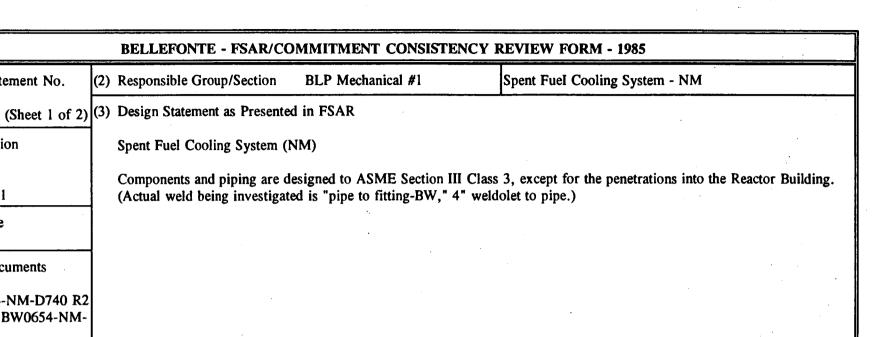
(5) FSAR Page 9.1-13

Fig. 9.1.3-1

(6) Design Documents

01R15





FSAR is not Consistent

with Design Documents

(9) DISCUSSION OF FINDING

(1) DC-N4-NM-D740 R2 (2) DCD-3BW0654-NM-

(3) 3BW0454-NM-01R8

(4) 3BW0454-NM-02R7 (5) 3BW0454-NM-05R8

(6) 3BC0654-NM-04R0 (7) 3GA0454-NM-01R0 (7) Contact(s) N/A

(8) DISPOSITION OF STATEMENT

Design Documents and

FSAR Consistent

The FSAR defines the commitment of the ASME Sect III Class 3 for portions of Spent Fuel Cooling System (NM). DOC #1 specifies this requirement. DOC #2 (DCD) reflects the design criteria requirements. The physical piping drawings, which refers to DOC #2, also refers to DOC #5 & 6, which gives weld process specs DOC #7, referred by DOC #4, refers to G29M through the General Construction Specification listing. G29M in turn refers to ASME Sect III.

Minor Inconsistencies Between

FSAR and Design Documents

П

DESIGN STATEMENT BLM-24 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The General Specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.







(2) Responsible Group/Section	BLP Mechanical #1	Essential Raw Cooling Water System - KE				
(3) Design Statement as Presenter	d in FSAR					
		· · · · · ·				
The entire system inside the r			2.			
			. •			
(7) Contact(s) N/A						
(8) DISPOSITION OF STATEM	ENT					
Design Documents and FSAR Consistent						
NG						
CD) reflects the design criteria rec	quirements. The physical pip	ing drawings refers to DOC #2 & 3, also DOC #5, weld				
Howard Moore <u>12/21/85</u> Approver Date		WELDING PROJECT BEVIEW:	42			
	 (3) Design Statement as Presented ERCW (KE) System The entire system inside the r (Actual weld being investigated) (7) Contact(s) N/A (8) DISPOSITION OF STATEM (8) DISPOSITION OF STATEM (7) Design Documents and FSAR Consistent (7) SAR Consistent (7) SAR Consistent (7) SAR Consistent (7) Contents the design criteria represented by DOC #4, refers to G2 	 (3) Design Statement as Presented in FSAR ERCW (KE) System The entire system inside the reactor building including the (Actual weld being investigated is "pipe to valve-BW" with (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT (8) DISPOSITION OF STATEMENT (7) Design Documents and Statement S	 (3) Design Statement as Presented in FSAR ERCW (KE) System The entire system inside the reactor building including the containment isolation valves are ASME Section III Class 2 (Actual weld being investigated is "pipe to valve-BW" with nominal size 16", III 2S.) (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT (9) Design Documents and Minor Inconsistencies Between FSAR is not Consistent FSAR Consistent FSAR and Design Documents with Design Documents NG			

DESIGN STATEMENT BLM-25 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general notes drawing should be referenced from the physical drawings.







				1 1		Webee Contemp W	E
(1)	• .	(2) Responsible Group/Section		chanical #1	Essential Raw Cooling	water System - K	E
	BLM-26 (Sheet 1 of 2)	(3) Design Statement as Presente	d in FSAR				
		ERCW (KE) System				•	
(4)	FSAR Section 9.2.1.7 Fig. 9.2.1-2A,-2B & -4	The entire system inside the r (Actual weld being investigat	eactor build ed is "pipe	ding including the cont to socket weld fitting,	tainment isolation valves a " with nominal size 1/2",	re ASME Section III 2S.)	III Class 2.
(5)	FSAR Page 9.2-8						
(6)	Design Documents						
	 (1) DC-N4-KE-D740 R3 (2) DCD-3GW0653-KE- 01R15 (3) DCD-3GW0653-KE- 02R13 & 04R12 	(7) Contact(s) N/A		· · · · ·		· · · · · · · · · · · · · · · · · · ·	
		(8) DISPOSITION OF STATEM	ENT				
	 (6) 3BW0453-KE-30R13 (7) 3BW0453-KE-35R9 (8) 3GC0653-KE-12R5 	Design Documents and FSAR Consistent		Minor Inconsistenc FSAR and Design		FSAR is not Co with Design Do	1
 (9)	DISCUSSION OF FIND	I <u>NG</u>			<u>,</u>	· · · · · · · · · · · · · · · · · · ·	5
	requirement. DOC #2 (D	mmitment of the KE system within OCD) reflects the design criteria re referred by DOC #4, refers to G2	quirements.	The physical piping	drawings refers to DOC #	2 & 3, also DOC	#5, weld
	<u>H. Burns 12/21/85</u> vestigator Date	5 <u>Howard Moore</u> <u>12/21/85</u> Approver Date			WELDING PROJECT	Montomen	<u> 8/4/92</u> Date

DESIGN STATEMENT BLM-26 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general notes drawing should be referenced from the physical drawings.







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) Design Statement No.	(2) Resp	onsible Group/Section	BLP Mec	hanical #1	Waste Disposa	l System - WD						
. –		gn Statement as Presente					· · · · · · · · · · · · · · · · · · ·					
DLWI-27 (Sheet I of 2)				·								
) FSAR Section	-	e Disposal System										
		Penetrations through containment are designed to ASME Section III, Class 2. (The actual weld being investigated is - "1/2" to 2 1/2" pipe weldolet for P-test instrument.")										
I1.2.4 Fig. 11.0.0-1	i											
FSAR Page												
11.2-8		· ·										
Design Documents												
(I) DC-N4-WL-D740 R2	2											
(page 9) (2) DCD-3BW0680-WD												
01RI4 (3) 3BW0480-WD-												
01R15	(7) Contact(s) N/A											
(4) 3BW0480-WD- 02RI4	(8) DISP	POSITION OF STATEM	ENT									
(5) 3BC0680-WD-06R8	1	Design Documents and SAR Consistent		Minor Inconsiste FSAR and Desig		,	is not Consistent esign Documents					
DISCUSSION OF FIND	ING	<u></u>										
The FSAR defines the co												
reflects the design criteri the weld procedures. Do	•				-							
H. Burns 12/21/8	<u> </u>	ard Moore <u>12/19/85</u>				ROJECT REVIEW	•					
vestigator Date	Appr	over Date				Approver	Date 8/6/92					

BELLEFONTE - FSAR/COM	IMITMENT CONSISTENCY REVIEW FORM
DESIGN STAT	TEMENT BLM-27 (Sheet 2 of 2)
NCONSISTENCY (Describe)	· · · · · · · · · · · · · · · · · · ·
· · ·	
•	
UGGESTION FOR IMPROVEMENT OF PRO	DGRAM (Describe)
	· · · · · · ·
The welding and NDE requirements sheets s	should be referenced from the physical drawings.
The general notes drawing should be referen	aced from the physical drawings.
The physical drawings should be referenced	from the design criteria diagram.
HANGES TO MAKE PROGRAM WORK PRO	OPERI V (Describe)
	OF EACT (Describe)
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(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Me	chanical #1	Waste Dispo	sal System - WE) .		
	BLM-28 (Sheet 1 of 2)	(3)	Design Statement as Preser	nted in FSAR		*****				
(4)	FSAR Section		Waste Disposal System wh investigated is - "pipe to va				Section III Class	3. (The ac	tual weld	being
	11.2.4 Fig. 11.0.0-1		•							
(5)	FSAR Page 11.2-8].			· ·					-
(6)	Design Documents									
	 (1) DC-N4-WL-D740 R2 (2) DCD-3BW0680-WD- 01R14 				. ···				1 (1) ¹	
	(3) 3BW0480-WD- 01R15	(7)	Contact(s) N/A			•				·
	(4) 3BC0680-WD-07R0	(8)	DISPOSITION OF STATE	EMENT						
			Design Documents and FSAR Consistent		Minor Inconsist FSAR and Desi			AR is not Co h Design Do		
 (9)	DISCUSSION OF FINDI	NG		· · · · · · · · · · · · · · · · · · ·	• •					
. ,	The FSAR defines the con	nmi flect	itment to ASME Section III ts the design criteria require							ces
	H. Burns <u>12/18/85</u> estigator Date	<u> </u>	Howard Moore 12/18/8 Approver Date	<u>35</u>		WELDING I	PROJECT REVI	Agonay	<u>8/6/</u> Date	92

DESIGN STATEMENT BLM-28 (Sheet 2 of 2)

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INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.





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	· · · · · · · · · · · · · · · · · · ·		BELLEFONTE - FSAR/C	OMMITME	NT CONSISTENCY	REVIEW FORM - 1985
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mec	hanical #1	Spent Fuel Cooling System - NM
	BLM-29 (Sheet 1 of 2)	(3)	Design Statement as Present	ted in FSAR	······································	······································
(4)	FSAR Section		Spent Fuel Cooling System	(NM)		
	9.1.3.3.3 Fig. 9.1.3-1		The penetrations into the rea "12" pipe to 12" flued head	actor building ," 111 2S.)	are designed to ASME	E Section III Class 2. (Actual weld being investigated is
(5)	FSAR Page 9.1-8 & 9.1-13					
(6)	Design Documents					
	 (1) DC-N4-NM-D740 R2 (2) DCD-3BW0654-NM- 01R15 (3) 2BW0454 NM 01B8 					
	(3) 3BW0454-NM-01R8(4) 3BW0454-NM-04R8	(7)	Contact(s) N/A			
	(5) 3BW0454-NM-05R8(6) 3BC0654-NM-05R9	(8)	DISPOSITION OF STATE	MENT		
	(7) 3GA0454-NM-01R0		Design Documents and FSAR Consistent		Minor Inconsistencie FSAR and Design D	
(9)	DISCUSSION OF FINDI	NG				· · · · · · · · · · · · · · · · · · ·
						DOC #2 shows the criteria requirements. DOC #3, 4 & 5 ces G-29M. G-29M references ASME Section 11I.
	H. Burns <u>12/21/85</u> estigator Date			12/21/85 Date		WELDING PROJECT REVIEW: Approver <u>8/6/92</u> Date

DESIGN STATEMENT BLM-29 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The General Specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.



(1) Design Statement No.

(4) FSAR Section

(5) FSAR Page

(6) Design Documents

(6) 3BC0654-NM-03R1 (7) 3GA0454-NM-01R0



Design Statement No.				NCY REVIEW FORM - 1985	
Design Statement No.	(2)	Responsible Group/Section	BLP Mechanical #1	Spent Fuel Cooling System	- NM
BLM-30 (Sheet 1 of 2)	(3)	Design Statement as Presente	d in FSAR		
		Spent Fuel Cooling System (I	NM)		
		The system is designed to Sec	ction III Class 3. (Actual w	eld being investigated is "1/2-S.W.	valve to 1/2 pipe" III 3S.)
SAR Section					
).1.3.3.3 Fig. 9.1.3-1				·	
FSAR Page 0.1-8 & 9.1-13				•	• •
Design Documents			•		
1) DC-N4-NM-D740 R2 2) DCD-3BW0654-NM- 01R15					•
(3) 3BW0454-NM-01R8	<u> </u>				· · · · · · · · · · · · · · · · · · ·
	(7)	Contact(s) N/A			
(5) 3BW0454-NM-05R9	(8)	DISPOSITION OF STATEM	ENT		

FSAR is not Consistent

with Design Documents

9)	DISCUSSION	OF FINDING

The FSAR defines commitment to ASME Sect III Class 3 with DOC #1 reflecting the same. DOC #2 shows the design criteria requirements. DOC #3, 4 & 5 note the commitment to ASME Sect III, CL3 and references DOC #2 and 7. DOC #7 references G-29M. G-29M references ASME Section III.

Minor Inconsistencies Between

FSAR and Design Documents

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Design Documents and

FSAR Consistent

E H. Burns 12/21/85 David M. Hammons 12/21/85 WELDING PROJEC Approver Investigator Date Date Date Approver

DESIGN STATEMENT BLM-30 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The General Specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.







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		BELLEFONTE - FS	SAR/COMMITM	IENT CONSISTEN	CY REVIEW FORM - 19	985	
(1)	Design Statement No.	(2) Responsible Group/Se	ection BLP N	lechanical #1	Startup and Recircula	tion System - CR	
	BLM-31 (Sheet 1 of 2)	(3) Design Statement as H	Presented in FSA	R			
(4)	FSAR Section	The FSAR is to be re with ASME Sect III,		t certain areas of the	steam gen. blowdown syste	em should be desi	gned in accordance
	10.4.8	(The actual weld to be	e examined	'valve to fitting-BW"	, 8" nom, sch 100, ASME	Sect III-2S.)	
(5)	FSAR Page						
	From Rev Amendment #35		·				
(6)	Design Documents						
	 (1) ECN-2016 (2) DC-N4-CR-D740 R3 (3) DCD-3BW0620-CR- 01R10 		· ·				
	(4) 3BW0420-CR- 01R10, 04R10 &	(7) Contact(s) N/A					
	11R2	(8) DISPOSITION OF ST	TATEMENT				
	(5) 3BC0620-CR-01R3 & 02R11	Design Document: FSAR Consistent	s and	Minor Inconsiste FSAR and Desig		FSAR is not with Design	
(9)	DISCUSSION OF FINDI	NG					
	The FSAR amendment is criteria (DOC #2) reflects DOC #4 by knowledge of references ASME Section	these modifications. The drawing number relations	physical drawing	s (DOC #4) reference		ets (DOC #5) is re	eferenced from
	vid M. Hammons 12/21/85 estigator Date		1/21/85 ate		WELDING PROJECT	10 Martony	<u>8/49/</u> Date

DESIGN STATEMENT BLM-31 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The draft revision of the FSAR statement should be issued.

• The physical drawings should be referenced from the design criteria diagram.



		BELLEFONTE - FSA	R/COMMITME	NT CONSISTENCY	REVIEW FORM - 198	85	
(1)	Design Statement No.	(2) Responsible Group/Secti	on BLP Mec	hanical #1	Startup and Recirculat	ion System - CR	· · ·
	BLM-32 (Sheet 1 of 2)	(3) Design Statement as Pre	sented in FSAR				······································
(4)	FSAR Section	The FSAR revision, Am in accordance with ASM (The actual weld to be e	E Section III Cla	ass 2.	·	lowdown system shall	be designed
(5)	FSAR Page						
	From Rev Amendment #35						•
(6	Design Documents						
	 (1) ECN-2016 (2) DC-N4-CR-D740 R3 (3) DCD-3BW0620-CR- 01R10 		, · · ·				
	(4) PHY-3BW0420-CR-	(7) Contact(s) N/A	· · · · · .		·		•
	01R10,04R10 & 07R8 (5) NDE-3BC0620-CR- 01R3 & 02R11	 (8) DISPOSITION OF STA Design Documents a 		Minor Inconsistenc	·	FSAR is not Con	
		FSAR Consistent		FSAR and Design	Documents	with Design Docu	iments
(9	DISCUSSION OF FINDI	ING		·			·
	criteria (DOC #2) reflects	a result of ECN 2016 (DOC s these modifications. The ph f drawing number relationship n 111.	ysical drawings	(DOC #4) reference D	OC #3. The NDE shee	ts (DOC #5) is referen	nced from
	wid M. Hammons 12/21/85 vestigator Date	5 <u>Howard Moore</u> <u>12/2</u> Approver Date			WELDING PROJECT	REVIEW:	8/1/92
	-				Appro	ver ' () / D	ate

DESIGN STATEMENT BLM-32 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The Gen. Spec., G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The draft revision of the FSAR statement should be issued.

• The physical drawings should be referenced from the design criteria diagram.





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			BELLEFONTE -	FSAR/CO	MMITME	NT CONSISTENCY I	REVIEW FORM - 1985		
(1)	Design Statement No.	(2)	Responsible Group	/Section	BLP Mec	nanical #1	Starting Air System - RC	G	
	BLM-33 (Sheet 1 of 2)	(3)	Design Statement a	s Presented	in FSAR				
(4)	FSAR Section		"Equipment and pip III, Class 3".	ping from t	he dryer to	diesel engine skid are	designed to ASME boiler	and pressure ves	ssel code Section
	9.5.6 Fig. 9.5.6-1		(Actual weld being	investigate	d is - "fittir	ng to pipe-butt weld," I	NOM size 3" to 3", III 35	S.)	
(5)	FSAR Page								
	9.5-30								
(6)	Design Documents						. · · ·		
	 1) DCD-3DW0685-RG- 01R10 2) 3DW0598-00-01R10 								· · · .
	2a) 3DW0598-00-02R16 3) 3DC0685-RG-01R3	(7)	Contact(s) N/A						
	4) 3GA0598-RG-01R0	(8)	DISPOSITION OF	STATEM	ENT				
			Design Docum FSAR Consiste			Minor Inconsistencie FSAR and Design D		FSAR is not C with Design De	
(9)	DISCUSSION OF FINDI	NG							
	The FSAR defines the consection. The physical pip G29M through the Genera	ing	drawing (DOC #2)	references 1	DOC #1, ar	d G29M. DOC #3 ret	ferences DOC #1, and DO	ment by identify DC #2, 2a. DOC	ing the FSAR C #4 references
	Ganta <u>12/18/85</u> restigator Date		<u>Howard Moore</u> Approver	<u>12/18/85</u> Date			WELDING PROJECT H	Matom	<u>8/6/92</u> Date

BELLEFONTE - FSAR/COMMITM	ENT CONSISTENCY REVIEW FORM
DESIGN STATEMEN	TT BLM-33 (Sheet 2 of 2)
NCONSISTENCY (Describe)	
	. · · ·
	-
UGGESTION FOR IMPROVEMENT OF PROGRAM	(Describe)
COLUMENT OF THE ROLL ALL OF TROORAM	
The welding and NDE requirements sheets should be	e referenced from the physical drawings.
The general notes drawing should be referenced from	m the physical drawings.
The physical drawings should be referenced from the	e design criteria diagram.
	•
HANGES TO MAKE PROGRAM WORK PROPERLY	Y (Describe)

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) Design Statement No.	(2) Responsible Group/	Section BLP Meel	hanical #I	Chemical Additi	on and Boron Recovery	System - NB
BLM-34 (Sheet 1 of 2)	(3) Design Statement as	s Presented in FSAR				
) FSAR Section		e 'CA & BRS' require ANS N18.2 safety cla		oric acid for cold shut	down are designed to sei	smic category I
9.3.4.3 Fig. 9.3.4-1	(Actual weld being	investigated is - "pipe	to valve-butt weld	d," NOM size 2" to 2	", III 3S.)	
i) FSAR Page						
9.3-32	4		•			
b) Design Documents						
 DC-N4-NB-D740 R2 DCD-3AW0678-NB- 01R7 						
3) 3AW0478-NB-01R11 4) 3AW0478-NB-09R9	(7) Contact(s) N/A					
5) 3AC0678-NB-03R3 6) 3GA0478-NB-01R0	(8) DISPOSITION OF	STATEMENT				
· · · · · · · · · · · · · · · · · · ·	Design Docume FSAR Consister		Minor Inconsist FSAR and Desi		FSAR is not C with Design D	
) DISCUSSION OF FINDI	<u>NG</u>					
The FSAR defines the co DOC #2 (DCD) reflects t process specification which	mmitment to ASME Sect he design criteria require	ments. The physical	dwg (DOC #3) re			
<u>. Ganta 12/19/85</u> vestigator Date		<u>12/19/85</u> Date			Approver	<u>8/4/92</u> Date

BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIE	W FORM
DESIGN STATEMENT BLM-34 (Sheet 2 of 2)	
NCONSISTENCY (Describe)	
UGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)	
The general notes drawing should be referenced from the physical drawings.	
The physical drawings should be referenced from the design criteria diagram.	
HANGES TO MAKE PROGRAM WORK PROPERLY (Describe)	
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		BELLEFONTE - FSAR/CO	MMITME	NT CONSISTENCY	REVIEW FORM - 198	5
(1) Design Statement No.	(2)	?) Responsible Group/Section	BLP Mec	hanical #1	Diesel Generator Fuel	Oil System - FF
BLM-35 (Sheet 1 of	2) (3)	B) Design Statement as Presented	i in FSAR		· ·	
(4) FSAR Section		"TVA supplied piping and conversel code, ASME Section II			age tanks to diesel genera	ator units - boiler and pressure
9.5.4.1 Fig. 9.5.4-1 & -2		(Actual weld being investigate	ed is - "pipe	e to fitting," NOM size	3" to 3", III 3S.)	
(5) FSAR Page	-					
9.5-22a						
(6) Design Documents						
 1) DC-N4-FF-D740 R 2) DCD-3GW0683-00- 01R11 3) DCD-3GW0683-00- 						· · ·
02R9 4) 3DW0598-00-01R10	, <u>a</u>	7) Contact(s) N/A		· · · · · · · · · · · · · · · · · · ·		
5) 3DW0598-00-02R16 6) 3GC0683-00-01R3		B) DISPOSITION OF STATEM	ENT			· · · · · · · · · ·
7) 3GA0598-FF-01R0		Design Documents and FSAR Consistent		Minor Inconsistencie FSAR and Design D		FSAR is not Consistent with Design Documents
(9) DISCUSSION OF FINI	 <u>>ING</u>	2	<u></u>			· · · · · · · · · · · · · · · · · · ·
The FSAR defines the c design criteria requirem references ASME Sect 1	ents o	nitment to ASME Sect III for fue on the design criteria dwgs. DC	el oil systen DC #4 refer	n. DOC #1 specifies the ences DOC #2 & 3, G	his requirement. DOC # 29M & #7. DOC #6 &	2 & 3 (DCD) references the 7 references G29M. G29M
R. Ganta <u>12/19/</u> Investigator Date	15	<u>Howard Moore</u> <u>12/19/85</u> Approver Date			WELDING PROJECT	Whytomy B/6/92
		<u> </u>	<u> </u>		····	

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DESIGN STAT	EMENT BLM-35	(Sheet 2 of 2)	

CONCIERNON DEVIEW FORM

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.





		BELLEFONTE - FSA	R/COMMITMENT CONSIS	STENCY REVIEW FORM - 1985
(1)	Design Statement No.	(2) Responsible Group/Section	on BLP Mechanical #1	Diesel Generator Fuel Oil System - FF
	BLM-36 (Sheet 1 of 2)	(3) Design Statement as Pre	sented in FSAR	
	FSAR Section 9.5.4.1 Fig. 9.5.4-1 & -2	vessel code, ASME Sect	ion III, Class 3".	7-day storage tanks to diesel generator units - boiler and pressure socketweld, NOM size 1" to 1", III 3S.)
	-			
(5) 1	FSAR Page			
	9.5-22a Design Documents			
	 DC-N4-FF-D740 R1 DCD-3GW0683-00- 01R11 DCD-3GW0683-00- 02R9 			-
:	 4) 3DW0598-00-01R10 5) 3DW0598-00-02R16 6) 3GC0683-00-01R3 7) 3GA0598-FF-01R0 	 (7) Contact(s) N/A (8) DISPOSITION OF STA' Image: State S	_	
		FSAR Consistent		onsistencies BetweenImage: FSAR is not ConsistentDesign Documentswith Design Documents
(9) <u>I</u>	DISCUSSION OF FINDIN	N <u>G</u>		• . •
C	The FSAR defines the con criteria requirements on th ASME Sect III.	nmitment to ASME Sect III for the design criteria dwgs. DOC	or fuel oil system. DOC #1 s 2 #4 references DOC #2, #3,	specifies this requirement. DOC #2 & 3 (DCD) reflects the design #7, & G29M. DOC #6 & 7 references G29M. G29M references
	anta <u>12/19/85</u> stigator Date	Howard Moore <u>12/19</u> Approver Date	<u>)/85</u>	WELDING PROJECT BEVIEW: Approver Date

BELLEFONTE - FSAR/COMMITMENT	CONSISTENCY	REVIEW	FORM
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DESIGN STATEMENT BLM-36 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.



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			BELLEFONTE - FSAR/CO	OMMITN	MENT CONSISTEN	CY REVIEW FOR	RM - 1985		······································
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP N	Mecbanical #1	Compressed A	Air System	- RK	
	BLM-37 (Sheet 1 of 2)	(3)	Design Statement as Presente	d in FSA	AR	· · · · ·		· · · · · · · · · · · · · · · · · · ·	<u>, , , , , , , , , , , , , , , , , , , </u>
(4)	FSAR Section		"All components and piping	of the ess	sential air system are a	ANS safety Class 3			
	9.3.1.1 & 9.3.1.2.2 Fig. 9.3.1-1 & -2		(Actual weld being investigat	ted is - "f	itting to fitting-butt w	eld", NOM size 5"	to 5", III	35.)	
(5)	FSAR Page]							
	9.3-1 & 9.3-4								·
(6)	Design Documents								
	 DC-N4-RJ-D740 R2 DCD-3GW0670-RK- 02R13, 01R10 								
	 3) 3BW0471-00-01R12 4) 3BW0471-00-24R15 	(7)	Contact(s) N/A	-					
	5) 3BC0671-00-02R7 6) 3GA0471-RK-01R0	(8)	DISPOSITION OF STATEM	IENT					
	0) 30A04/1-KR-01K0		Design Documents and FSAR Consistent		Minor Inconsister FSAR and Desig			FSAR is not Consist with Design Docum	
(9)	DISCUSSION OF FINDI	NG	· · · · · · · · · · · · · · · · · · ·						······
	(DCD) reflects the design	cri	itment to ASME Sect III (ANS teria requirements on the designification. DOC #6 references	gn criteria	a dwg. The physical j	piping dwg (DOC #			
	Ganta <u>12/21/85</u> restigator Date		Howard Moore <u>12/21/85</u> Approver Date			WELDING P	ROJECT F	Moranny 8/	/92

DESIGN STATEMENT BLM-37 (Sheet 2 of 2) NCONSISTENCY (Describe)	
NCONSISTENCY (Describe)	· .
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	<u> </u>
UGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)	·
The welding and NDE requirements sheets should be referenced from the physical drawings	
The general notes drawing should be referenced from the physical drawings.	
The physical drawings should be referenced from the design criteria diagram.	
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			BELLEFONTE	- FSAR/CO	MMITME	T CONSISTENCY	REVIEW FORM - 1985	· · · · · · · · · · · · · · · · · · ·
(1)	Design Statement No.	(2)	Responsible Grou	p/Section	BLP Mech	nanical #1	Decay Heat Removal Sy	vstem - ND
	BLM-38 (Sheet 1 of 2)	(3)	Design Statement	as Presented	in FSAR			· · · · · · · · · · · · · · · · · · ·
(4)	FSAR Section		"ECCS systems a	nd componen	nts are desig	ned to ASME Section	III, Class 2 or higher."	
	5.4.7 & 6.3.2.3 Fig. 5.4.7-1		(Actual weld bein	g investigate	đ is - "pipe	to flued head-butt we	ld," nom. size 2", ASME	III CL2.)
(5)	FSAR Page							
	6.3-8							
(6)	Design Documents							
	 DC-N4-ND-D740 R1 DCD-3BW0612-ND- 01R13 3AW0412-ND-01R15 			· .				•
	4) 3RW0413-ND-01R125) 3BC0612-ND-05R4	(7)	Contact(s) N/A					
		(8)	DISPOSITION O	F STATEME	ENT			
			Design Docum FSAR Consist			Minor Inconsistenci FSAR and Design D		FSAR is not Consistent with Design Documents
(9)	DISCUSSION OF FINDI	NG		•		· · ·		
		raw eren	ings (DOC #'s 3 a	nd 4) referen	ice DOC #2	& references DOC #	5 and #6 through knowle	a diag (DOC#2) reflect this dge of related documents. The on Specifications G29M
	Ganta <u>12/21/85</u> estigator Date		Howard Moore Approver	<u>12/21/85</u> Date			WELDING PROJECT I	Marting States

DESIGN STATEMENT BLM-38 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.







(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mec	hanical #1	Decay Heat R	emoval System - ND	۰,	;
	BLM-39 (Sheet I of 2)	(3)	Design Statement as Presente	d in FSAR			· · · · · · ·		
4)	FSAR Section		"ECCS systems and compone	ents are desi	gned to ASME Sec	ction III, Class 2 or	higher."	• • • •	
	5.4.7 & 6.3.2.3 Fig. 5.4.7-1		(Actual weld being investigat	ed is - "pipe	to valve-socket w	veld," nom. size 2",	ASME III CL2.)		
5)	FSAR Page								
	6.3-8								
6)	Design Documents					×			
2) D 0	01R13					·.		. •	
	3) 3AW0412-ND-01R154) 3RW0413-ND-01R12		Contact(s) N/A				······		
	5) 3BC0612-ND-04R26) 3GA0412-ND-01R0	(8)	DISPOSITION OF STATEM	ENT	•				
			Design Documents and FSAR Consistent		Minor Inconsist FSAR and Desig			ot Consistent n Documents	
<u> </u>	DISCUSSION OF FINDI	I NG				<u> </u>	. · · ·	•••••••	
	statement. The physical of	irav eren	ent to ASME Sect III CL2 or h vings (DOC #'s 3 and 4) references G29M through the identifi	ence DOC #	2 & references DO	DC #5 and #6 throug	gh knowledge of related	i documents. T	'he
	Ganta <u>12/21/85</u>		Howard Moore 12/21/85			WELDING P	ROJECT REVIEW;	- B/4/9.	2
	estigator Date		Approver Date				Approver ()	$\underline{\gamma} = \frac{B/L/92}{Date}$	2

DESIGN STATEMENT BLM-39 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.





(1)	Design Statement No.	(2) Responsible Group/Sectio	n BLP Me	chanical #1	Decay Heat H	Removal System - NE)
	BLM-40 (Sheet I of 2)	(3) Design Statement as Prese	ented in FSAR				<u> </u>
(4)	FSAR Section	"ECCS systems and comp	onents are des	igned to ASME S	ection III, Class 2 of	r higher."	
	5.4.7 & 6.3.2.3 Fig. 5.4.7-1	(Actual weld being invest	gated is - "pip	e to valve-butt we	eld," nom. size 12",	ASME III CL1.)	
(5)	FSAR Page		:				
	6.3-8	_					· ·
(6)	Design Documents						
	 1) DC-N4-ND-D740 R1 2) DCD-3BW0612-ND- 01R13 				•		
	3) 3AW0412-ND-01R154) 3RW0413-ND-01R12					·	· · · · · · · · · · · · · · · · · · ·
	5) 3RC0612-ND-01810	(8) DISPOSITION OF STAT	EMENT	· · · · · · · · · · · · · · · · · · ·			
		Design Documents and FSAR Consistent	a 🗆		stencies Between sign Documents		not Consistent sign Documents
(9)	DISCUSSION OF FINDI	I <u>NG</u>	······································	· · · · · · · · · · · · · · · · · · ·			
	statement. The physical d	itment to ASME Sect III CL2 (drawings (DOC #'s 3 and 4) re erences G29M through the ider I.	ference DOC #	2 & references D	OC #5 and #6 throu	igh knowledge of rela	ted documents. The
	Ganta <u>12/21/85</u> estigator Date	<u>Howard Moore</u> <u>12/21/</u> Approver Date	<u>85</u>		WELDING P	PROJECT REVIEW:	107 <u>8/6/82</u> Date

DESIGN STATEMENT BLM-40 (Sheet 2 of 2)

INCONSISTENCY (Descrihe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.







1) Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Decay Heat Reinoval System - ND	
BLM-41 (Sheet 1 of	2) (3) Design Statement as Presented	d in FSAR		
4) FSAR Section	"ECCS systems and compone	nts are designed to ASME S	ection III, Class 2 or higher."	
5.4.7 & 6.3.2.3 Fig. 5.4.7-1	(Actual weld being investigate	ed is - "fitting to fitting-butt	weld," nom. size 24", ASME III CL2.)	
5) FSAR Page	_			
6.3-8				
b) Design Documents				
 1) DC-N4-ND-D740 I 2) DCD-3BW0612-NI 01R13 	D-			
3) 3AW0412-ND-01R4) 3RW0412-ND-02R	15 10 (7) Contact(s) N/A	· · · · · · · · · · · · · · · · · · ·		<u></u>
5) 3BC0612-ND-04R2 6) 3GA0412-ND-01R0	(1) DISPOSITION OF STATEM	ENT		
	Design Documents and FSAR Consistent		stencies Between FSAR is not Consistent sign Documents with Design Docume	
9) DISCUSSION OF FIN	DING		·····	
statement. The physica	al drawings (DOC #'s 3 and 4) refere references G29M through the identific	nce DOC #2 & references I	DOC #1) and the design criteria diag (DOC#2) reflect OOC #5 and #6 through knowledge of related documen dures. The General Construction Specifications G29M	ts. The
<u>R. Ganta</u> nvestigator Date			WELDING PROJECT REVIEW: <u> <u> <u> </u> <u> </u></u></u>	/92_

DESIGN STATEMENT BLM-41 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.







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		BELLEFONTE	- FSAR/COMMITM	ENT CONSISTENCY	REVIEW FORM - 1985	······································			
(1) De	esign Statement No.	(2) Responsible Grou	p/Section BLP Me	chanical #1	Makeup and Purification	n System - NV	· · ·		
BL	.M-42 (Sheet 1 of 2)	(3) Design Statement	as Presented in FSAR	· ·		· · · · · · · · · · · · · · · · · · ·			
(4) FS.	AR Section	Portions of the system which form the reactor coolant pressure boundary are ASME Section III Class 1.							
	3.2.3 & 9.3.6 g. 9.3.6-1	(The actual weld	to be examined "p	pipe to valve, SW", III	IS, 1 1/2" nom.)	÷	· · ·		
(5) FS.	AR Page			-					
6.3	3-8				· · ·		а. Алтана (1996)		
(6) De	sign Documents			:					
(2)	 (1) DC-N4-NV-D740 R1 (2) DCD-3BW0619-NV- 01R8 								
(4)	3BW0619-NV-08R4 3BW0419-NV-01R10	(7) Contact(s) N/A	·	· · · · ·	·				
(6)	JDC0019-11V-01K0	(8) DISPOSITION O	F STATEMENT						
(7)	(7) 3GA0419-NV-01R0	Design Docur FSAR Consis		Minor Inconsistencie FSAR and Design D		FSAR is not Consist with Design Docum			
(9) <u>DIS</u>	SCUSSION OF FINDIN	NG							
spe	e FSAR defines the con ecifies this requirement. refers weld process spe	DOC #2 & 3 reflect	the design criteria requ	uirements. The physica	m forming Reactor Coola l piping dwg, DOC #4, r l.	nt Pressure Boundary. efers the DCD & DOG	DOC #1 C #6. DOC		
<u>R. Gan</u> Investig		<u>Howard Moore</u> Approver	<u>12/22/85</u> Date		WELDING PROJECT	Motomy 81	6 Fiz		

DESIGN STATEMENT BLM-42 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.







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(1)	Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Makeup and Purification System - NV
	BLM-43 (Sheet 1 of 2)	(3) Design Statement as Presente	d in FSAR	
(4)	FSAR Section	Portions of the system which	form the reactor coolant pre	ssure boundary are ASME Section III Class 1.
	6.3.2.3 & 9.3.6 Fig. 9.3.6-1	(The actual weld to be examined to be examined at the second seco	ned "1/2" weldolet to 2	1/2" pipe," ASME Sect III-CLI.)
(5)	FSAR Page			
	6.3-8			
(6)	Design Documents			
	 (1) DC-N4-NV-D740 R1 (2) DCD-3BW0619-NV- 01R8 (3) DCD-3BW0619-NV- 			
	06R5 (4) 3BW0419-NV-01R10	(7) Contact(s) N/A	·····	
	(c) 3BW0419-NV-06R9 (c) 3BW0419-NV-06R9 (c) 3BC0619-NV-10R8	(8) DISPOSITION OF STATEM	ENT	
	(7) 3GA0419-NV-01R0	Design Documents and FSAR Consistent		stencies BetweenImage: FSAR is not Consistentsign Documentswith Design Documents
(9)	DISCUSSION OF FINDI	NG		
	specifies this requirement.		criteria requirements. The p	n system forming Reactor Coolant Pressure Boundary. DOO hysical piping dwg, DOC #4, refers the DCD & DOC #6. ion III.
	Ganta <u>12/22/85</u>	Howard Moore 12/22/85		WELDING PROJECT REVIEW:

DESIGN STATEMENT BLM-43 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.







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(I)	Design Statement No.	(2)	Responsible Group/Section	BLP Mec	hanical #1	Makeup and Purification	System - NV	• .
	BLM-44 (Sheet 1 of 2)	(3)	Design Statement as Presented	I in FSAR		······································		
(4)	FSAR Section		Portions of the system which	form the re	actor coolant pressure	boundary are ASME Se	ction III Class I.	
	6.3.2.3 & 9.3.6 Fig. 9.3.6-1		(The actual weld to be examined	ned "pi	pe to flued head," 2 1/	'2" nom, III-1S, BW.)		
(5)	FSAR Page	1						
	6.3-8							
(6)	Design Documents							
	 (1) DC-N4-NV-D740 R1 (2) DCD-3BW0619-NV- 01R8 (3) DCD-3BW0619-NV- 							
	06R5	(7)	Contact(s) N/A					
	(4) 3BW0419-19 -01K10		DISPOSITION OF STATEM	ENT				
	(7) 3GA0419-NV-01R0		Design Documents and FSAR Consistent		Minor Inconsistencion FSAR and Design D		FSAR is not Consiste with Design Docume	
(9)	DISCUSSION OF FIND	I NG	· · · · · · · · · · · · · · · · · · ·			<u></u>	. <u></u>	1
	specifies this requirement	. D	tment to ASME Sect III Class OC #2 & 3 reflect the design ication. DOC #7 refers G29M	criteria requ	irements. The physica	al piping dwg, DOC #4, r	nt Pressure Boundary. efers the DCD & DOC	DOC #6.
	Ganta <u>12/22/85</u> estigator Date		Howard Moore12/22/85ApproverDate			WELDING PROJECT I	Montory 8/	16/9

DESIGN STATEMENT BLM-44 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.







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(1)	Design Statement No.	(2) Responsible Group/Section	BLP Mec	hanical #I	Makeup and Purification System - NV
	BLM-45 (Sheet 1 of 2)	(3) Design Statement as Presente	ed in FSAR	· · · · · · · · · · · · · · · · · · ·	· · · ·
(4)	FSAR Section	Portions of the system which	form the re	actor coolant pressur	re boundary are ASME Section III Class 1.
	6.3.2.3 & 9.3.6 Fig. 9.3.6-1	(The actual weld to be exam	ined "pi	pe to valve-BW", Se	ection III-CL1, 2 1/2" nom.)
(5)	FSAR Page				
	6.3-8				
(6)	Design Documents				
	 (1) DC-N4-NV-D740 R1 (2) DCD-3BW0619-NV- 01R8 (3) DCD-3BW0619-NV- 				
	06R5 (4) 3BW0419-NV-01R10	(7) Contact(s) N/A			-
	(5) 3BW0419-NV-06R9 (6) 3BC0619-NV-01R6	(8) DISPOSITION OF STATEN	MENT		· · · · · · · · · · · · · · · · · · ·
	(6) 3BC0619-NV-01R6 (7) 3GA0419-NV-01R0	Design Documents and FSAR Consistent		Minor Inconsisten FSAR and Design	
(9)	DISCUSSION OF FINDI	NG			
	specifies this requirement.		criteria requ	irements. The physi	stem forming Reactor Coolant Pressure Boundary. DOC a ical piping dwg, DOC #4, refers the DCD & DOC #6. D III.
	Ganta <u>12/22/85</u> estigator Date	Howard Moore 12/22/85 Approver Date			WELDING PROJECT REVIEW:

DESIGN STATEMENT BLM-45 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

CHANGES TO MAKE PROGRAM WORK PROPERLY (Describe)

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	· · · · ·	BELLEFONTE - FSAI	R/COMMITM	ENT CONSISTENCY	REVIEW FORM - 198	5
(1)	Design Statement No.	(2) Responsible Group/Secti	on BLP Me	chanical #1	Makeup and Purification	on System - NV
	BLM-46 (Sheet 1 of 2)	(3) Design Statement as Pre-	sented in FSAR			
(4)	FSAR Section	Those portions of the sy	stem required to	perform a safety funct	tion are ASME Sectior	n III Class 2.
	6.3.2.3 & 9.3.6 Fig. 9.3.6-1	(The actual weld to be e	xamined "I	pipe to flued head - BW	7," 2 1/2" NOM, ASME	Section III - CL 2S.)
(5)	FSAR Page					
	6.3-8					•
(6)	Design Documents				:	
	 (1) DC-N4-NV-D740 R1 (2) DCD-3BW0619-NV- 01R8 (2) D20440 NV 12D4 		• •			
	(3) 3BW0419-NV-12R4(4) 3BW0419-NV-01R10	(7) Contact(s) N/A				
	(A) AD COCIA NUL CODII	(8) DISPOSITION OF STA	TEMENT			
		Design Documents a FSAR Consistent	nd 🗌	Minor Inconsistenci FSAR and Design I		FSAR is not Consistent with Design Documents
(9)	DISCUSSION OF FINDI	I IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	······································			
	this requirement. DOC #	mmitment to ASME Sect III (2 reflects the design criteria) OC #6 references G29M. G-2	requirements. 7	The physical piping dwg	em required to perform a greferences the DCD &	a safety function. DOC #1 specifies DOC #6. DOC #5 references weld
	vi Ganta <u>12/22/85</u> vestigator Date	<u>Howard Moore</u> <u>12/2</u> Approver Date			WELDING PROJECT	to that any 8/4/92

DESIGN STATEMENT BLM-46 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.







		BELLEFONTE	- FSAR/COMMITMEN	T CONSISTENCY R	REVIEW FORM - 1985		
1) Design Stater		(2) Responsible Grou	•	anical #1	Makeup and Purification System - NV		
BLM-47 (S			as Presented in FSAR the system required to p	erform a safety function	on are – ASME Section III Class 2.		
6.3.2.3 & 9.3 Fig. 9.3.6-1	3.6	(The actual weld to be examined "Fitting to fitting - BW," 4" NOM, ASME Section III CL2.)					
5) FSAR Page 6.3-8			· ·				
 (1) DC-N4-N (2) DCD-3BV 01R8 (3) DCD-3BV 	Design Documents (1) DC-N4-NV-D740 R1 (2) DCD-3BW0619-NV- 01R8 (3) DCD-3BW0619-NV-						
04R10 (4) 3BW0419	D-NV-01R0	(7) Contact(s) N/A		<u></u> .			
(5) 3BW0419 (6) 3BC0619		 (8) DISPOSITION O Design Docur FSAR Consist 	ments and	Minor Inconsistencies FSAR and Design Do			
this requirem	efines the con ent. DOC #2	nmitment to ASME Se 2 reflects the design cr		physical piping dwg	n required to perform a safety function. DOC #1 sp references the DCD & DOC #6. DOC #5 references		
Ravi Ganta Investigator	<u>12/22/85</u> Date		<u>12/22/85</u> Date		WELDING PROJECT REVIEW: <u> <u> </u> </u>		

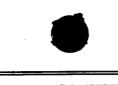
DESIGN STATEMENT BLM-47 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.







1) Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Makeup and Purification	System - NV
BLM-48 (Sheet 1 of 2)	(3) Design Statement as Presente			
) FSAR Section	Those portions of the system	required to perform a safe	ty function are - ASME Section II	I Class 2.
6.3.2.3 & 9.3.6 Fig. 9.3.6-1	(The actual weld to be examined	ined "Pipe to Valve - S	SW," 1 1/2" NOM, ASME Section	III - CL 2S.)
i) FSAR Page				
6.3-8				
5) Design Documents			2.	
 (1) DC-N4-NV-D740 R1 (2) DCD-3BW0619-NV- 01R8 (3) DCD-3BW0619-NV- 04R10 				
(4) 3BW0419-NV-01R10	(7) Contact(s) N/A		· • ·	
 (5) 3BW0419-NV-02R8 (6) 3BC0619-NV-06R2 (7) 3GA0419-NV-01R0 	 (8) DISPOSITION OF STATEN Design Documents and FSAR Consistent 	Minor Incon	sistencies Between	FSAR is not Consistent with Design Documents
this requirement. DOC #	mmitment to ASME Sect III Class	irements. The physical pip	on system required to perform a saing dwg references the DCD & DO	afety function. DOC #1 spec DC #6. DOC #5 references
<u>Ravi Ganta</u> <u>12/22/85</u> nvestigator Date			WELDING PROJECT R	EVTEN: Anton <u>B/6/97</u> Date

BELLEFONTE -	FSAR/COMMITMENT	CONSISTENCY	REVIEW FORM

DESIGN STATEMENT BLM-48 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.



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	BELLEFONTE - FSAR/C	COMMITMEN	T CONSISTENCY I	REVIEW FORM - 1985	5
(1) Design Statement No.	(2) Responsible Group/Section	BLP Mech	anical #1	Main Feedwater System	ı - CF
BLM-49 (Sheet 1 of 2)	(3) Design Statement as Presen	ted in FSAR			
(4) FSAR Section 10.4.7.3 Fig. 10.4.7-1		alls and roofs i	s a safety system and	is designed to TVA Clas	f the motor operated isolation is III 2S, Seismic Category 1."
(5) FSAR Page					
10.4-20					
(6) Design Documents			•		
 DC-N4-CF-D740 R2 DCD-3BW0601-CF- 01R12 					· ·
3) 3BW0401-CF-01R10	(7) Contact(s) N/A		· · · ·		· · · · · · · · · · · · · · · · · · ·
4) 3BW0401-CF-07R13 5) 3BC0601-CF-03R11	(8) DISPOSITION OF STATE	MENT			
6) 3GA0401-CF-01R0	Design Documents and FSAR Consistent		Minor Inconsistencie FSAR and Design D		FSAR is not Consistent with Design Documents
(9) <u>DISCUSSION OF FINDI</u>	NG				
design criteria requiremen	rs. DOC #5 references General	2 and reference	s DOC #5 (which give	es weld procedure numb	er) and #6 through the knowledge
Howard L. Moore <u>12/17/85</u> Investigator Date	<u>Dan Roach 12/18/8</u> Approver Date	5		WELDING PROJECT	All formy 8/4/92
					······································

DESIGN STATEMENT BLM-49 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.







	• · · · · · · · · · · · · · · · · · · ·		BELLEFONTE - FSAR/CO	OMMITME	NT CONSISTENCY R	REVIEW FORM - 1985			
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mec	banical #1	Main Feedwater System	- CF		
	BLM-50 (Sheet 1 of 2)	(3)	Design Statement as Presente	d in FSAR					
(4)	FSAR Section 10.4.7.3 Fig. 10.4.7-1		"The Feedwater System from valves in the valve room wal (Actual weld being investigat	ls and roofs	is a safety system and i	s designed to TVA Class	III 2S, Seismic Catego		
(5)	FSAR Page								
	10.4-20								
(6)	Design Documents						·		
	 1) DC-N4-CF-D740 R2 2) DCD-3BW0601-CF- 01R12 		• 						
	3) 3BW0401-CF-01R10	(7)	Contact(s) N/A	·					
	4) 3BW0401-CF-07R13 5) 3BC0601-CF-03R11	(8)	DISPOSITION OF STATEM	IENT					
	6) 3GA0401-CF-01R0		Design Documents and FSAR Consistent		Minor Inconsistencies FSAR and Design Do		FSAR is not Consistent with Design Docume		
(9)	DISCUSSION OF FINDI	<u>NG</u>	· .						
	The FSAR defines the commitment to ASME Section 111 Class 2S for Feedwater System. DOC #1 specifies this requirement. DOC#2 reflects the design criteria requirements. DOC #3 references DOC #2 and references DOC #5 (which gives weld procedure number) and #6 through the knowledge of related drawing numbers. DOC #5 references General Construction Specification G-29M through the identification of the welding procedures. G-29M references ASME Sect III.								
	ward L. Moore <u>12/17/85</u> estigator Date		Dan Roach12/18/85ApproverDate			WELDING PROJECT F	Marking B	lefse_	

DESIGN STATEMENT BLM-50 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.







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		BELLEFONTE - FSAR	COMMITM	ENT CONSISTENC	Y REVIEW FORM	- 1985					
(1)	Design Statement No.	(2) Responsible Group/Section	n BLP M	echanical #1	Main Feedwater	System	- CF				
	BLM-51 (Sheet 1 of 2)	(3) Design Statement as Pres	ented in FSAF	Ł							
(4)	FSAR Section		"The Feedwater System from the steam generators back through the anchors upstream of the motor operated isolation valves in the valve room walls and roofs is a safety system and is designed to TVA Class III 2S, Seismic Category I."								
	10.4.7.3 Fig. 10.4.7-1	(Actual weld being invest	igated is - "S7	Gen Nozzle to fittin	g-buttweld," NOM s	ize 14",	III 2S.)				
(5)	FSAR Page										
	10.4-20										
(6)	Design Documents							·			
	 DC-N4-CF-D740 R2 DCD-3BW0601-CF- 01R12 										
	3) 3BW0401-CF-01R10	(7) Contact(s) N/A									
	 4) 3BW0401-CF-05R8 5) 3BC0601-CF-01R5 6) 3GA0401-CF-01R0 	(8) DISPOSITION OF STAT	EMENT								
	6) 3GA0401-CF-01R0	Design Documents an FSAR Consistent	d 🗌	Minor Inconsister FSAR and Design			FSAR is not with Design I				
(9)	DISCUSSION OF FINDI	NG					•				
	design criteria requiremen	nmitment to ASME Section II ts. DOC #3 references DOC rs. DOC #5 references Gener ect III.	#2 and referen	nces DOC #5 (which	gives weld procedure	e numbe	r) and #6 throu	gh the knowledge			
	ward L. Moore <u>12/17/85</u> vestigator Date	<u>Dan Roach 12/18</u> Approver Date	/85		WELDING PRO	Approve	Montony	<u>8/6/92</u> Date			

DESIGN STATEMENT BLM-51 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.





·	<u></u>		BELLEFONTE - FSAR/COM	AMITME	NT CONSISTENCY F	REVIEW FORM - 1985		-	
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mec	hanical #1	Main Feedwater System	- CF	· · · · · · · · · · · · · · · · · · ·	
	BLM-52 (Sheet 1 of 2)	(3)	Design Statement as Presented	in FSAR					
(4)	FSAR Section		"The Feedwater System from t valves in the valve room walls		-	-	-		
	10.4.7.3 Fig. 10.4.7-1		(Actual weld being investigated	l is - "flue	l head to process pipe,	" 22" nom, III 2S.)			
(5)	FSAR Page						:		
	10.4-20				· · · ·			· · ·	
(6)	Design Documents								
	 DC-N4-CF-D740 R2 DCD-3BW0601-CF- 01R12 								
	3) 3BW0401-CF-01R10	(7)	Contact(s) N/A		·			•	
	 4) 3BW0401-CF-09R9 5) 3BC0601-CF-02R11 6) 3GA0401-CF-01R0 	(8)	 DISPOSITION OF STATEME ☑ Design Documents and FSAR Consistent 		Minor Inconsistencies FSAR and Design Do		FSAR is not Co with Design Do		
(9)	DISCUSSION OF FINDI	NG	, ·						
The FSAR defines the commitment to ASME Section III Class 2S for Feedwater System. DOC #1 specifies this requirement. DOC#2 reflects the design criteria requirements. DOC #3 references DOC #2 and references DOC #5 (which gives weld procedure number) and #6 through the knowle of related drawing numbers. DOC #5 references General Construction Specification G-29M through the identification of the welding procedures. C 29M references ASME Sect III.									
	ward L. Moore <u>12/17/85</u> estigator Date		Dan Roach12/18/85ApproverDate			WELDING PROJECT F	Martin	<u>8/4/97</u> Date	

BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM		
	DESIGN STATEMENT BLM-52 (Sheet 2 of 2)	

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.





			BELLEFONTE - FSAR/CO	OMMITME	NT CONSISTENCY R	REVIEW FORM - 1985
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mec	hanical #1	Main Feedwater System - CF
	BLM-53 (Sheet 1 of 2)	(3)	Design Statement as Presente	ed in FSAR		
(4)	FSAR Section		" while the remainder of the Code, Section III, Class 2."	he Feedwate	r System is designed in	accordance with the ASME Boiler and Pressure Vessel
	10.4.7.2 Fig. 10.4.7-1		(Actual weld being investigat	ted is - "valv	ve to valve - butt weld,"	" with nominal size 20".)
(5)	FSAR Page					
	10.4-18					
(6)	Design Documents					
	 DC-N4-CF-D740 R2 DCD-3BW0601-CF- 01R12 					
	3) 3BW0401-CF-01R10	(7)	Contact(s) N/A			
	4) 3BW0401-CF-08R125) 3BC0601-CF-02R11	(8)	DISPOSITION OF STATEM	IENT		
	6) 3GA0401-CF-01R0		Design Documents and FSAR Consistent		Minor Inconsistencies FSAR and Design Do	
(9)	DISCUSSION OF FIND	NG				· · ·
	design criteria requiremen	its. rs.	DOC #3 references DOC #2 DOC #5 references General C	and reference	es DOC #5 (which give	C #1 specifies this requirement. DOC#2 reflects the es weld procedure number) and #6 through the knowledge prough the identification of the welding procedures. G-
	ward L. Moore 12/17/85 restigator Date		Dan Roach12/18/85ApproverDate			WELDING PROJECT REVIEW: Approver B/4/92 Date

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BELLEFONTE - FSAR/COMMITMENT CON	NSISTENCY REVIEW FORM
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DESIGN STATEMENT BLM-53 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

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• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.







(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mechanical #1	Main Feedwater System - CF
	BLM-54 (Sheet 1 of 2)	(3)	Design Statement as Presented	d in FSAR	
(4)	FSAR Section		" while the remainder of th Code, Section III, Class 2."	e Feedwater System is design	ned in accordance with the ASME Boiler and Pressure Vesse
	Fig. 10.4.7-1		(Actual weld being investigate	ed is - "pipe to flex hose-soch	ket weld," with nominal size 1 $I/2$ ".)
(5)	FSAR Page				
	10.4-18				
(6)	Design Documents	1			
	 DC-N4-CF-D740 R2 DCD-3BW0601-CF- 01R12 			• •	
	3) 3BW0401-CF-01R10	(7)	Contact(s) N/A	-	
	4) 3BW0401-CF-10R95) 3BC0601-CF-03R11	(8)	DISPOSITION OF STATEM	ENT	
	6) 3GA0401-CF-01R0		Design Documents and FSAR Consistent	Minor Inconsist FSAR and Desi	tencies Between FSAR is not Consistent ign Documents with Design Documents
(9)	DISCUSSION OF FIND	NG			•
	design criteria requirement	nts. rs.	DOC #3 references DOC #2 at DOC #5 references General Co	nd references DOC #5 (which	DOC #1 specifies this requirement. DOC#2 reflects the h gives weld procedure number) and #6 through the knowled 9M through the identification of the welding procedures. G
Ho	vard L. Moore <u>12/17/85</u> estigator Date		Dan Roach12/18/85ApproverDate		WELDING PROJECT REVIEW: Auto Approver 8/6/9 Approver Date

·	DESIGN STATEMENT BLM-54 (Sheet 2 of 2)	
CONSISTENCY (Desc	cribe)	
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: *		
GGESTION FOR IMP	PROVEMENT OF PROGRAM (Describe)	
	· · · · · ·	
The general specification	tion, G-29M should be referenced from the physical drawings.	
	E requirements sheets should be referenced from the physical drawings. wing should be referenced from the physical drawings.	
The general notes draw	E requirements sheets should be referenced from the physical drawings. wing should be referenced from the physical drawings. s should be referenced from the design criteria diagram.	•
The general notes draw	wing should be referenced from the physical drawings.	•
The general notes draw	wing should be referenced from the physical drawings.	
The general notes draw	wing should be referenced from the physical drawings.	
The general notes draw	wing should be referenced from the physical drawings. s should be referenced from the design criteria diagram.	
The general notes draw	wing should be referenced from the physical drawings.	
The general notes draw	wing should be referenced from the physical drawings. s should be referenced from the design criteria diagram.	
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The general notes draw	wing should be referenced from the physical drawings. s should be referenced from the design criteria diagram.	







		BELLEFONT	E - FSAR/CO	OMMITMEN	T CONSISTEN	NCY REVIEW FO	PRM - 1985	
(1) Design Statement No.	(2) Responsible Gro	oup/Section	BLP Mech	anical #1	Main Steam	System - SM	
BLM-55 (Sheet 1 of 2	(3)) Design Statemer	nt as Presente	d in FSAR	, .u.			
(4) FSAR Section 10.3.1 Fig. 10.3.2-1		the first anchor	at the valve v	vent room ext	erior is designed	to and including th to TVA Class III 2 ld," with nominal s	ne main steam isolation 2S requirements" ize 32".)	valves and through
(5) FSAR Page					· ·			
10.3-1								
(6) Design Documents		1						
 I) DC-N4-SM-D740 R2 2) DCD-3BW0600-SM- 01R16 		·.						. •
3) 3BW0400-SM-01R13) Contact(s) N/A						
4) 3BW0400-SM-05R13 5) 3BC0600-SM-02R13		DISPOSITION	OF STATEM	IENT		•		
6) 3GA0400-SM-01R0		Design Docu FSAR Const			Minor Inconsis FSAR and Des	tencies Between ign Documents		ot Consistent on Documents
(9) <u>DISCUSSION OF FIND</u>	ING							
The FSAR defines the co design criteria requireme of related drawing numb 29M references ASME S	nts. ers.	DOC #3 reference DOC #5 reference	ces DOC #2 a	and references	s DOC #5 (whic	h gives weld procee	dure number) and #6 the	rough the knowledge
Howard L. Moore <u>12/17/8</u> Investigator Date	5	Dan Roach Approver	<u>12/18/85</u> Date			WELDING P	PROJECT REVIEW:	z <u>8/4/92</u> Date
- <u></u>		<u>, , , , , , , , , , , , , , , , , , , </u>			<u> </u>			

BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIE	W FORM
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DESIGN STATEMENT BLM-55 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.



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	BEELERONTE - PSARVER		ENCY REVIEW FORM - 198	
1) Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Main Steam System - S	SM
BLM-56 (Sheet 1 of 2)	(3) Design Statement as Presente	ed in FSAR	ана стана стана Стана стана стан	
FSAR Section 10.3.1			ets to and including the main sto red to TVA Class III 2S require	eam isolation valves and through ments"
Fig. 10.3.2-1	(Actual weld being investigat	ted is - "fitting to fitting - E	W," with nominal size 4".)	
5) FSAR Page	·			
10.3-1				
) Design Documents				
 DC-N4-SM-D740 R2 DCD-3BW0600-SM- 01R16 			: .	
 3) 3BW0400-SM-0IR13 4) 3BW0400-SM-06R12 	(7) Contact(s) N/A			· · ·
5) 3BC0600-SM-02R13	(8) DISPOSITION OF STATEM	1ENT	· · ·	
6) 3GA0400-SM-01R0	Design Documents and FSAR Consistent		sistencies Between besign Documents	FSAR is not Consistent with Design Documents
) <u>DISCUSSION OF FINDI</u>	NG			•
design criteria requiremen	mmitment to ASME Section 111 C nts. DOC #3 references DOC #2 rs. DOC #5 references General (ect III.	and references DOC #5 (wl	hich gives weld procedure numb	er) and #6 through the knowled
oward L. Moore <u>12/18/85</u> westigator Date	Dan Roach <u>12/19/85</u> Approver Date		WELDING PROJECT	Montromy 8/6/92

DESIGN STATEMENT BLM-56 (Sheet 2 of 2)

INCONSISTENCY (Describe)

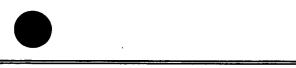
SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should he referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.







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				BELLEFONTE - FSAR/CO	OMMITME	NT CONSISTENCY	REVIEW FO	RM - 1985	
(1)	Design Stat	tement No.	(2)	Responsible Group/Section	BLP Me	chanical #1	Main Steam	System - S	M
	BLM-57	(Sheet 1 of 2)	(3)	Design Statement as Presente	ed in FSAR		······································		
(4)	FSAR Sect 10.3.1 Fig. 10.3.2			"The Main Steam System from the first anchor at the valve walk (Actual weld being investigat	vent room e	xterior is designed to	TVA Class III 2	2S requiren	um isolation valves and through nents"
(5)	FSAR Page	e	1						
	10.3-1								
(6)	Design Do	cuments							
	2) DCD-3 01R16	-SM-D740 R2 BW0600-SM-							
	4) 3RW0400-SM-04R16	μ-2	Contact(s) N/A		······································				
		00-SM-02R13 00-SM-01R0	(8)	DISPOSITION OF STATEM Design Documents and FSAR Consistent		Minor Inconsistend FSAR and Design			FSAR is not Consistent with Design Documents
(9)	DISCUSSI	<u>ON OF FIND</u>	NG						
	design crite of related d	eria requiremen	nts. rs.	DOC #5 references General C	and reference	es DOC #5 (which g	ives weld proced	dure numbe	irement. DOC#2 reflects the er) and #6 through the knowledge of the welding procedures. G-
	ward L. Mo estigator	<u>ore 12/20/85</u> Date		Dan Roacb12/21/85ApproverDate			WELDING F	Approve	REVIEW: Marting <u>B/6/52</u> pr Date

DESIGN STATEMENT BLM-57 (Sheet 2 of 2)

INCONSISTENCY (Describe)

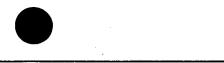
SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.



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			BELLEFONTE - FSAR/CO	MMITME	NT CONSISTENCY	REVIEW FOR	M - 1985		· · · · · · · · · · · · · · · · · · ·
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mecl	nanical #1	Safety Valve V	ents and	Misc. Main Ste	am System - SV
	BLM-58 (Sheet 1 of 2)	(3)	Design Statement as Presente	d in FSAR		· · · · · · · · · · · · · · · · · · ·		· ·	
			"Piping to the auxiliary feedw Miscellaneous Main Steam Sy		urbine is TVA Class I	II 3S downstrea	m of the	air-operated iso	ation valve." -
(4)	FSAR Section		(Actual weld being investigate	ed is - "pipe	to valve - buttweld,"	with nominal siz	æ 6".)		
	10.3.1 Fig. 10.3.2-1					÷			• • • • •
(5)	FSAR Page								
	10.3-1	1							•
6)	Design Documents				· .	2			. · ·
	 DC-N4-SM-D740 R2 DCD-3BW0600-SM- 01R16 		· .						
	3) 3BW0409-SV-01R11	$\overline{(7)}$	Contact(s) N/A			<u></u>			
	4) 3BW0409-SV-03R145) 3BC0409-SV-02R5	(8)	DISPOSITION OF STATEM	ENT	· · ·				
	6) 3GA0409-SV-01R0		Design Documents and FSAR Consistent		Minor Inconsistencion FSAR and Design D			FSAR is not with Design I	
<u>(9)</u>	DISCUSSION OF FINDI	NG							
	reflects the design criteria	rec	itment to ASME Section III Cla juirements. DOC #3 reference s General Construction Specific	s DOC #2 a	nd references DOC #5	5 and #6 through	the know	wledge of relate	d drawing
	ward L. Moore <u>12/18/85</u> estigator Date		Dan Roach12/19/85ApproverDate		r	WELDING PR	OIECT I	allater-	<u>8/6/97</u> Date

DESIGN STATEMENT BLM-58 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.







	BELLEFONTE - FSAR/	COMMITME	NT CONSISTENCY I	REVIEW FORM - 1985	;	
(1) Design Statement No.	(2) Responsible Group/Section	n BLP Mec	hanical #1	Safety Valve Vents and	Misc. Main Stea	am System - SV
BLM-59 (Sheet 1 of 2) (4) FSAR Section	(3) Design Statement as Prese"Piping to the auxiliary fet	edwater pump			rated isolation va	llve." -
10.3.1 Fig. 10.3.2-1	Miscellaneous Main Steam (Actual weld being investi	-				
(5) FSAR Page						
10.3-1	. ·					
(6) Design Documents				·		
 1) DC-N4-SM-D740 R2 2) DCD-3BW0600-SM- 01R16 						
3) 3BW0409-SV-01R11 4) 3BW0409-SV-03R14	(7) Contact(s) N/A		·	•		
5) 3BC0409-SV-01R1	(8) DISPOSITION OF STAT	EMENT				
6) 3GA0409-SV-01R0	Design Documents and FSAR Consistent	i 🗆	Minor Inconsistencie FSAR and Design D		FSAR is not (with Design D	
(9) <u>DISCUSSION OF FINDI</u>	ING				,	
reflects the design criteria	mmitment to ASME Section III a requirements. DOC #3 refere ences General Construction Spec	nces DOC #2 a	and references DOC #5	and #6 through the know	wledge of related	l drawing
<u>Howard L. Moore</u> <u>12/20/85</u> Investigator Date	5 <u>Dan Roach 12/21/</u> Approver Date	<u>85</u>		WELDING PROJECT	Montoney_	<u>8/6/92</u> Date

DESIGN STATEMENT BLM-59 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.







(1) Design Statement No. (2) Responsible Group/Section BLP Mechanical #1 Safety Valve Vents and Misc. Main Steam Syst BLM-60 (Sheet 1 of 2) (3) Design Statement as Presented in FSAR (4) FSAR Section "Piping to the auxiliary feedwater pump turbine is TVA Class III 2S through the air-operated isolation valve." - Miscellaneous Main Steam and Safety Valve Vents System. 10.3.1 Fig. 10.3.2-1 (5) FSAR Page (Actual weld being investigated is - "pipe to valve - socket weld," NOM. size, III 2S.) (6) Design Documents (Actual weld being investigated is - "pipe to valve - socket weld," NOM. size, III 2S.)	em - SV								
 (4) FSAR Section 10.3.1 Fig. 10.3.2-1 (5) FSAR Page 10.3-1 "Piping to the auxiliary feedwater pump turbine is TVA Class III 2S through the air-operated isolation value." - Miscellaneous Main Steam and Safety Value Vents System. (Actual weld being investigated is - "pipe to value - socket weld," NOM. size, III 2S.) 									
10.3.1 Fig. 10.3.2-1 (Actual weld being investigated is - "pipe to valve - socket weld," NOM. size, III 2S.) (5) FSAR Page 10.3-1									
Fig. 10.3.2-1 (Actual weld being investigated is - "pipe to valve - socket weld," NOM. size, III 2S.) (5) FSAR Page 10.3-1									
10.3-1									
10.3-1	· · · ·								
(6) Design Documents									
1) DC-N4-SM-D740 R2 2) DCD-3BW0600-SM- 01R16									
3) 3BW0409-SV-01R11 (7) Contact(s) N/A									
4) 3BW0409-SV-02R12 5) 3BC0409-SV-02R5 (8) DISPOSITION OF STATEMENT	(8) DISPOSITION OF STATEMENT								
6) 3GA0409-SV-01R0 Design Documents and SAR Consistent FSAR and Design Documents SAR is not Consistence with Design Documents with Design Documents	l l								
(9) <u>DISCUSSION OF FINDING</u>									
The FSAR defines the commitment to ASME Section III Class 3S for the Misc. Main Steam System. DOC #1 specifies this requirement. DC reflects the design criteria requirements. DOC #3 references DOC #2 and references DOC #5 and #6 through the knowledge of related drawin numbers. DOC #5 references General Construction Specification G-29M through the identification of the welding procedures. G-29M references Section III.	ng								

DESIGN STATEMENT BLM-60 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.

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,	· ·	BELLEFONT	E - FSAR/CO	OMMITME	NT CONSIST	ENCY REVIEW FOR	M - 1985	
(1) Design Staten	nent No.	(2) Responsible Gr	oup/Section	BLP Mec	banical #1	Auxiliary Feed	lwater System - CA	
BLM-61 (S	Sheet 1 of 2)		Feedwater Sys	tem FSAR 1			the the flow diagram FSAR	
(4) FSAR Section 10.4.9.2 Fig. 10.4.9-1		10.4.9-1.		-			WSs as shown schematically ASME Section III Class 2S	
(5) FSAR Page 10.4-25								
 (6) Design Documple (1) DC-N4-C (2) DCD-3BN O1R10 	A-D740 R2 W0618-CA-							. •
(3) 3BW041 R14	(3) 3BWO418-CA-01-	(7) Contact(s) N/A	4					
(4) 3BW0418 (5) 3BC0618	-CA-05 R5	(8) DISPOSITION	OF STATEM	IENT				
(6) 3GAU418	(6) 3GA0418-CA-01 R0	Design Doo FSAR Cons	cuments and sistent			sistencies Between Design Documents	FSAR is not C with Design De	
reflects the d	efines commit esign criteria bers. Docum	tment to ASME Sec requirements. Doc	ument #3 refe	rences docu	ments #1, 2, a	nd 6 and references doc	tifies this requirement. Do ument #5 through the know welding procedures. G-2	vledge of related
Howard L. Moor Investigator	<u>e 12/18/85</u> Date	<u>Dan Roach</u> Approver	<u>12/19/85</u> Date			WELDING P		8/4/92

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BELLEFONTE - FSAR/CO	MMITMENT	CONSISTENCY	REVIEW	FORM
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DESIGN STATEMENT BLM-61 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE Requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.



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	BELLEFONTE - FSAR/CO	DMMITMENT CONSISTENCY	REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Auxiliary Feedwater System - CA
BLM-62 (Sheet 1 of 2)	(3) Design Statement as Presente		
(4) FSAR Section 10.4.9.2 Fig. 10.4.9-1	- 10.4.9-1 taken from the follo 10.4.9-1.	wing statement"The two units hav	ction III using the the flow diagram FSAR figure number we separate AFWSs as shown schematically in Figure h nominal size 3/4", Section III Class 3S)
(5) FSAR Page 10.4-25			
 (6) Design Documents (1) DC-N4-CA-D740 R2 (2) DCD-3BWO618-CA- 01R10 			
(3) 3BWO418-CA-01- R14	(7) Contact(s) N/A		
(4) 3BW0418-CA-12 R8 (5) 3BC0618-CA-05 R5	(8) DISPOSITION OF STATEM	ENT	
(6) 3GA0418-CA-01 R0	Design Documents and FSAR Consistent	Minor Inconsistencie FSAR and Design D	
(9) <u>DISCUSSION OF FIND</u>	ING		
reflects the design criteria	a requirements. Document #3 refer	rences documents #1, 2, and 6 and	cument #1 specifies this requirement. Document #2 references document #5 through the knowledge of related ntificatin of the welding procedures. G-29M references
Howard L. Moore 12/18/85 Investigator Date	Dan Roach12/19/85ApproverDate		WELDING PROJECT KEYIEW:

DESIGN STAT	EMENT BLM-62 (Sheet 2 of	f 2)	
ONSISTENCY (Describe)			
GESTION FOR IMPROVEMENT OF PRO	GRAM (Describe)		
The general specification, G-29M should be r	referenced from the physical d	lrawings.	
The welding and NDE Requirements sheets sl	hould be referenced from the	physical drawings.	
The physical drawings should be referenced fi	rom the design criteria diagra	m .	
	•		
NGES TO MAKE PROGRAM WORK PRO	DPERLY (Describe)		
ANGES TO MAKE PROGRAM WORK PRO	DPERLY (Describe)		
	PERLY (Describe)		
	PERLY (Describe)		
	PERLY (Describe)		
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		BELLEFONTE - FSAR/C	OMMITME	NT CONSISTE	NCY REVIEW FOR	M - 1985	
(1)	Design Statement No.	(2) Responsible Group/Section	BLP Mec	hanical #1	Auxiliary Feed	lwater Sys	stem - CA
	BLM-63 (Sheet 1 of 2)	(3) Design Statement as Present	ed in FSAR				
(4)		 (3) Design Statement as Presented in FSAR The Auxiliary Feedwater System FSAR references to ASME Section III using the the flow diagram FSAR figure numb 10.4.9-1 taken from the following statement"The two units have separate AFWSs as shown schematically in Figure 10.4.9-1. ("The actual weld heing investigated is "pipe to fitting butt weld", 8" non.III 3S) ("The actual weld heing investigated is "pipe to fitting butt weld", 8" non.III 3S) (7) Contact(s) N/A (8) DISPOSITION OF STATEMENT Design Documents and FSAR and Design Documents 					
	10.4.9.2 Fig. 10.4.9-1						
(5)	FSAR Page 10.4-25						· · · · · · · · · · · · · · · · · · ·
(6)	 (1) DC-N4-CA-D740 R2 (2) DCD-3BWO618-CA- 01R10 (3) 3BWO418-CA-01- 					·	
	 5) FSAR Page 10.4-25 6) Design Documents (1) DC-N4-CA-D740 R2 (2) DCD-3BWO618-CA- 01R10 (3) 3BWO418-CA-01- R14 (4) 3BW0418-CA-05 D15 	(7) Contact(s) N/A					· · · · · · · · · · · · · · · · · · ·
		(8) DISPOSITION OF STATE	MENT				
	(6) 3GA0418-CA-01 R0	j j					
(9)	DISCUSSION OF FIND	NG			· · ·		····
	reflects the design criteria	requirements. Document #3 ref	erences docu	ments #1, 2, and	6 and references doc	ument #5	through the knowledge of related
-	ward L. Moore <u>12/18/85</u> restigator Date	Dan Roach <u>12/19/85</u> Approver Date	Ĭ		WELDING PH	ROJECT F	EVIEW: Date <u>8/6/97</u>

DESIGN STATEMENT BLM-63 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE Requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.



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1) Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Auxiliary Feedwater	r Systein - CA (IO)
BLM-64 (Sheet 1 of 2)	(3) Design Statement as Presente	d in FSAR		
(4) FSAR Section 10.4.9.5 Fig. 10.4.9-1,-2,-3, &-6	10.4.9-2 and -3 and -6 show	the functional control logic of	of the AFWS" All instrume	the following statement: Figures ent sensing and sampling lines outside n conforms to ASME Section III,
(5) FSAR Page 10.4-28	(Weld examined is "fitting to	valve-socket weld", 1/2 nor	n , III 3 S)	
 (6) Design Documents (1) FCLD 2GW0900-CA-1R8 (2) Schem 5GW0640-CA-01 R8 (3) DC-N4-CA-D740 R2 (4) DCD-3BW0618-CA-01 R10 (5) 3BW0418-CA-01 R14 (6) 3GA0418-CA-01 R0 (7) 5AW1925-CA-19-R6 (8) 5GB0925-10-02-R14 (9) 5GC0911-IO-01 R8 & 07 R0 	(7) Contact(s) N/A(8) DISPOSITION OF STATEM	Minor Inconsi	stencies Between [sign Documents	FSAR is not Consistent with Design Documents
DOC #3 references DOC	nes the commitment to ASME Sect	DOC #3. DOC #5 reference	s DOCs #1, 3 and 4. DOC	C #7 references DOCs #1, 4, 5. DO
Howard L, Moore <u>12/19/85</u> Investigator Date	David M. Hammons Approver	<u>12/20/86</u> Date	WELDINGPROJE	STREVIEW: mtoDate 8/6/92

DESIGN STATEMENT BLM-64 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawing.

• The physical drawings should be referenced from the design criteria diagram





			BELLEFONTE - FSAR/CO	OMMITME	NT CONSISTENC	Y REVIEW FOR	M - 1985			
1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mec	chanical #1	Nitrogen Syste	ın - GN			
	BLM-65 (Sheet 1 of 2)	(3)	Design Statement as Presente	d in FSAR		<u></u>		· · · · · ·		
		Seismic Category I Fluid System and Components Section (3.2.1.2 references Table 3.2.2.4 which contains classifications								
4)	FSAR Section 3.2.1.2		of components. It identifies the Nitrogen System piping and valves as shown on figure 3.2.2-X (DCD-3GW0682-GN). The DCD identifies the containment Isolation piping to be ASME Section III Class 2.							
	Table 3.2.2-4		The actual weld being investi	gated is "flu	ed head to sys pipe-	butt weld," with n	om. size 1", III 2S)			
5)	FSAR Page 3.2-2									
(Design Documents									
	(1) DC-N4-GT-D740 R2 (2) DC-NI-D740 R2					,				
	(3) DCD-3GW0682-GN-									
	01-R10 (4) 3GWO482-GN-01 R9	 				······································	······			
	(5) 3GWO482-GN-07 R8 & 10R8					_ <u>h</u>	- 	· · · · · · · · · · · · · · · · · · ·		
	(6) 3BCO682-GN-01 R4	Ľ	DISPOSITION OF STATEM	ENT						
	(7) 3GAO482-GN-01-RO		Design Documents and FSAR Consistent		Minor Inconsister FSAR and Desigr			ot Consistent in Documents		
 9)	DISCUSSION OF FINDI	ı NG								
	The FSAR Table 3.2.2-4 piping by reference to DC	refe DC i	erences the Nitrogen system. 1 #2. DOC #3 identifies the con Procedure. G-29 references A	nmitment. I	DOC #4 references I					
<u>Io</u>	ward L. Moore 01/11/86		David M. Hammons		01/27/86	WELDING	QIECT REVIEW:	24.6		
nv	estigator Date		Approver		Date	Kart	Mont formy Dat	e <u>8/6/92</u>		

DESIGN STATEMENT BLM-65 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The physical drawings should be referenced from the desigu criteria diagram

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.





	BELLEFONTE - FSAR/CO	MMITMENT CONSISTEN	CY REVIEW FORM - 1985	
) Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Hydrogen System - GS	
BLM-66 (Sheet 1 of 2)	(3) Design Statement as Presented	in FSAR	.	
 FSAR Section 10.2.2 Fig. #10.2.2-2 & 10.2.2- 	requirements by the following	statement: "The hydrogen stress 10.2.2-2 and 10.2.2-3."	s 10.2.2-2 and 10.2.2-3 committin torage and distribution system for (The actual weld being investigate	filling the generator is
3 5) FSAR Page 10.2-2		• •		
) Design Documents (1) DC-N4-GS-D740 R2 (2) DCD-3GW0675-GS- 01 R6 & 02 R7 (3) 3GW0475-GS-01 R5 				
& 02 R6 (4) 3GWO475-GS-03 R7	(7) Contact(s) N/A			
(5) 3BCO675-GS-01 R4 (6) 3GA0475-GS-01 RO	(8) DISPOSITION OF STATEME	ENT		:
	Design Documents and FSAR Consistent	Minor Inconsist FSAR and Desi		SAR is not Consistent th Design Documents
	NG nmitment to ASME III Class 3S. ugh the identification of the weldin		ommitment. DOC #3 references I	DOC #2 and G-29M. DOC
oward L. Moore 01/11/86 vestigator Date		<u>01/27/86</u> Date	WELDING PROJECT REY	IEW: Date <u>8/6/9</u> 2

DESIGN STATEMENT BLM-66 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The physical drawings should be referenced from the design criteria diagram

• The welding and NDE requirements sheets should be referenced from the physical drawings.





	yn		BELLEFONTE - FSAR/CO	MMITMEN	T CONSISTENCY	REVIEW FORM - 198	5
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mech	anical #1	High Pressure Fire Pro	otection System RF
	BLM-67 (Sheet 1 of 2)	(3)	Design Statement as Presented	l in FSAR			
				e following	statement"The Hig		23 thru 9.5.1-37 committing ASME n System (HPFP) furnishes raw
(4)	FSAR Section 9.5.1.2		(The acutal weld being investi	gated is-"Ft	g to ftg-butt weld,"	with nom. size 6" III 3S)	
	Fig. 9.5.1-23 & 9.5.1.36			. ·			
(5)	FSAR Page 9.5-2			:	•		
(6)	Design Documents (1) DC-N4-RF-D740 R3 (2) DCD-3GWO668-00- 01 R15 3RWO668-RF-01-R8				· · · · · · · · · · · · · · · · · · ·		
	(3) 3BWO471-00-01 R12 3RW0450-RF-01 R9	(7)	Contact(s) N/A				
		(8)	DISPOSITION OF STATEM	ENT			
	(6) 3GA0471-RF-01 RO		Design Documents and FSAR Consistent		Minor Inconsisten FSAR and Design		FSAR is not Consistent with Design Documents
(9)	DISCUSSION OF FINDI	NG			:	· ·	
×	The FSAR defines the con #3 references DOC #2 an G-29M references ASME	d G	G-29M. DOC #5 (which is refe	the High P renced by D	ressure Fire Protecti OC #3) references (on System. DOC #I and G-29M through the identif	#2 reflect this commitment. DOC leation of the Welding Procedures.
	ward L. Moore 01/12/86 estigator Date	į	<u>David M. Hammons</u> Approver		<u>01/27/86</u> Date	WELDING PROJECT	Date 8/6/92

BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM

DESIGN STATEMENT BLM-67 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The physical drawings should be referenced from the desigu criteria diagram





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(1)	Design Statement No. BLM-68 (Sheet 1 of 2	(2) Responsible Group/Section	BLP Mechanical #1	Auxiliary Buildi VA	ing ESF Heating and Ventilation	System
		(3) Design Statement as Presente	d in FSAR	••••••••••••••••••••••••••••••••••••••	······································	
					Section 9.4.5 and makes comm ssary to insure that the essential	
(4)	FSAR Section 9.4.5.1 Fig. No. 9.4.501	safety related features are acc	complished are consider tates that all duct shall	ed to perform safety related to be constructed in accordance	functions and are designated AN with Sheet Metal and Air Cond	IS Safet
(5)	FSAR Page 9.4-28					
(6)	Design Documents (1) DC-N4-VW-D740 R3 (2) DCD-3AWO642-VA- 01 R6 (3) 3AW0910-00-01 R18					•,
l	(4) 3AW0910-00-07 R15 (5) 3AW0910-00-44-R6	(7) Contact(s) N/A		· · · · · · · · · · · · · · · · · · ·		
	(6) 3BA0900-00-02 R5 (7) 3BB0900-00-36 R4	(8) DISPOSITION OF STATEM	IENT			
	(8) 3GA0910-VA-01 R0	Design Documents and FSAR Consistent		aconsistencies Between ad Design Documents	FSAR is not Consister with Design Documen	
(9)	DISCUSSION OF FINDI	NG	, , , , , , , , , , , , , , , , , , ,			
	refer to SMACNA. DOC	mmitment to ANS Safety Class 3 a C #3 refers to SMACNA, ANS Sa 29M. DOC #6 defines inspection ns.	fety CL.3 and DOC #6	and #7. DOC #4 refers to A	ANS Safety Class 3 and DOC #8	8. DO

DESIGN STATEMENT BLM-68 (Sheet 2 of 2)

INCONSISTENCY (Describe)

Welding requirements for ducting are not specified in the guides or standards such as ANS Safety Class or SMACNA. The requirement for welding is left to the designer who identified the source of welding procedures and the inspection requirements on the design output drawings.

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The physical drawings should be referenced from the design criteria diagram.

• The design criteria diagram should be referenced from the physical drawings.

• The welding and NDE requirements document for welded ducts should be developed and issued as engineering output.



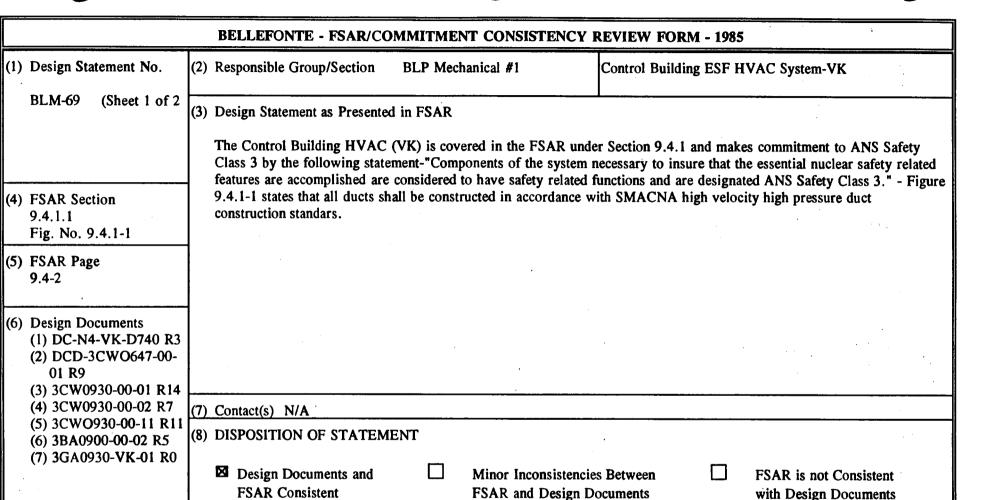
BLM-69

9.4.1.1

9.4-2

01 R9





(9) DISCUSSION OF FINDING

The FSAR defines the commitment to ANS Safety Class 3 and SMACNA for the VK System. DOC #1 reflects this commitment and refers to SMACNA. DOC #2 refers to DOC #1 and SMACNA. DOC #3 refers to DOC #6, SMACNA, ANS Safety Cl.3. DOC #4 refers to DOC #2 and #6. DOC #5 refers to DOC #7 and SMACNA. DOC #6 refers to G-29M and defines inspection requirements for sheetmetal ducts. DOC #7 refers to DOC #1, #3 and G-29M.

<u>Howard L. Moore</u>	<u>01/15/86</u>	David M. Hammons	01/28/86	WELDING PROJECT REVIEW:
Investigator	Date	Approver	Date	

DESIGN STATEMENT BLM-69 (Sheet 2 of 2)

INCONSISTENCY (Describe)

Welding requirements for ducting are not specified in the guides or standards such as ANS Safety Class or SMACNA. The requirement for welding is left to the designer who identified the source of welding procedures and the inspection requirements on the design output drawings.

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The physical drawings should be referenced from the design criteria diagram.

• The design criteria diagram should be referenced from the physical drawings.

• The welding and NDE requirements document for welded ducts should be developed and issued as engineering output.





1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mec	hanical #1	Reactor Build	ing Cooling	g System - VJ	
	BLM-70 (Sheet 1 of 2)	(3)	Design Statement as Presented	l in FSAR					
			The Reactor Building Cooling CECS that perform a safety re requirements shown in Table	elated funct					
)	FSAR Section		(Actual weld being investigate	d is - "flue	l head to process	nine hutt weld " wi	th 2" nom	size III 2S)	
	9.4.8.1 Table 9.4.8-1 Fig. 9.4.8-1 & -2		(notal word bong myostigat			, pipe but word, wi		, , ,	
)	FSAR Page								
	9.4-47								
)	Design Documents						•		
	 DC-N4-VH-D740 R1 DCD-3RW0641-00- 01R16 		· ·	·				· · · · ·	
	3) 3RW0905-00-01R5	(7)	Contact(s) N/A						
	4) 3RW0905-00-12R75) 3RC0641-00-01R6	(8)	DISPOSITION OF STATEM	ENT					
	6) 3GA0905-VJ-01R0		Design Documents and FSAR Consistent			stencies Between sign Documents		FSAR is not Consistent with Design Documents	

The FS. the FSAR. DOC #3 refers to DOC #5. DOC #4 refers to G-29M. DOC #5 refers to ASME Section III, DOC #2 and #3 and to G-29M. G-29M references ASME Section III.

Howard L. Moore <u>1/16/86</u> Investigator Date	<u>D. M. Hammons</u> Approver	<u>1/27/86</u> Date	WELDING PROJECT REVIEW Approver B/6/92 Date
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BELLEFONTE - FSAR/CC	MMITMENT	CONSISTENCY	REVIEW	FORM
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DESIGN STATEMENT BLM-70 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The physical drawings should be referenced from the design criteria diagram.

• General notes drawing development was incomplete at the deferment of the plant design and construction. Drawings should be completed and issued to provide additional source of design information.



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			BELLEFONTE - FSA	R/COMMITM	IENT CONSIST	ENCY I	REVIEW FORM - 1985
(1)	Design Statement No.	(2)	Responsible Group/Sect	ion BLP M	lechanical #1		Demineralized Makeup Water System - RE
	BLM-71 (Sheet 1 of 2)	(3)	Design Statement as Pre	sented in FSA	R		
				lves and the pi	ping connecting t		the FSAR by the following statement - " the s are the only portion of this system which have a Nuclear
(4)	FSAR Section 9.2.3.3		(Actual weld being invest	stigated is - "fl	ued head to sys.	pipe - bu	tt weld," with 2" nom. size, III 2S.)
	Fig. 9.2.3-4, 6						
(5)	FSAR Page	1					
	9.2-24						
(6)	Design Documents	1					
	 DCD-3GW0669-RE- 01R14 DCD-3GW0669-RE- 						
	03R5 3) 3RW0472-00-01R11	(7)	Contact(s) N/A				
	4) 3RW0472-00-04R10	(8)	DISPOSITION OF STA	TEMENT			
	5) 3RC0672-00-01R5 6) 3GA0471-RE-01R0		Design Documents a FSAR Consistent	ind	Minor Incon FSAR and D		
(9)	DISCUSSION OF FIND	NG		,			
		29N	1. DOC #5 references AS				C #1 reflect this commitment. DOC #3 references to references G-29M through the Construction Specification
	ward L. Moore 1/16/86 estigator Date	2	D. M. Hammons 1/27 Approver Date				WELDING PROJECT REVIEW: Approver Date

DESIGN STATEMENT BLM-71 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.

• The design criteria diagram should be referenced from the physical drawings.



		BELLEFONTE - FSAR/CO	MM1TME	NT CONSISTENCY	REVIEW FORM - 1985		
(1)	Design Statement No.	(2) Responsible Group/Section	BLP Mec	hanical #1	Control Rod Drive Coolin	ng System - KD	
	BLM-72 (Sheet 1 of 2)	(3) Design Statement as Presented	l in FSAR			· ·	:
(4)	FSAR Section 9.2.2.2	The Control Rod Drive Cooli function. The equipment is in	ng System i lentified in	s referenced in the FS Table 9.2.2-5, as ASM	AR Section 9.2.2.2.2 and a IE Section III Class 3.	as serving no emerg	gency
(5)	Fig. 9.2.2-5 FSAR Page	(The actual weld being investi with 3" nom. size, III 2S.)	igated is wit	thin the containment is	solation piping for CRD and	d is a "pipe to valve	e-butt weld,"
	9.2-12			• .			
(6)	Design Documents						
	 1) DC-N4-KD-D740 R1 2) DCD-3BW0655-KD- 01R7 			· .		· · · ·	
	3) 3BW0455-KD-01R9 4) 3BW0455-KD-02R4	(7) Contact(s) N/A					
	 4) 3BW0455-KD-02R4 5) 3BC0655-KD-02R2 6) 3GA0455-KD-01R0 	(8) DISPOSITION OF STATEM	ENT	:			
	o, concert	Design Documents and FSAR Consistent		Minor Inconsistenci FSAR and Design I		FSAR is not Cons with Design Docu	
(9)	DISCUSSION OF FINDI	NG					• 4
	The FSAR defines the con Section III. DOC #4 refe procedure. G-29M refere	mmitment as ASME Section III for rs to DOC #6. DOC #5 refers to ences ASME Section III.	r KD Syster DOC #2, #	n. DOC #1 & #2 refl 3, ASME Section III,	ect this. DOC #3 refers to and G-29M through identif	DOC #2, G-29M a fication of the weld	and ASME ing
	ward L. Moore <u>1/28/86</u> vestigator Date	<u>Dan Roach 1/28/86</u> Approver Date			WELDING PROFECT R	Martony 2	<u>8/8/92</u> ate

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DESIGN STATEMENT BLM-72 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.





		BELLEFONTE - FSAR/CO!	MMITMENT CONSISTE	NCY REVIEW FORM - 1985
(1)	Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Fuel Transfer Tube System - PT
	BLM-73 (Sheet 1 of 2)	(3) Design Statement as Presented	in FSAR	
(4)	FSAR Section 6.2.4.2.1 & 6.2.4.2.3 Fig. 6.2.4-15	minimum is design to ASME I	III Class 2 requirement. Th	R Section 6.2.4.2.1 as a containment isolation barrier and as a be penetration design as follows - "The penetration consists of a on steel penetration sleeve as shown in Figure 6.2.4-15."
(5)	FSAR Page	(The actual weld being investig	gated is "V-Groove Weld N	o. F," with 3/4" nom. size to 1" nom. size, III 2S.)
	6.2-53			
(6)	Design Documents			
	 DC-N4-NF-D740 R2 3BW0209-PT-02R3 3BC0209-PT-1R10 			
	4) 3GA0530-NF-01R0	(7) Contact(s) N/A		
		(8) DISPOSITION OF STATEME	ENT	
		Design Documents and FSAR Consistent		stencies BetweenImage: FSAR is not Consistentsign Documentswith Design Documents
(9)	DISCUSSION OF FINDI	ING		•
	The FSAR refers to the F #2 refers to G-29M and to procedure. G-29M refere	to ASME Section 111. DOC #3 refer	ons 6.2.4.2.1 and 6.2.4.2.3 rs to ASME Section III, DO	. DOC #1 defines the commitment to ASME Section III. DOC DC #2, and G-29M through the identification of the welding
	ward L. Moore <u>1/18/86</u> vestigator Date	6 <u>Dan Roach 1/24/86</u> Approver Date	:	WELDING PROJECT REVIEW: Approver <u>B/4/92</u> Date

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BELLEFONTE - FSAR/COMMITMEN	CONSISTENCY	REVIEW	FORM
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DESIGN STATEMENT BLM-73 (Sheet 2 of 2)

INCONSISTENCY (Describe)

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SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general notes drawing should be referenced from the physical drawings.

• General notes drawing development was incomplete at the deferment of the plant design and construction. Drawings should be completed and issued to provide additional source of design information.







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		BELLEFONTE - FSAR/CO	DMMITMENT CONSIST	ENCY REVIEW FORM - 1985	
(1)	Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #I	Aux Bldg Trained Areas	Air Conditioning System - VE
	BLM-74 (Sheet 1 of 2)	(3) Design Statement as Presente	ed in FSAR	· · · · · · · · · · · · · · · · · · ·	······································
(4)	FSAR Section 9.4.5.2.1 Fig. 9.4.5-11 & -12	The Auxiliary Building Train to ASME Section III 3S as for Figures 9.4.5-1 through 9.4.	ollows - "The Auxiliary Bui	System (VE) is references in the l lding ESF Zone Environmental Co	FSAR by Fig. No. 9.4.5-11, 12 ontrol System is shown in
(5)	FSAR Page	(The actual weld being inves	tigated is "ftg to valve-butt	weld", with 6" nom. size, III 3S.)	
	9.4-29				
(6)	Design Documents				
	 DC-N4-VE-D740 R0 (N4-VW-D740R2) DCD-3AW0643-VE- 01R9 DCD-3AW0643-VE- 02R7 	(7) Contact(s) N/A	· .		
	 4) 3AW0443-00-01R13 5) 3AW0443-00-02R8 6) 3AW0443-00-04R9 7) 3AW0443-00-07R9 8) 3AC0643-00-01R2 9) 3AC0643-00-02R2 10) 3GA0443-VE-01R0 	 (8) DISPOSITION OF STATEM Design Documents and FSAR Consistent 	Minor Incon	sistencies Between	FSAR is not Consistent with Design Documents
(9)	DISCUSSION OF FINDI The FSAR defines the con Section III. DOC #5 refe	mmitment to ASME Section II1.	8 refers to DOC #2, #3, #4,	ommitment. DOC #4 refers to D #5, #6, #7, Section III and G29N	OC #2 & #3, G-29M and ASMI 1. DOC #10 refers to DOC #1

DESIGN STATEMENT BLM-74 (Sheet 2 of 2)

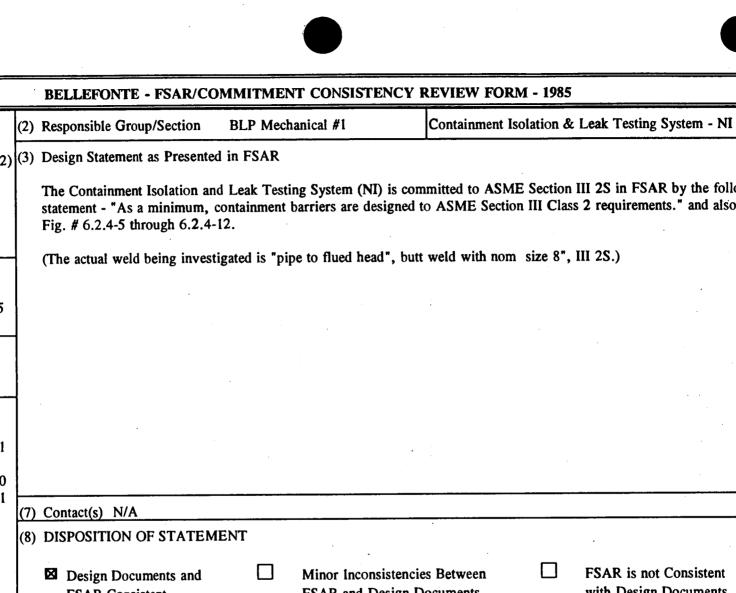
INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The physical drawings should be referenced from the design criteria diagram.



(1) Design Statement No.



(Sheet 1 of 2) (3) Design Statement as Presented in FSAR **BLM-75** The Containment Isolation and Leak Testing System (NI) is committed to ASME Section III 2S in FSAR by the following statement - "As a minimum, containment barriers are designed to ASME Section III Class 2 requirements." and also by (4) FSAR Section 6.2.4.2.1 & 3.8.1.4.4 Fig. 3.8.1-17 & 6.2.4-5 thru -11 (5) FSAR Page 6.2-49 & 3.8-28 (6) Design Documents 1) DC-N4-N1-D740 R1 2) 3BW0304-NI-01R6 3) 3BW0304-NI-04R10 4) 3BC0620-CR-02R11 5) 3GA0304-N1-01R0 FSAR is not Consistent with Design Documents **FSAR** Consistent FSAR and Design Documents (9) DISCUSSION OF FINDING The FSAR defines the commitment to ASME Section III for the NI System. DOC #1 reflects this commitment and also refers back to FSAR. DOC #2 reflects this commitment and refers to DOC #5. DOC #4 refers to ASME Section III and G-29M through the identification of the welding procedure. G-29M references ASME Section III. WELDING PROJECT REVIEW: 1/26/86 1/22/86 Dan Roach Howard L. Moore 8/6/97 Date Investigator Date Approver Date Approver

DESIGN STATEMENT BLM-75 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general specification, G-29M should be referenced from the physical drawings.

• The welding and NDE requirements sheets should be referenced from the physical drawings.







	· · · · · · · · · · · · · · · · · · ·		BELLEFONTE - FSAR/CO	MMITMEN	T CONSISTENCY R	REVIEW FORM - 1985
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mech	nanical #1	Aux Bldg Common Areas Air Conditioning System - VF
	BLM-76 (Sheet 1 of 2)	(3)	Design Statement as Presented	d in FSAR		
(4)	FSAR Section 9.4.3.1 Fig. No. 9.4.3-7 thru -10		following statement - "The co system which serve the Aux. requirements. All remaining	mmon zone Control and ductwork an	ECS is located comple SFCS pump area are d d system components a	eferenced in the FSAR to ASME Section III by the etely within Seismic Category I structures. Portions of the design to Seismic Category I and ANS Safety Class 3 are non-essential and designed to Seismic Category I(L)
(5)	FSAR Page		requirements where necessary	for protecti	ng safety related system	ms and components."
	9.4-7		(The actual weld being invest	igated is "pi	pe to ftgbutt weld", 1	12" nom. III 3S.)
(6)	Design Documents					
	 DC-N4-VF-D740R0 (N4-VC-D740R2) DCD-3AW0643-VE- 01R9 		:			
	 3) DCD-3AW0643-VF- 03R7 	(7)	Contact(s) N/A	· · · · · · · · · · · · · · · · · · ·	· · · · ·	· · · · · · · · · · · · · · · · · · ·
	4) 3AW0443-00-01R13 5) 3AW0443-00-02R8		DISPOSITION OF STATEM	ENT		
	 6) 3AW0443-00-03R13 7) 3AC0643-00-01R2 8) 3GA0443-VF-01R0 		Design Documents and FSAR Consistent		Minor Inconsistencies FSAR and Design Do	
(9)	DISCUSSION OF FINDI	NG				
	refers to G-29M. DOC #	4 re		9M. DOC	#5 refers to DOC #4 ar	DOC #1, #2, & #3 reflect this commitment. DOC #3 nd #8. DOC #6 refers to DOC #4 and #5. DOC #7 #8 also refers to DOC #1.
	ward L. Moore <u>1/23/86</u> estigator Date		Dan Roach1/28/86ApproverDate			WELDING PROJECT REVIEW: <u> <u> <u> </u> <u> </u></u></u>

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DESIGN STATEMENT BLM-76 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

- The welding and NDE requirements sheets should be referenced from the physical drawings.
- The physical drawings should be referenced from the design criteria diagram.





	BELLEFONTE - FSAR/CO	DMMITMENT CONSISTEN	CY REVIEW FORM - 198	5
(1) Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Aux Bldg Fuel Handlin System - VB	ng Area Heating & Ventilation
BLM-77 (Sheet 1 of 2)	(3) Design Statement as Presente	d in FSAR		
(4) FSAR Section 9.4.2.1 Fig. No. 9.4.2-1	following statement - "All fai	Handling Area HVAC (VB) S ns, dampers, ductwork, grilles esigned to Seismic Category I	, and filter assemblies essent	
(5) FSAR Page 9.4-13	Figure 9.4.2-1 references DC constructed in accordance with		9.4.5-01) for general notes, o	one of which states duct shall be
(6) Design Documents			:	
 1) DC-N4-VB-D740R2 2) DCD-3AW0642-VA- 01R6 3) DCD-3AW0642-VB- 				
01R5 4) 3AW0910-00-01R18	(7) Contact(s) N/A			
5) 3AW0910-00-32R3	(8) DISPOSITION OF STATEM	IENT		·
 6) 3BA0900-00-02R5 7) 3BB0900-00-36R4 8) 3GA0910-VB-01R0 9) 3AW0910-00-02R5 10) 3AW0910-00-44R6 	Design Documents and FSAR Consistent	Minor Inconsist FSAR and Desi		FSAR is not Consistent with Design Documents
(9) DISCUSSION OF FIND	ING			
commitment. DOC #1 ar	mmitment to ANS Safety Class 3 nd #2 also refer to SMACNA. Do or sheetmetal ducts. DOC #6, #7 action specifications.	OC #4 refers to SMACNA, A	NS Safety Class 3, and DOC	#6 and #7. DOC #6 defines
<u>Howard L. Moore 1/23/86</u> Investigator Date	<u>5 Dan Roach 1/28/86</u> Approver Date		WELDING PROJECT	Montomy B/6/92

DESIGN STATEMENT BLM-77 (Sheet 2 of 2)

INCONSISTENCY (Describe)

Welding requirements for ducting are not specified in the guides or standards such as ANS Safety Class or SMACNA. The requirement for welding is left to the designer who identified the source of welding procedures and the inspection requirements on the design output drawings.

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The physical drawings should be referenced from the design criteria diagram.

• The design criteria diagram should be referenced from the physical drawings.

• The welding and NDE requirements document for welded ducts should he developed and issued as engineering output.

			RELIEEONTE ESABICO	MAITAE	NT CONSISTENCY	DEVIEW FOR	1007		
<u> </u>		<u> </u>	BELLEFONTE - FSAR/CO						
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mech	nanical #1	Aux Bldg Commo	on Area	a Heating & V	entilation Sys - VC
	BLM-78 (Sheet 1 of 2)	(3)	Design Statement as Presented	l in FSAR					
(4)	FSAR Section 9.4.3.1 Fig. No. 9.4.3-1 thru 3A		The Aux. Bldg. Common Are the following statement - "Por Category I and ANS Safety C	tions of the	system which serve t				
(5)	FSAR Page 9.4-17		Figure 9.4.2-1 references DC constructed in accordance with			5-01) for general no	tes, on	e of which sta	tes duct shall be
(6)	Design Documents				•				· · ·
	 N4-VC-D740 R2 DCD-3AW0642-VC- 01R3 DCD-3AW0642-VC- 03R5 								
	4) DCD-3AW0642-VA-	(7)	Contact(s) N/A						
	01R6 5) 3AW0910-00-01R18 6) 3AW0910-00-19R10 7) 3AW0910-00-07R15 8) 3AW0910-00-44R6 9) 3BA0900-00-02R5 10) 3BB0900-00-36R4 11) 3GA0910-VC-01R0		DISPOSITION OF STATEM Design Documents and FSAR Consistent		Minor Inconsistenci FSAR and Design I			FSAR is not with Design	
(9)	The FSAR defines the concommitment. DOC #1 and	mmi 10 #	tment to ANS Safety Class 3 a 4 refer to SMACNA. DOC #5 efer to G-29M. DOC #9 defineration.	refers to S	MACNA, ANS Safet	y Class 3, and DOC	:#9 an	d #710. DOC	#7 refers to DOC
-	ward L. Moore 1/24/86 estigator Date		Dan Roach1/28/86ApproverDate			WELDING PRO		EVIEW:	8/6/92

DESIGN STATEMENT BLM-78 (Sheet 2 of 2)

INCONSISTENCY (Describe)

Welding requirements for ducting are not specified in the guides or standards such as ANS Safety Class or SMACNA. The requirement for welding is left to the designer who identified the source of welding procedures and the inspection requirements on the design output drawings.

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The physical drawings should be referenced from the design criteria diagram.

• The design criteria diagram should be referenced from the physical drawings.

• The welding and NDE requirements document for welded ducts should be developed and issued as engineering output.

(1)	Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Secondary Containment Air Clean	ip System - VX
· .	BLM-79 (Sheet 1 of 2)	(3) Design Statement as Presente	ed in FSAR		
(4)	FSAR Section 6.2.3.2.3 Fig. No. 9.4.8-1			ssential nuclear safety related features are a esignated ANS Safety Class 3."	ccomplished are
(5)	FSAR Page	(The actual weld being inves	tigated is "pipe to flange (12	5lb) buttweld," 12" nom. III 3S.)	
	6.2-38		•		
(6)	Design Documents	4.			
	 1) DC-N4-VX-D740R2 2) DCD-3RW0641-00- 01R16 3) 3RW0905-00-01R5 				
	 4) 3RW0905-00-08R11 5) 3RC0641-00-01R6 6) 3GA0905-VX-01R0 	(7) Contact(s) N/A	· · · · · · · · · · · · · · · · · · ·		
		 (8) DISPOSITION OF STATEM Design Documents and 	Minor Incons		not Consistent ign Documents
		FSAR Consistent		,	
(9)	DISCUSSION OF FINDI		· · · · · · · · · · · · · · · · · · ·	,	· · · · ·
(9)	The FSAR defines the con SMACNA. DOC #3 refe	NG mmitment to ASME Section III fo	M and SMACNA. DOC #4	System. DOC #1 and #2 reflect this comm refers to G-29M. G-29M references ASM of the welding procedure.	

DESIGN STATEMENT BLM-79 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

- The physical drawings should be referenced from the design criteria diagram.
- General notes drawing development was incomplete at the deferment of the plant design and construction. Drawings should be completed and issued to provide additional source of design information.
- The design criteria diagram should be referenced from the physical drawings.





			BELLEFONTE - FSAR/C	OMMITME	NT CONSISTENCY	REVIEW FORM - 1985		
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Med	chanical #I	Reactor Building Vent a	nd Purge Syster	n - VH
	BLM-80 (Sheet 1 of 2)	(3)	Design Statement as Present					
(4)	FSAR Section 9.4.8.1 Fig. No. 9.4.8-1 & -2 Table 9.4.8-1		"All components of the CEC class and seismic category re valvesANS Safety Cla (The actual weld being invest	equirements ss 3."	shown in Table 9.4.8	-1." "CPS including S	econdary Conta	
(5)	FSAR Page							
	9.4-47							
(6)	Design Documents		·					
	 DC-N4-VH-D740 R1 DCD-3RW0641-00- 01R16 3RW0905-00-01R5 3RW0905-00-08R11 3RC0641-00-01R6 3GA0905-VH-01R0 		Contact(s) N/A DISPOSITION OF STATEM Design Documents and FSAR Consistent	MENT	Minor Inconsisten FSAR and Design		FSAR is not (with Design D	
(9)	SMACNA. DOC #3 refe	nmi rs te	itment to ASME Section III fo o DOC #5, ASME Section III 3, #4, ASME Section III and	, G-29M and	I SMACNA. DOC #	4 refers to G-29M. G-29N		
	ward L. Moore <u>1/28/86</u> estigator Date		Dan Roach2/03/86ApproverDate			WELDING PROJECT R	Montony	<u>8 / 4 / 9 z</u> Date

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BELLEFONTE - FSAR/COMMIT	MENT CONSISTENC	Y REVIEW FO	ORM
DESIGN STATEME	NT BLM-80 (Sheet 2	of 2)	
NCONSISTENCY (Describe)			
· ·		•	
			<u></u> .
UGGESTION FOR IMPROVEMENT OF PROGRA	M (Describe)		
The physical drawings should be referenced from	the design criteria diag	ram.	
General notes drawing development was incomple	te at the deferment of t	he plant design a	nd construction.
General notes drawing development was incomple Drawings should be completed and issued to provi	te at the deferment of t ide additional source of	he plant design a design informati	nd construction. ion.
General notes drawing development was incomple Drawings should be completed and issued to provi	te at the deferment of t ide additional source of	he plant design a design informat	nd construction. ion.
General notes drawing development was incomple Drawings should be completed and issued to provi	te at the deferment of t ide additional source of	he plant design a design informat	nd construction. ion.
General notes drawing development was incomple Drawings should be completed and issued to provi	te at the deferment of t ide additional source of	he plant design a design informati	nd construction.
General notes drawing development was incomple Drawings should be completed and issued to provi	te at the deferment of t ide additional source of	he plant design a design informati	nd construction.
General notes drawing development was incomplet Drawings should be completed and issued to provi	te at the deferment of t ide additional source of	he plant design a design informat	nd construction.
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Drawings should be completed and issued to provi	ide additional source of	he plant design a	nd construction.
Drawings should be completed and issued to provi	ide additional source of	he plant design a	nd construction.
Drawings should be completed and issued to provi	ide additional source of	he plant design a design informat	nd construction.
General notes drawing development was incompleted brawings should be completed and issued to provide the provide the provide the provided the provid	ide additional source of	he plant design a design informati	nd construction.

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		BELLEFONTE	- FSAR/COMM	ITMENT CONSIST	ENCY REVIEW FORM - 19	85	
(1)	Design Statement No.	(2) Responsible Gro	up/Section BL	P Mechanical #1	Reactor Building Vac	uum Relief System -	ZR
	BLM-81 (Sheet 1 of 2)	(3) Design Statemen	t as Presented in	FSAR			
(4)	FSAR Section 9.4.8.1 Fig. No. 9.4.8-1 & -2 Table 9.4.8.1	class and seismic these valves - A	c category require NS Safety Class 2	ments shown in Table ."	ted function are designed and f 9.4.8-1." " VRS primary i ocket weld," 2" nom. size, III	solation valves, I	e ANS safety piping between
(5)	FSAR Page	(The actual were	being investigate		Jeket weid, 2 nom. size, m	<i>2</i> 3. <i>)</i>	•
	9.4-47						
(6)	Design Documents						
	 1) DC-N4-ZR-D740 R0 (N4-VH-D740 R1) 2) DCD-3RW0641-00- 01R16 3) 3RW0905-00-01R5 4) 3RW0905-00-19R9 5) 2DC0(41 00 01D) 	•			•		
		(7) Contact(s) N/A					
		(8) DISPOSITION (OF STATEMENT	· · · ·			
	-,	Design Docu FSAR Consi			istencies Between	FSAR is not Co with Design Do	
(9)	DISCUSSION OF FINDI	<u> </u> <u>NG</u>	<u> </u>			<u></u>	
		rs to DOC #5, ASMI	E Section III, G-29	M and SMACNA. I	8-1. DOC #1 and #2 reflect to OC #4 refers to G-29M. G-2 to DOC #1, #2, and #3.		
	ward L. Moore 1/28/86 restigator Date	<u>Dan Roach</u> Approver	<u>2/04/86</u> Date		WELDING PROJEC	Marton .	8/16/92
					Appro	over 'O/	Date

BELLEFONTE - FSAR/COMMITMENT CONSISTE	NCY	REVIEW	FORM
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DESIGN STATEMENT BLM-81 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

- The physical drawings should be referenced from the design criteria diagram.
- General notes drawing development was incomplete at the deferment of the plant design and construction. Drawings should be completed and issued to provide additional source of design information.
- The design criteria diagram should be referenced from the physical drawings.





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			BELLEFONTE - FSA	R/CO	MMITME	NT CONSIST	TENCY I	REVIEW FO	RM - 1985		_
(1)	Design Statement No.	(2)	Responsible Group/Sect	ion	BLP Med	hanical #1		Essential Air	System - RJ		
	BLM-82 (Sheet 1 of 2)	(3)	Design Statement as Pro	esented	in FSAR	-					
(4)	FSAR Section 9.3.1.2.2 Fig. No. 9.3.1-3		"All components and pi (The actual weld being			-		-		egory I."	
(5)	FSAR Page										
	9.3-4										
(6)	Design Documents									· ·	
	 DC-N4-RJ-D740 R2 DCD-5GW0955-RJ- 01R9 		•								•
	3) 5AW0911-IO-1 R154) 5AW0911-IO-18R16						- -	·		· · ·	
	5) 5GC0911-IO-1R8	(7)	Contact(s) N/A								
	6) 5GC0911-IO-9R6 7) 5GB0925-IO-02R14	(8)	DISPOSITION OF STA	TEME	ent			•			. *
			Design Documents a FSAR Consistent	anđ		Minor Incor FSAR and I				is not Consistent esign Documents	•
(9)	DISCUSSION OF FINDI	NG	·						,		
	The FSAR defines the correflects this commitment a Sec. III and G-29M. DO	also	and refers to DOC #1 ar	nd FSA	R Fig. No	. DOC #3 refe					
	ward L. Moore <u>1/30/86</u> estigator Date		Dan Roach2/04ApproverDate				•	WELDING P	ROIPCT REVIEW	: 	

DESIGN STATEMENT BLM-82 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The design criteria diagram should be referenced from the physical drawings.

			BELLEFONTE - FSAR/C	OMMITME	NT CONSISTE	NCY REVIEW FOR	RM - 1985		
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Me	chanical #1	Control Air S	ystem - RI		
	BLM-83 (Sheet 1 of 2)	(3)	Design Statement as Present	ed in FSAR					
			"The containment isolation	alves and as	sociated piping a	e ANS Safety Class	2."		
			(The actual weld being invest	stigated is "p	ipe to ftg socke	et weld" -1" nom. siz	ze, III 2S.)		n an
			•						
(4)	FSAR Section 9.3.1.2.2								
	Fig. No. 9.3.1-4				· ·				
(5)	FSAR Page								
	9.3-4								
(6)	Design Documents								
	1) DC-N4-RI-D740 R1								
	2) DCD-5GW0955-RI- 0IR8								
	 3) 5RW0911-IO-01R4 4) 5RW0911-IO-02R4 		· · · · · · · · · · · · · · · · · · ·						
	5) 5GC0911-IO-01R8	(7)	Contact(s) N/A						·
	6) 5GB0925-IO-02R14	(8)	DISPOSITION OF STATEM	MENT					,
			Design Documents and FSAR Consistent		Minor Inconsis FSAR and Des	tencies Between ign Documents		FSAR is not with Design	
	DISCUSSION OF FINDI		t to ASME Section III for the	e RI System.	DOC #1 reflect:	s this commitment an	d refers to	DOC #2 and	FSAR. DOC #2
	reflects this commitment a	and	refers to DOC #'s 1, 3, & 4. ne welding procedure. DOC	DOC #3 re	efers to DOC #6 a	nd code requirement	s. D OC #	5 refers to DO	
-	ward L. Moore <u>1/30/86</u> estigator Date		Dan Roach Approver2/05/86 Date			WELDING P		Montony	<u>8/6/92</u> Date

	DESIGN STA	ATEMENT BLM-	33 (Sheet 2 of 2)		
INCONSISTENCY (I	Describe)				
	•				
				•	
			-		
	•				
	h		×		
SUGGESTION FOR I	IMPROVEMENT OF PR	ROGRAM (Descrit	e)		
• The general specif	fication, G-29M should b	be referenced from	the physical drawin	gs.	
The welding and 1	NDE requirements sheets	s should be referen	ced from the physic	al drawings.	
	NDE requirements sheets			al drawings.	
	NDE requirements sheets a diagram should be refe			al drawings.	
				al drawings.	
				al drawings.	
				al drawings.	
				al drawings.	
				al drawings.	
• The design criteria		renced from the ph	ysical drawings.	al drawings.	
• The design criteria	a diagram should be refe	renced from the ph	ysical drawings.	al drawings.	
• The design criteria	a diagram should be refe	renced from the ph	ysical drawings.	al drawings.	
• The design criteria	a diagram should be refe	renced from the ph	ysical drawings.	al drawings.	
• The design criteria	a diagram should be refe	renced from the ph	ysical drawings.	al drawings.	
• The design criteria	a diagram should be refe	renced from the ph	ysical drawings.	al drawings.	
• The design criteria	a diagram should be refe	renced from the ph	ysical drawings.	al drawings.	
• The design criteria	a diagram should be refe	renced from the ph	ysical drawings.	al drawings.	
• The design criteria	a diagram should be refe	renced from the ph	ysical drawings.	al drawings.	

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			NCY REVIEW FORM - 1985
(1) Design Statement No.	(2) Responsible Group/Section	BLP Mechanical #1	Containment Integrated Leak Rate Test System - ZT
BLM-84 (Sheet 1 of 2	2) (3) Design Statement as Presente	d in FSAR	
(4) FSAR Section 6.2.4.2.1 & 6.2.6.3			rovided with test vents and test connections or have other n, containment barriers are designed to ASME Section III C
(5) FSAR Page	(The actual weld being invest	tigated is "pipe to fitting - bu	tt-weld", 12" nom. size, III 2S.)
6.2-49 & 6.2-67			
(6) Design Documents			
 1) DC-N4-NI-D740 R1 2) DCD-3GW0610-ZT- 01R5 3) 3RB0510-ZT-01R4 			
4) 3RC0610-ZT-01R0 5) 3GA0510-ZT-01R0	(7) Contact(s) N/A		
,	(8) DISPOSITION OF STATEM	IENT	
•	Design Documents and FSAR Consistent	· · · · · ·	stencies Between FSAR is not Consistent sign Documents with Design Documents
(9) DISCUSSION OF FIND	DING		
	fers to DOC #1. DOC #3 refers to		cts this commitment and refers back to FSAR. DOC #2 ref 29M. DOC #4 refers to DOC #2, #3, ASME Section III an
Howard L. Moore 1/31/8 Investigator Date	86 Dan Roach 2/03/86 Approver Date		WELDING PROJECT REVIEW: Approver Date

	BELLEFONTE -	FSAR/COMMITMENT	CONSISTENCY	REVIEW FORM
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DESIGN STATEMENT BLM-84 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.

• General notes drawing development was incomplete at the deferment of the plant design and construction. Drawings should be completed and issued to provide additional source of design information.







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			BELLEFONTE - FSAR/C	OMMITME	NT CONSISTENCY I	REVIEW FORM - 1985
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Me	chanical #1	Auxiliary Steam System - SA
	BLM-85 (Sheet 1 of 2)	(3)	Design Statement as Present	ed in FSAR		
(4)	FSAR Section		related plant features shall b	e Safety Cla	ss 3 (ASME Section III	ated within safety or common zone containing safety- Class 3) seismic Category I piping and valves. e or outside containment per FSAR Table 3.6.1-1. FSAR
	3.6.2.1.2.1.2 Table 3.6.1-1					I, Class 2 and 3 piping runs of which SA Sys is Class 3.
(5)	FSAR Page		(The actual weld being inve	stigated is "p	ipe to valve-butt weld",	8" nom. size III 3S.)
	3.6-16					
(6)	Design Documents					
	1) DC-NE-SA-D740 R2					
	2) DCD-3BW0649-BA- 01R8				·	
	3) DCD-3BW0649-SA-	(7)	Contact(s) N/A			
	02R8 4) 3BW0449-SA-01R7	(8)	DISPOSITION OF STATE	MENT		
	 5) 3BW0449-SA-05R9 6) 3BC0649-SA-01R3 7) 3GA0449-SA-01R0 		Design Documents and FSAR Consistent		Minor Inconsistencie FSAR and Design D	
(9)	DISCUSSION OF FINDI	NG				
	DOCs #2, #3, and FSAR reflect this commitment.	Sec DC	ction 3.6 for identification of	High Energy #3. DOC #6	Fluid System requirement refers to DOCs #2, #3,	System. DOC #1 identifies this commitment and refers to ents. DOC #2 refers to DOC #1. DOCs #2 and #3 also , #4, #5, ASME Section III and G-29M through the
	ward L. Moore 2/1/86	2	Dan Roach 2/03/86			WELDING PROJECT REVIEW:
lnv	estigator Date		Approver Date			Approver Date

DESIGN STATEMENT BLM-85 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.

• General notes drawing development was incomplete at the deferment of the plant design and construction. Drawings should be completed and issued to provide additional source of design information.





	Design Statement No.	(2) Responsible Group/Section	BLP Med	chanical #1	Control Building N	on-ESF Areas H	VAC System - V	L
-	BLM-86 (Sheet 1 of 2)	(3) Design Statement as Presente	d in FSAR					
	FSAR Section 9.4.1.2.1	The Control Building Non-E 9.4.1-5.	SF Areas H	VAC System (VL)	s referenced to ASME	Section III for Ca	t. I and I(L) in F	ig.
	Fig. No. 9.4.1-4 & -5 FSAR Page	(The actual weld being inves	tigated is "p	ipe to fitting-butt w	eld", 6" nom. size, III	3S Cat. I(L).)		
	. –							
	9.4-3 Design Documents							
	 DC-N4-VL-D740 R0 (N4-VK-D740 R3) DCD-3CW0648-VK- 01R11 DCD-3CW0648-VL- 02R7 	(7) Contact(s) N/A					- 	
	4) 50 0000000000000000000000000000000000	(8) DISPOSITION OF STATEM	IENT					
	6) 3CC0648-VK-01R2	Design Documents and FSAR Consistent		Minor Inconsiste FSAR and Desig			not Consistent gn Documents	
	 3CC0648-VK-02R6 3GA0448-VL-01R0 			۲				
	,	NG		, 				

BELLEFONTE - FSAR/COMMITMENT	CONSISTENCY REVIEW FORM

DESIGN STATEMENT BLM-86 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.





			BELLEFONTE - FSAR/CO	MMITME	NT CONSIST	ENCY REVIEW FOR	RM - 1985	
(1)	Design Statement No.	(2)	Responsible Group/Section	BLP Mec	hanical #1	Gaseous Wast	te Disposal System - WG	
	BLM-87 (Sheet 1 of 2)	(3)	Design Statement as Presented	1 in FSAR		· · · · · · · · · · · · · · · · · · ·		
(4)	FSAR Section 11.3.2 Fig. No. 11.0.0-1 & -2		The Gaseous Waste Disposal Gaseous Waste Disposal Syste	em is sbown	on Figures 1	1.0.0-1 through 11.0.0-	24."	11.0.0-1. "The
(5)	FSAR Page		(The actual weld being investi	igated is "pi	pe to fitting-b	utt weld", 2" nom., III	3S.)	
(6)	11.3-1 Design Documents							
	 DC-N4-WG-D740 R2 DCD-3BW0680-WD- 01R14 DCD-3BW0680-WD- 02R17 3BW0480-WD- 01R15 3BW0480-WD- 02R12 		Contact(s) N/A D1SPOSITION OF STATEM	ENT				
	03R12 6) 3BC0680-WD-01R2 7) 3BC0680-WD-03R0 8) 3GA0480-WD-01R0		Design Documents and FSAR Consistent			sistencies Between Design Documents	FSAR is not with Design I	
(9)	to FSAR. DOCs #2 and	.0-1 #3 r	defines the commitment to AS efers to ASME Section 111. De M references ASME Section 1	OC #4 refer				
	ward L. Moore <u>2/3/86</u> estigator Date		Dan Roach2/04/86ApproverDate	·			ROJECT REVIEW:	<u>8/6/92</u> Date

DESIGN STATEMENT BLM-87 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The general notes drawing should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.

			BELLEFONTE	- FSAR/CO	MMITME	NT CONSISTEN	CY REVIEW FO)RM - 1985		••
(1)	Design Statement No.	(2)	Responsible Grou	p/Section	BLP Med	hanical #1	Standby Die	sel Generator Sys	tem - RT	
	BLM-88 (Sheet 1 of 2)	(3)	Design Statement	as Presenter	l in FSAR		<u></u>	· · · ·		•••••
	FSAR Section 8.3		for the RT system 86181). The requi	i is identified irements are Power Pipin	l within Sp : On-Skid	ping located within ecification 2411 Pa piping, fittings, an nd Off-Skid piping	nge 13 of the Dies d valves shall con	el Generator Con form to the requi	tract (TVA)	Contract 76K
	FSAR Page 8.3-1				gated is "p	ipe to valve-socket	weld" - 3/4" non	n. size 111 3S.)		
	Design Documents									· •
	 3DW0598-00-01R10 3DW0598-00-02R17 3DC0598-RT-01R8 									•
	4) 3GA0598-RT-01R0 5) D-G Spec. 2411	(7)	Contact(s) N/A		· · · · · ·	·····				
	5) D-0 Spec. 2411	(8)	DISPOSITION O	F STATEM	ENT				· ·	
			Design Do FSAR Con	cuments and usistent		Minor Inconsist FSAR and Desig			AR is not C h Design D	
(9)	DISCUSSION OF FINDI	NG	· .						-	
	The FSAR does not ident G-29M. DOC #2 reflects G-29M references ASME	the	commitment to A	SME Section	n III and re	fers to DOC #1. I	DOC #3 refers to 1			
	vard L. Moore 2/4/86		D. M. Haminons				WELDING	PROIEOT REVI	EW:	el.b
Inve	stigator Date		Approver	Date				Approver (put_	Date

DESIGN STATEMENT BLM-88 (Sheet 2 of 2)

INCONSISTENCY (Describe)

The FSAR section 8.3 - ONSITE POWER SYSTEM - does not detail the design requirements of the Diesel Generator or its supporting systems. The FSAR concentrates on describing the Electrical arrangement and Distribution Systems of the emergency power system. Criteria for Diesel - Generator supporting systems such as KE, FF, PT, RE, etc. are defined in the FSAR sections and criteria documents for each system. Most piping components within the RT system are a part of the Diesel Generator design and supplied by the manufacturer to the requirements of the contract specification. The piping code requirements are detailed in the specification and becomes the source for code requirements of the RT system piping designed and installed by TVA.

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.





	BELLEFONTE - FSA	R/COMMITMENT CONSIST	TENCY REVIEW FORM - 1985				
(1) Design Statement No.	(2) Responsible Group/Section	on BLP Mechanical #1	Steam Generator Cheinical Cleaning System - YR				
BLM-89 (Sheet 1 of 2)	(3) Design Statement as Pres						
(4) FSAR Section 10.4.8	The FSAR does not address the code requirements of the Steam Generator Chemical Cleaning System (YR). The Design Criteria N4-YR-D740 Section 4.2.1 states: The piping inside the reactor building shall be a combination of permanent at temporary piping, with as much piping as is feasible being permanently installed. The permanent piping in the reactor building shall be designed to ANSI B31.1, The containment penetration through the isolation flanges shall be						
(5) FSAR Page	designed to ASME Section	on III requirements.					
10.4-23	(The actual weld being in	nvestigated is "pipe to flued he	ead-butt", - 8" nom. size 111 2S.)				
(6) Design Documents							
 DC-N4-YR-D740 R0 DCD-3BW0632-YR- 01R0 3BW0432-YR-01R1 							
4) 3BW0432-YR-02R1	(7) Contact(s) N/A						
5) 3BC0632-YR-01R2 6) 3GA0432-YR-01R0	(8) DISPOSITION OF STA	rement					
	Design Document FSAR Consistent		nsistencies BetweenImage: FSAR is not ConsistentDesign Documentswith Design Documents				
(9) DISCUSSION OF FINDI	NG						
portion of YR system to A		o DOC #2. DOC #2 reflects t	eria (DOC #1) defines the commitment for containment penetration this commitment. DOC #3 refers to G-29M and Section III. DOC				
<u>Howard L. Moore 2/4/86</u> Investigator Date	<u>D. M. Hammons</u> 2/05/ Approver Date	86	WELDING PROJECT REVIEW: Approver () Date				

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BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM

DESIGN STATEMENT BLM-89 (Sheet 2 of 2)

INCONSISTENCY (Describe)

The FSAR section 10.4.8 does not detail the design requirements of the Steam Generator Chemical Cleaning System only that it is anticipated that periodic chemical cleaning of the steam generators will be used to remove any solids introduced into the steam generators. The design criteria document for the YR system is used to define the design requirements.

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.

General notes drawing development was incomplete at the deferment of the plant design and construction.
 Drawings should be completed and issued to provide additional source of design information.

• The design criteria diagram should be referenced from the physical drawings.

1)	Design Statement No.	(2)	Responsible Group/Section	BLP Me	cbanical #1	Intake Pumping	s Station Heating & Venti	lation Sys - VP
	BLM-90 (Sbeet 1 of 2)	(3)	Design Statement as Presente	d in FSAR		••••••••••••••••••••••••••••••••••••••		
· ·	FSAR Section 9.4.7.2 Fig. No. 9.4.7-1		The Intake Pumping Station I 1. "The IPS Heating and Ve					igure No. 9.4.7-
5)	FSAR Page				•			•
	9.4-40							
5)	Design Documents				•			
 1) DC-N4-VP-D740 R1 2) DCD-7KW0878-VP- 01R7 3) 7KW0961-VP-01R8 								
	4) 3GA0961-VP-01R0	(7)	Contact(s) N/A					
· · · ·		(8)	DISPOSITION OF STATEM	IENT	2			
			Design Documents and FSAR Consistent			itencies Between ign Documents	FSAR is not C with Design D	· •
— Э)	DISCUSSION OF FINDI	L NG						
			I commits the VP System to S o FSAR. DOC #2 also reflect					

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BELLEFONTE - FSAR/COMMITMENT CONSISTENCY REVIEW FORM

DESIGN STATEMENT BLM-90 (Sheet 2 of 2)

INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

- The general specification, G-29M should be referenced from the physical drawings.
- The physical drawings should be referenced from the design criteria diagram.
- General notes drawing development was incomplete at the deferment of the plant design and construction. Drawings should be completed and issued to provide additional source of design information.
- The design criteria diagram should be referenced from the physical drawings.

1) Design Statement No.	(2) Responsible Gi	oup/Section	BLP Mechanical #	Sampling	and Water Qu	ality System - Y	2	
BLM-91 (Sheet 1 of 2)	(3) Design Stateme	b) Design Statement as Presented in FSAR						
4) FSAR Section 9.3.2.1 Fig. No. 9.3.2-1,-4 & -5		The FSAR for the Sampling and Water Quality System (YQ) references ASME Section III by the "Inside the Primary Containment, the sample lines from the root valves to the containment isolation						
5) FSAR Page	(Actual weld b							
9.3-9				•				
6) Design Documents						,	:	
 1) DC-N4-YQ-D740 R2 2) 5GW0980-YQ-5R2 3) 5GW0941-YQ-03R8 								
4) 5GW0941-YQ-24R9 5 5GC0911-1O-04R8	(7) Contact(s) N/	۹						
		OF STATEME Documents and Consistent	Minor 3	Inconsistencies Between and Design Documents		FSAR is not C with Design De		
9) DISCUSSION OF FINDI The FSAR defines the cor #4 and Section 111. DOC	nmitment to ASME							
<u>Ioward L. Moore 2/8/86</u> nvestigator Date	<u>D. M. Hammo</u> Approver	ns <u>2/11/86</u> Date		WELDIN	G PROJECT	REVIEW:	<u>6/0/92</u> Date	

DESIGN STATEMENT BLM-91 (Sheet 2 of 2)

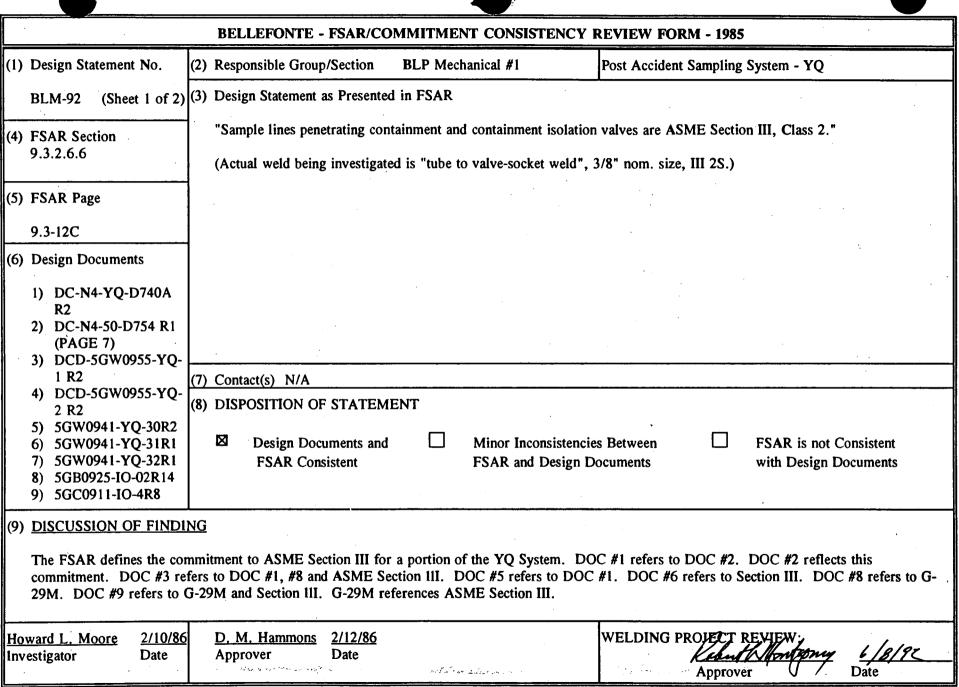
INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

• The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.





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DENIGN	STATEMENT	BL M-97	(Sheet 2 of 2)
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INCONSISTENCY (Describe)

SUGGESTION FOR IMPROVEMENT OF PROGRAM (Describe)

The welding and NDE requirements sheets should be referenced from the physical drawings.

• The physical drawings should be referenced from the design criteria diagram.

### Attachment D Welding & NDE Procedure Specification Adequacy page 1 of 1

The following process specifications for nondestructive examination or qualified welding procedures have been reviewed for compliance with the codes and standards listed in their respective statements of intended scope:

GENERAL WELDING PROCEDURE SPECIFICATION	DETAIL WELDING PROCEDURE	WELDING PROCEDURE QUALIFICATION RECORD	COMPLIES YES/NO
1.M.1.2(R4)	SM11-B-3 R7	SM11-B-9	YES
1.M.1.2(R4)	SM88-B-1 R2	SM88-B-1	YES
1.M.1.2(R4)	GT-SM11-0-3B R8	GT-SM11-0-3C	YES
1.M.1.2(R4)	GT-SM13-0-1 R0	GT-SM1-12B-0-1	YES
1.M.1.2(R4)	GT-SM18-0-1 R4	GT-SM18-0-1	YES
1.M.1.2(R4)	GT-SM88-0-1A R5	GT-SM88-0-2	YES
1.M.1.2(R4)	GT11-0-1A R7	GT11-0-1A	YES
1.M.1.2(R4)	GT18-0-1 R5	GT18-0-1	YES
1.M.1.2(R4)	GT88-0-1A R1	GT88-0-1	YES
1.M.1.2(R4)	GT43.43-0-1 R1	GT43.43-0-1	YES
1.C.1.2 (R3)	SM-P-1 R9	Prequalified	YES
1.C.1.2 (R3)	SM-U-1 R6	Prequalified	YES
1.C.1.2 (R3)	SM-U-1B R6	Prequalified	YES
1.C.1.2 (R3)	SM-U-4 R2	Prequalified	YES
1.C.1.2 (R3)	GM-SD-L-1 R2	Prequalified	YES
1.C.1.2 (R3)	GM-SD-U-1 R2	Prequalified	YES
1.C.1.2 (R3)	GMA-FC-P-1 R3	Prequalified	YES
1.C.1.2 (R3)	SA-U-1 R1	Prequalified	YES
1.C.1.2 (R3)	AW-SW-P-1 R3	Prequalified	YES
1.C.1.2 (R3)	GM-SD-L-1 R2	Prequalified	YES
			COMPLIES
PROCESS SPECIFICATION	TITLE		YES/NO
3.C.5.4(R2)	WBN Final Visual Weld Exam	YES	
3.M.1.1(R4)	Liquid Penetrant Examination	YES	
3.M.5.1(R6)	Examination of Weld Ends, Fi Dimensional Examination of W		YES
3.M.3.1(R3)	Radiographic Examination of V	Velded Joints	YES ²
3.M.2.1(R3)	Dry Magnetic Particle Examina Edge Preps.	ation of Welds & Weld	YES

¹ Represents the TVA Watts Bar Nuclear Plant visual weld acceptance criteria developed by Engineering as permitted by AWS D1.1.

² Minor deviation in that Process Specification 3.M.3.1 does not require the date, the weld number and manufacturer's identification to be recorded on the film. However, it has been TVA construction practice to include this information on the film. The process specification was revised by Addendum No. 2, dated March 3, 1986, to reflect this requirement.



### **COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1**

Page 1 of 29

#### DISCUSSION

TVA is committed to and complies with AWS D1.1. G29C complies with AWS D1.1 and contains Engineering decisions permitted by the code. The FSAR was revised to make this point clear.

The provisions of AWS D1.1 allow many deviations, subject to the approval of the Engineer, who is defined in AWS D1.1 as the duly designated person who acts for and in behalf of the Owner on all matters within the scope of this code.

AWS D1.1 is a fabrication code which is used in conjunction with complementary design codes or specifications. The most common structural design specifications used at nuclear power plants is the American Institute of Steel Construction's (AISC's) "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings."

The AISC specification provides some rules regarding welding, but refers to the AWS D1.1 Code for Welding Procedures, Qualifications and Other Requirements. AWS D1.1 addresses many subjects, which are discussed later, and acceptance criteria for the completed welds which are checked by Inspectors. Further, the AISC Quality Criteria Document, "Quality Criteria and Inspection Standards" is often used as a supplement to the AISC specification to provide practical and acceptable guidance on the use of the AISC specification and AWS D1.1. It allows exceptions to some of the provisions of AWS D1.1; e.g., the guality criteria documents states:

"The human element is involved in all phases of structural design and fabrication; therefore, it is not surprising that an unintentional deviation from a drawing or specification can occur. Not all errors or deviations need to be altered or repaired; many could be accepted without change, with no penalty to the structure or its end use. There are times when repair work creates higher residual stresses and does more harm than good. In general, it should be the Engineer's decision whether or not the deviation is harmful to the end use of the product."

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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Therefore, when designing and construction structures to the AISC specification, it is necessary for the Engineer and the Owner to define the appropriate welding acceptance criteria for the work to be performed. There are some instances where it is necessary to modify the AWS D1.1 acceptance criteria in order to be practical and meaningful for use in inspecting structures designed in accordance with the AISC specification. Modification to acceptance criteria of AWS D1.1 is permitted within the provisions of both the AISC Specification and the AWS Code.

For example, G29C provides Acceptance Criteria for visual inspection of structural welds in nuclear power plants. The development of such acceptance criteria by the Engineer¹ falls within the provisions of the AISC Specification² and AWS D1.1³. This provision is clarified in the 1985 edition of AWS D1.1. A new paragraph 1.1.1.1 has been added which states:

"1.1.1.1 The fundamental premise of the Code is to provide general stipulations adequate to cover any situation. Acceptance criteria for production welds different from those specified in the Code may be used for a particular application provided they are suitably documented by the proposer and approved by the Engineer. These alternate acceptance criteria can be based upon evaluation of suitability for service using past experience, experimental evidence or engineering analysis considering material type, service load effects, and environmental factors."

The AWS D1.1 Task Force which addressed acceptance criteria and prepared this revision to the words, as well as the D1.1 committee ballot on the change viewed the 1.1.1.1 paragraph to be a clarification, stating that which always was the case and the Owner's prerogative.

¹The engineer is the duly designated person who acts for and in behalf of the Owner on all matters within the scope of AWS D1.1.

²American Institute of Steel Construction, "Specification for Design, Fabrication and Erection of Structural Steel for Buildings."

### **COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1**

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In addition, the commentary for this new paragraph reads:

"C1.1.1.1 The workmanship criteria provided in Section 3 of the Code are based upon knowledgeable judgment of what is achievable by a qualified welder. The criteria in Section 3 should not be considered as a boundary of suitability for service. Suitability for service analysis would lead to widely varying workmanship criteria unsuitable for a structural code. Furthermore in some cases, the criteria would be more liberal than what is desirable and producible by a qualified welder. In general, the appropriate quality acceptance criteria and whether or not a deviation is harmful to the end use of the product should be the Engineer's decision. When modifications are approved, evaluation of suitability for service using modern fracture mechanics techniques, a history of satisfactory service, or experimental evidence is recognized as a suitable basis for alternate acceptance criteria for welds."

The salient contrasts in the exact written word of AWS D1.1-72 and the General Construction Specification G-29 are given below. Table A summarizes salient contrasts in acceptance criteria for completed welds between G-29 and AWS D1.1. Table B summarizes salient contrasts in acceptance criteria for completed welds of G-29C and NRC accepted NCIG-01, Rev. 2, "Visual Weld Acceptance Criteria for Structural Welding in Nuclear Power Plants".

The AWS D1.1, Structural Welding Code, contains some provisions which are mandatory. It also contains many provisions which are applicable only to prequalified welding. Prequalified welding means welding conditions and variables which do not require qualification tests. The prequalified conditions may be changed by qualification tests.

The structural welding code also assigns significant responsibility and latitude to the Engineer, in several areas including related design specifications.

In accordance with the assigned responsibility, the Engineer has provided some variations to the specifics in AWS D1.1 and has approved other specific differences which are permitted to be varied based upon qualification tests.

# COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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It is TVA's position that AWS D1.1 commitment requirements have been met even though the Engineer, in accordance with assigned responsibilities, may have approved variations and/or accepted the use of non-pregualified conditions based upon qualification test results.

Some areas in which these kinds of action occur are ordinary, and routine, for example accepting welders qualified to ASME Section IX for use on structural steel like items. These kinds of variations have occurred at numerous nuclear power plants, and have been questioned before, but have not been a barrier to licensing.

It also needs to be noted that the AWS D1.1 Code does not impose or lock in a specific code date or edition on Owners, Engineers, or Constructors. These parties may agree to use newer editions in whole or in part except where a Code edition has been specifically incorporated into regulations. (See AWS Interpretation D1-84-015.)

Therefore it is permissible to incorporate portions of newer code editions.



### **COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS DI.1**

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### **SECTION I**

AWS D1.1-72

1.4 Definitions

The welding terms used in this Code shall be interpreted in accordance with the definitions given in the latest edition of Terms and Definitions (AWS A3.0) of the American Welding Society supplemented by Appendix I of this Code.

### G-29C Process Specification O.C.1.1 (R1):

1.4 Definitions

The welding terms in this specification shall be interpreted in accordance with AWS A3.0, Terms and Definitions, and ASME Section IX, QW-490, Definitions. If differences occur, ASME Section IX, QW-490 controls.

Justification: The inclusion of ASME Section IX definitions was made to complement the inclusion of other provisions of the ASME Code into G-29C. This provides for consistent terminology on the job due to the significant amount of work which use ASME definitions. This deviation has no technical significance.

**AWS D1.1** 

1.5 Welding Symbols

Welding symbols shall be those shown in the latest edition of Standard Welding Symbols (AWS A2.0) of the American Welding Society. Special conditions shall be fully explained by added notes or details.

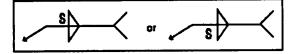
G-29C Process Specification O.C.1.1 (R1):

1.5 Welding Symbols

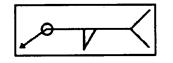
## COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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Welding symbols shall be those shown in AWS A2.4, Symbols for Welding and Nondestructive Examination, except as modified below:



shall mean two fillet welds of the same size S and



shall be as defined in AWS A2.4 or Sections 8 and 9 for connections of tubular sections and structural shapes.

also . . .

G-29C Process Specification O.C.1.1 (R1):

8.3 Structural Details

Fillet welded angular connections of structural shapes shown on drawings may be made as shown in Figure 8.3. This applies only to those connections designated on OEapproved drawings with the weld all-around symbol as used in the figure. (See Figure 1 attached.)

9.3 Fillet welded angular connections of tubular shapes shown on drawings used may be made as shown in Figure 9.3. This applies only to those connections designated on OE-approved drawings with the weld all-around symbol as used in the figure. (See Figure 2 attached.)

### **COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1**

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Justification: These examples of the use of non-standard weld symbols are considered an aid in implementing certain TVA design details. Their use is in accord with the provisions of D1.1-72, Paragraph 1.5, second sentence. Note: AWS A2.4 is the updated, current version of AWS A2.0. TVA is in compliance.

### AWS D1.1-72

1.6 Safety Precautions

Safety precautions shall conform to the latest edition of ANSI Z49.1, Safety in Welding and Cutting, published by the American Welding Society.

### G-29C Process Specification O.C.1.1

1.6 Safety Precautions

Safety measures should be in accordance with the TVA Occupational Health and Safety Manual.

Justification: The TVA Occupational Health and Safety Manual is considered the appropriate and necessary document for control of safety hazards (including those related to welding) on TVA construction sites.

### AWS D1.1-72

Paragraphs 2.9 thru 2.14 and accompanying figures specify prequalified weld joint details for use with the manual shielded metal-arc, submerged arc, and gas metal-arc, and fiux cored arc welding processes respectively.

G-29C Process Specification O.C.1.1 (R1):

<u>Paragraph 2.3.2</u> - Weld joints detailed as prequalified for shielded metal arc welding may be considered prequalified for gas metal-arc, flux cored arc, and submerged arc welding.

## COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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O.C.1.1

<u>Paragraph 2.4.3</u> - Groove preparations detailed for prequalified shielded metal arc welding may be considered prequalified for gas metal arc, flux cored arc, or submerged arc welding.

Justification: Joint details prequalified for the shielded metal arc process are compatible with the gas metal arc, flux cored arc, and submerged arc welding processes.

### AWS D1.1-72

3.3.1 The gap between parts shall <u>normally</u> not exceed 3/16 in. except in cases involving shapes or plates 3 in. or greater in thickness when after straightening and in assembly the gap cannot be closed sufficiently to meet this tolerance. In such cases, a maximum gap of 5/16 in. is acceptable provided a sealing weld or suitable backing material is used to prevent melt-thru. If the separation is 1/16 in. or greater, the leg of the fillet weld shall be increased by the amount of the separation (emphasis added).

### G-29C O.C.1.1

- 3.3.1 The gap between parts should not exceed 3/16-inch (4.8 mm). If after assembly the gap cannot be closed sufficiently to meet this tolerance, a maximum gap of 5/16-inch (8.0 mm) is acceptable provided a sealing weld or suitable backing material is used to prevent melting-through. If the separation is 1/16-inch (1.6 mm) or greater, the leg of the fillet weld shall be increased by the amount of the separation.
  - Justification: The requirements are adequate, necessary, and appropriate acceptance criteria for work to be performed in accordance with the AISC Specification. The O.C.1.1 requirements provide for weld size which meets design requirements.

AWS D1.1-72

3.5 Dimensional Tolerances

AWS D1.1 has approximately 10 column inches of special tolerances.

# COMPARISON C

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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### 0.C.1.1

3.5 Dimensional Tolerances

Dimensional tolerances of welded structures shall be in accordance with the AISC specification and OE drawings and specifications.

Justification: These requirements are necessary and appropriate acceptance criteria for work in accordance with the AISC Specification and detailed drawings. It is the Engineer's responsibility to provide tolerances.

AWS D1.1-72

3.6 Weld Profiles

D1.1-72 has approximately 7 column inches of weld profile requirements.

### **O.C.1.1**

3.6.5 All Welds

The weld profile requirements for ASME Section III, subsection NF may be used in place of 3.6.1 through 3.6.4 above.

Justification: The criteria are appropriate for work in accordance with the AISC Specification. American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section III, "Nuclear Power Plant Components", Subsection NF "Component Supports" is recognized in the law at Title 10 Part 50.55(a).

Subsection NF recognizes the techniques and methods of the AISC Specification for design of supports and then gives acceptance criteria for welded structures. The use of Subsection NF acceptance criteria for welds is consistent with AISC designed and fabricated structures.

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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#### AWS D1.1-72

3.6.1 The faces of fillet welds may be slightly convex, flat, or slightly concave as shown in Fig. 3.6, Details A, B, and C, with no defects such as shown in Fig. 3.6, Detail D. Except at outside corner joints, the convexity shall not exceed the value of 0.1S plus 0.03 in. where S is the actual size of the fillet weld in inches. (See Fig. 3.6, Detail C.)

### G-29C Process Specification O.C.1.1 (R1)

3.6.1 Fillet Welds

The faces of fillet welds may be slightly convex, flat, or slightly concave with none of the unacceptable profiles shown in Figure 3.6.1 (P. 19 of 21).

(The figure does not limit convexity.)

Justification: Convexity and reinformcement do not reduce the load carrying capacity of the welds. The requirements are adequate and appropriate for work performed in accordance with the AISC Specification. The differences are cosmetic.

### G-29C Process Specification 3.C.5.5 (R0)

Process Specification 3.C.5.5 is written to the requirements of Visual Weld Acceptance Criteria for Structural Welding at Nuclear Power Plans (VWAC) Revision 2. VWAC is a document prepared and issued by the Nuclear Construction Issues Group (NC1G) and has received the approval of NRC. The document received extensive review; engineering evaluation, and justification based on industry experience and comparison with documents such as Welding Research Council Bulletin 222.

TVA implements the VWAC on only those structures to which the Engineer designates the criteria are applicable for which the SAR is revised.

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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### AWS D1.1-72

#### 3.9 Stress-Relief Heat Treatment

The temperature of the welded assembly shall be maintained uniformly during heating and cooling so that the temperature throughout the assembly will differ by not more than 100°F at any time. . . . After a maximum temperature of 1100°F is reached on quenched and tempered steel, or a mean temperature range between 1100 F and 1200 F is reached on other steels the temperature of the assembly shall be held within the specified limits for one hour per inch of weld thickness.

### 1.C.1.2

Postweld heat treatment shall be performed in accordance with Process Specification 14.2 2.C.1.1.

### 2.C.1.1

During the heating period, variation in temperature through the portion of the part being heated shall be no greater than 250 F within 15-foot interval of length . . . also

#### Table 1 - Minimum Holding Time

1/4 In. (6.4 mm) Or Less 15 min.

Over 1/4 In. (6.4 mm) through 2 In. (51 mm) 1 hr/in.

Over 2 In. (51 mm)

2 hrs plus 15 min for each additional in. over 2 in. (51 mm)

Justification: These requirements are adequate, necessary, and appropriate criteria for work to be performed in accordance with the AISC Specification. The criteria have been included in later revisions of AWS D1.1.

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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### AWS D1.1-72

3.10.1 (Second Sentence) Welded joints shall not be painted until after the work has been completed and accepted.

#### G-29C Process Specification 1.C.1.2 (R3)

15.1 (Second Sentence) Welded joints shall not be painted until after the welding has been examined and accepted.

### G-29C Process Specification 3.C.5.4 (R2) dated 1/28/85

5.0 Procedure

The inspectors shall check the following items:

5.1 The weld area to be inspected is cleaned of all slag, scale, grease, paint, primer or other material detrimental to visual examination.

G-29C Process Specification 3.C.5.4 (R1) Addendum 2, Rev. 1 dated 1/23/84 Delete Paragraphs 5.2.1 and 5.2.2

G-29C Process Specification 3.C.5.4 (R1) Addendum 2 dated 8/12/83 Paragraph 5.2.1 revised to read as follows:

- 5.2.1 Welds made prior to November 2, 1982, which are coated with carbo-zinc primer may be visually examined for weld size, undercut, overlap, and arc strikes in accordance with this process specification without removing the primer provided:
  - (a) The carbo-zinc was sprayed in accordance with the applicable coating application specification.
  - (b) The carbo-zinc thickness is not greater than 5 mils as documented in coating inspection records and/or log books or as measured adjacent to the weld. Coating thickness measurement techniques shall be in accordance with the specification for coating application.

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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#### G-29C Process Specification 3.C.5.4(R1) dated 3/09/83

- 5.2 The weld area to be inspected is cleaned of all slag, scale, grease, paint, primer, or other material detrimental to visual examination.
- 5.2.1 Welds made prior to November 2, 1981, which are coated with carbo-zinc primer may be visually examined in accordance with this process specification without removing the primer provided.:
  - (a) The carbo-zinc was sprayed in accordance with the applicable coating application specification.
  - (b) The carbo-zinc thickness is not greater than 5 mils as documented in coating inspection records and/or log books or as measured adjacent to the weld. Coating thickness measurement techniques shall be in accordance with the specification for coating application.
- 5.2.2 Welds inspected for weld quality (defects other than size and location) as part of an EN DES directed sampling program shall be inspected without primer coating unless exempted by EN DES.

#### G-29C Process Specification 3.C.5.4 (a) dated 1/25/82

- 5.2 Weld area to be inspected is cleaned of all slag, scale, grease paint, primer, or other material detrimental to visual examination.
- 5.2.1 Welds made prior to November 2, 1981, which are coated with carbo-zinc primer may be visually examined in accordance with this process specification without removing the primer provided:
  - (a) The carbo-zinc was sprayed in accordance with the applicable coating application specification.
  - (b) The carbo-zinc thickness is not greater than 5 mils as documented in coating inspection records and/or log books or as measured adjacent to the weld. Coating thickness measurement techniques shall be in accordance with the specification for coating application.

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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- 5.2.2 Welds inspected for weld quality (defects other than size and location) as part of an EN DES directed sampling program shall be inspected without primer coating unless exempted by EN DES.
  - Justification: Paragraphs 5.2.1 and 5.2.2 were intended to provide for <u>reinspection</u> of welds which may have been primer coated subsequent to the original inspection. The need for such <u>reinspection</u> was related to resolution of several nonconformances concerning inadequate original inspections. Because the wording of these paragraphs did not make clear that the subject was <u>reinspection</u>, misunderstanding of the intent resulted. The consequences of the misunderstanding are not discussed here. An exhaustive investigation of this subject is contained in a report prepared for W. F. Willis by NSRS (Q01 850927 051).

With respect to the <u>intent</u> of G-29, there is no conflict with AWS D1.1 in this area. AWS D1.1 neither requires nor prohibits <u>re</u>inspection of welds after primer coating (emphasis added).

Welds are normally inspected shortly after welding. The Watts Bar specific procedures 3.C.5.4 (a) and subsequent revisions and addenda which permitted inspection/reinspection of coated welds was applicable only to welds made prior to November 2, 1981, and only at Watts Bar Nuclear Plant. The intent was to apply only to reinspection. This provision was not applicable to new welds or welds in process. Obviously, it was not TVA's intention to permit or encourage inspection of painted welds. Similar inspection techniques have been demonstrated to the satisfaction of NRC inspection personnel at Wolf Creek. Revision 2 dated 1/28/85 deleted the subject provision entirely. Programmatically, TVA's intent was in compliance with AWS D1.1.

### **COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1**

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### AWS D1.1-72

4.4 Arc Strikes

Arc strikes outside of the area of permanent welds should be avoided on any base metal. Cracks or blemishes resulting from arc strikes shall be ground to a smooth contour and checked to ensure soundness.

### **O.C.1.1**

3.7.2.5 Arc Strikes and Weld Spatter. Remove by grinding or wire brushing.

### 1.C.1.2

8.9 Arc strikes outside of the area of permanent welds should be avoided on any material. The areas of arc strikes shall be ground to a smooth contour and examined for defects.

G-29C Process Specification 3.C.5.4 (R2)

#### 6.2.1.d, 6.2.2.b, 6.2.3.d, 6.2.4.c

Random weld spatter and arc strikes are acceptable if cleaned by wire brushing.

Justification: The requirements are adequate and appropriate acceptance criteria for work performed in accordance with the AISC Specification. Any defect resulting from an arc strike and not the arc strike itself is important in AISC specification fabrication and welding. For the materials of interest, arc strikes are primarily cosmetic blemishes. Arc strikes are permissible in the NCIG-01 criteria approved by the NRC provided these are crack free. TVA prohibits cracks in other paragraphs.

#### AWS D1.1-72

4.9.2 All electrodes having low-hydrogen coverings conforming to AWS A5.1 shall be purchased in hermetically-sealed containers or shall be dried for at least two hours between 450 F and 500 F before they are used. Electrodes having low-hydrogen coverings conforming to AWS A5.5 shall be purchased in hermetically-sealed containers

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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or shall be dried at least one hour at temperatures between 700 F and 800 F before being used. Electrodes shall be dried prior to use if the hermetically-sealed container shows evidence of damage. Immediately after removal from hermetically-sealed containers or from drying ovens, electrodes shall be stored in ovens held at a temperature of at least 250 F. E70XX electrodes that are not used within four hours, E80XX within two hours, E90XX within one hour, and E100XX and E110XX within one-half hour after removal from hermetically-sealed containers or removal from a drying or storage oven shall be redried before use. Electrodes which have been wet shall not be used.

1.**C**.1.2

9.1.5 The maximum electrode exposure times without redrying given in 9.1.2 and 9.1.3 above may be extended to the times stated below if the test described in 9.1.6 is performed: (This paragraph does not supersede C. F. Braun specification requirements on the subject.)

Electrode	Exposure Time
A5.1-E70XX	Up to 10 Hours
A5.5-E70XX	Up to 10 Hours
E80XX	Up to 10 Hours
E90XX	Up to 5 Hours
E100XX	Up to 4 Hours
E110XX	Up to 4 Hours

- 9.1.6 Test to extend allowable exposure time
- 9.1.6.1 Each electrode classification from each electrode manufacturer shall be tested if desired to extend its maximum exposure time without redrying.
- 9.1.6.2 Five samples of electrodes shall be tested for moisture content:
  - (a) As received in the manufacturer's hermetically sealed container
  - (b) After exposure for the desired time to air with a moisture content at least as great as the moisture content to which the electrodes will be exposed in use.

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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9.1.6.3 The moisture content of all five samples exposed to moist air shall not exceed the following:

Electrode	Exposure Time
A5.1-E70XX	0.4% By Weight
A5.5-E70XX	0.4% By Weight
E80XX	0.4% By Weight
E90XX	0.4% By Weight
E100XX	0.4% By Weight
E110XX	0.2% By Weight

- 9.1.6.4 Example To increase the allowable exposure time of Arcos A5.1, E7018 electrodes to 7 hours in 85 F air at 80 percent relative humidity, the moisture content of five samples of electrodes shall be determined as received and after exposure for at least 7 hours in air with at least 0.0212 lb/lb dry air of water. The moisture content of all 5 samples exposed to moist air must be not greater than 0.4 percent by weight.
- 9.1.6.5 The determinations of electrode moisture content shall be performed in accordance with Section 25 of AWS Specification A5.5.
- 9.1.6.6 The test record shall contain the following data:
  - (a) Electrode manufacturer and classification
  - (b) Moisture content of test environment
  - (c) Temperature and relative humidity of environment
  - (d) Time of exposure to environment
  - (e) Electrode moisture content as received
  - (f) Electrode moisture content after exposure
- 9.1.6.7 Meteorological data for a site as presented in the Safety Analysis Report or as gathered for cooling tower design purposes shall be used to determine the maximum moisture in the site air to which electrodes are to be exposed. Alternatively, air with a moisture content of 0.0247 lb/lb dry air may be sued for all electrode exposure tests. This

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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moisture content is based on a search of 30 years of National Climatic Center data which showed the maximum wet bulb temperature ever recorded in the Valley was 83 F at Memphis.

Justification: The requirements are adequate and appropriate for work performed in accordance with the AISC and AWS D1.1 Specifications. Later revisions of AWS D1.1 include very similar requirements.

AWS D1.1-72

4.18.1.4 The thickness of weld layers, except root and surface layers, shall not exceed 1/4 in. When the root opening of a groove weld is 1/2 in. or greater, a multiple-pass, split-layer technique shall be used. The split-layer technique shall also be used in making all multiple-pass welds when the width of the layer exceeds 5/8 in.

### 1.C.1.2

- 11.3.2 The thickness of weld layers, except root and surface layers, shall not exceed 1/4-inch. When the root opening of a groove weld is 1/2-inch or greater, a multiple-pass, splitlayer technique shall be used. The split-layer technique shall also be used in making all multiple-pass welds when the width of the layer exceeds 5/8-inch; however, for flux cored welding, the bead width may extend to but not exceed twice the gas cup diameter when approved by the site welding engineering or welding quality control unit.
  - Justification: The requirements are adequate and appropriate for work performed in accordance with the AISC Specification. The differences between TVA and AWS D1.1 are trivial.

AWS D1.1-72

4.28.1 Studs shall be welded to steel members with automatically timed stud welding equipment connected to a suitable power source.

### **COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1**

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### **O.C.1.1**

Concrete anchor and shear connector studs also may be welded using approved welding procedures and the shielded inetal arc welding process.

Justification: The requirements are adequate and appropriate for work performed in accordance with the AISC Specification. Later revisions of AWS D1.1 include this option.

### AWS D1.1-72

4.29.3 Studs on which a full 360 deg weld fillet is not obtained may, at the option of the studwelding contractor, be repaired by adding a 3/16-in. fillet weld in place of the missing weld fillet, using the shielded metal-arc process with low-hydrogen welding electrodes in accordance with the requirements of this Code.

### 1.C.1.2

18.1 Studs on which a full 360 degree weld fillet is not obtained may be repaired by adding a 5/16-inch fillet by the manual shielded metal arc process and low hydrogen electrodes. Welding shall be done using 5/32- or 3/16-inch-diameter electrodes except that smaller electrodes may be used on studs 7/16 -inch or less in diameter or for out-of-position welds. The repair weld shall extend a minimum of 3/8-inch beyond each end of the area requiring repair.

Justification: The requirements are adequate and appropriate for work performed in accordance with the AISC Specification. Later revisions of AWS D1.1 include these requirements.

#### AWS D1.1-72

5.3.1 All welders, welding operators, and tackers to be employed under this Code shall have been qualified by tests as prescribed in Parts III, IV, and V of this Section. The

## COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1 Page 20 of 29

Engineer, at his discretion, may accept evidence of previous qualification of the welders, welding operators, and tackers to be employed.

### **O.C.1.1**

5.3 Welders and Welding Operators

Welders and welding operators qualified in accordance with the AWS Structural Welding Code or ASME Section IX may be employed on work in accordance with this specification. They shall be qualified using the test descriptions of Process Specifications 1.M.2.2 or 1.C.2.2.

### 1.C.2.2

7.0 Applicability of Process Specification 1.M.2.2 Welder Qualification

7.1 Welders qualified to test descriptions of Process Specification 1.M.2.2 with 5-or 6-inch diameter 3/4-inch wall thickness pipe in the 2G and 5 G or 6G positions by side bend tests or by radiography which meets the requirements of Section 6.2 of this specification are qualified to weld with the welding process and filler metal classification used in qualification test in all positions on material from 3/16-inch to unlimited thickness on plate or pipe with 4-inch or greater diameter on single welded joints with backing or double welded joints and on fillet welds on unlimited thickness material.

Welders who qualified to process Specification 1.M.2.2 tests which use one welding process for the root and another process for the remainder of the weld are qualified to this specification as described above for the welding process and filler metal classification used for the remainder of the test weld.

7.2 Some of the applicable test descriptions and the filler metals they qualify for are as follows:

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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Process Specification 1.M.2.2

Test Description SM-4-B-3-H GT-SM-6-4-C-3-H GT-SM-6-4-0-3-H Filler Metal Oualified AWS A5.1 or A5.5 F1 through F4

SM-5-B-3-H GT-SM-7-5-C-3-H GT-SM-7-5-0-3-H

GM(FC)-6-B-3-H GT-GM(FC)-6-6-0-3-H GM-GM(FC)-6-6-0-3-H AWS A5.4, F5

AWS A5.20, F6

7.3 Welders qualified to test descriptions of Process Specification 1.M.2.2 in the 2G and 5G or the 6G position by bend tests or by radiography which meets the requirements of Section 6.2 of this specification are qualified to the requirements of this specification. They are qualified to weld fillet welds on unlimited thickness material with the welding process and filler metal classification used in qualification testing.

7.4 Welders qualified to test descriptions utilizing the gas metal-arc solid wire process (GM-SD) are qualified for that process using the globular or spray transfer mode only unless stated otherwise on the specific test description.

Justification: The welder qualification criteria are appropriate and adequate for work performed in accordance with the AISC Specification. Process Specification 1.M.2.2 contains requirements to qualify welders in accordance with ASME Section IX. ASME Section IX is recognized in the law at Title 10 Part 50.55(a). The welder and welding operators tests of both AWS D1.1-72 and ASME Section IX are intended to determine

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS DI.1

#### Page 22 of 29

their ability to make sound welds. The differences between these qualifications based upon ASME compared to the AWS tests are trivial. ASME qualified tests for welders have been used on several other projects and have not been obstacles to licensing. TVA's program complies with AWS D1.1 and the Engineer's responsibility.

#### AWS D1.1-72

### 5.2 Other Procedures

Except for the procedures exempted in 5.1, joint welding procedures which are to be employed in executing work under this Code shall be previously qualified prior to use by tests as prescribed in Part II of this section to the satisfaction of the engineer. The Engineer, at his discretion, may accept evidence of previous qualification of the joint welding procedures to be employed.

### **O.C.1.1**

5.1.2 Welding procedures of Process Specification 1.M.1.2 meeting ASME Section IX requirements may be used to fabricate weldinents in accordance with this specification.

Justification: The criteria is adequate and appropriate for work in accordance with the AISC Specification. ASME Section IX is recognized by Title 10 Part 50.55(a). Welding procedures qualified to ASME IX have previously been accepted in lieu of welding procedures qualified to AWS D1.1 and this has not proved an obstacle to licensing.

### AWS D1.1-72

Section 6 - Inspection

AWS D1.1 has 1-1/2 pages of requirements.

### **COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1**

### Page 23 of 29

### **O.C.1.1**

### 6.0 Inspection

6.1 All fabrication by welding shall be performed in accordance with the requirements of this specification and the applicable OE-approved drawings.

NT--1---

6.2

Weldments shall be verified to be correct for the following requirements using the quality control program of 6.3 to 6.7 below: (Note: Drawings may contain additional inspection requirements. The additional requirements shall be implemented.)

0 - 6 - 4 - -

	I	Nuclear Safety	
Ac	tivity	Related	Other
Α.	Preweld		
	1. Proper Material	WF	WF
	2. Weld Joint Dimensions (Fitu)	p) WF	WF
	3. Alignment	WF	WF
	4. Surface Cleanliness	WF	WF
	5. Qualified Welder	WF	WF
	6. Proper Procedure	WF	WF
	7. Proper Filler Metal	WF	WF
B.	During Welding		
	1. Procedure Adherence	WF	WF
<b>C.</b> ¹	After Welding (Section 8.6)		
	1. Weld Defects	WI	WF
	2. Weld Contour	WI	WF
	3. Size and Location of Welds	WI	WF

### <u>Notes</u>

WF - The welder and his foreman shall meet the requirement and shall be subject to he surveillance program of 6.3.

## COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

### Page 24 of 29

- WI An inspector shall verify that the requirement is met. A record is required. The record may be the inspector's unique identifying mark on the weldment, marked drawings, individual inspection records, or as required by a quality assurance program.
- 6.3 OC shall verify through a surveillance program that each inspector and welder's foreinan is properly performing the required activities of Section 6.2
- 6.3.1 Each foreman's and inspector's work shall be monitored through a surveillance program at least once every two weeks.
- 6.3.2 The surveillance program shall check work that is in progress and work that has been completed to ensure compliance with the requirements of Section 6.2.
- 6.4 Appropriate educational programs or other corrective action shall be taken to improve the capabilities of craftsmen and inspectors not meeting the requirements of Section 6.2.
- 6.5 At nuclear construction sites, a monthly report of the surveillance program shall be submitted to the appropriate Design Project Manager. The report shall list the plant features examined, major problems, and corrective action.
- 6.6 Inspectors shall be trained and qualified to levels equivalent of those of SNT-TC-1A, American Society of Nondestructive Testing Recommended Practice for nondestructive Testing Personnel Qualification and Certification. Only Level II or III persons or Level I persons working under the direction of a Level II shall perform inspections.
- 6.7 Nondestructive testing and visual examination shall be performed to the requirements of Section 6.7 of the AWS Structural Welding Code or to the Requirements of ASME Section III for piping supports. All nondestructive testing shall be in accordance with the written procedures of General Construction Specification G-29C or G-29M.
  - Justification: The requirements are adequate and appropriate acceptance criteria for work to be performed in accordance with the AISC Specification. There are Construction and Operations welding-related quality programs which address ANSI N45.2.5, inprocess inspections.



### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

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### AWS D1.1-72

8.15 Quality of Welds

AWS D1.-72 has approximately 7 column inches of requirements.

### **O.C.1.1**

8.6.3 Acceptance criteria for visual examination and nondestructive testing of ASME Section III, subsection NF, may be substituted for the acceptance criteria of 8.6.1 and 8.6.2.

Justification: The criteria are appropriate for work in accordance with the AISC Specification. American Society of Mechanical Engineer Boiler and Pressure Vessel Code, Section III, "Nuclear Power Plant Components", Subsection NF, "Component Supports" is recognized in the law at Title 10 Part 50.55(a).

Subsequent NF recognizes the techniques and methods of the AISC Specification for design of supports and then gives acceptance criteria for welded structures. The use of subsection NF acceptance criteria for welds is consistent with AISC designed and fabricated structures.

#### AWS D1.1-72

8.15.1.6

Fillet welds in any single continuous weld shall be permitted to underrun the nominal fillet size required by 1/16 in. without correction provided that the undersize weld does not exceed 10% of the length of the weld. On web-to-flange welds on girders no underrun is permitted at the ends for a length equal to twice the width of the flange.

#### G-29C Process Specification 3.C.5.4 (R2)

6.2.3.b A minimum permissible structural fillet weld size is 3/16-inch. Undersize of 1/16-inch is allowed for fillet welds over 3/16-inch in size.

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS DI.1

### Page 26 of 29

Justification: This contrast with the AWS code applies only to welds on duct supports at Watts Bar Nuclear Plant fabricated prior to February 13, 1981. The duct supports have been shown by calculation to be structurally adequate and documented in Nonconformance Report No. 2654. The Engineer has accepted this work in compliance with AISC and AWS D1.1.

AWS D1.1-72

- 3.6.4 For buildings and tubular structures undercut shall be not more than 0.01 in. deep when its direction is transverse to primary tensile stress in the part that is undercut, nor more than 1/32 in. for all other situations.
- G-29C Process Specification O.C.1.1 (R1)

8.6.1.5 Undercut shall not exceed 1/32-inch.

### G-29C Process Specification 3.C.5.4 (R2)

Work completed prior to February 13, 1981.

6.2.1a, 6.2.3a and 6.2.4(b)

Undercut on stressed members shall not exceed 1/32-inch in depth except that undercut of an additional 1/32-inch (1/16-inch total depth) and 1/4-inch length, not to exceed 10 percent of the run is acceptable. All welds are to be considered in stressed members unless identified otherwise by OE.

G-29C Process Specification 3.C.5.4 (R2)

Work completed after February 13, 1981.

6.1.4 Undercut shall not exceed 1/32-inch.

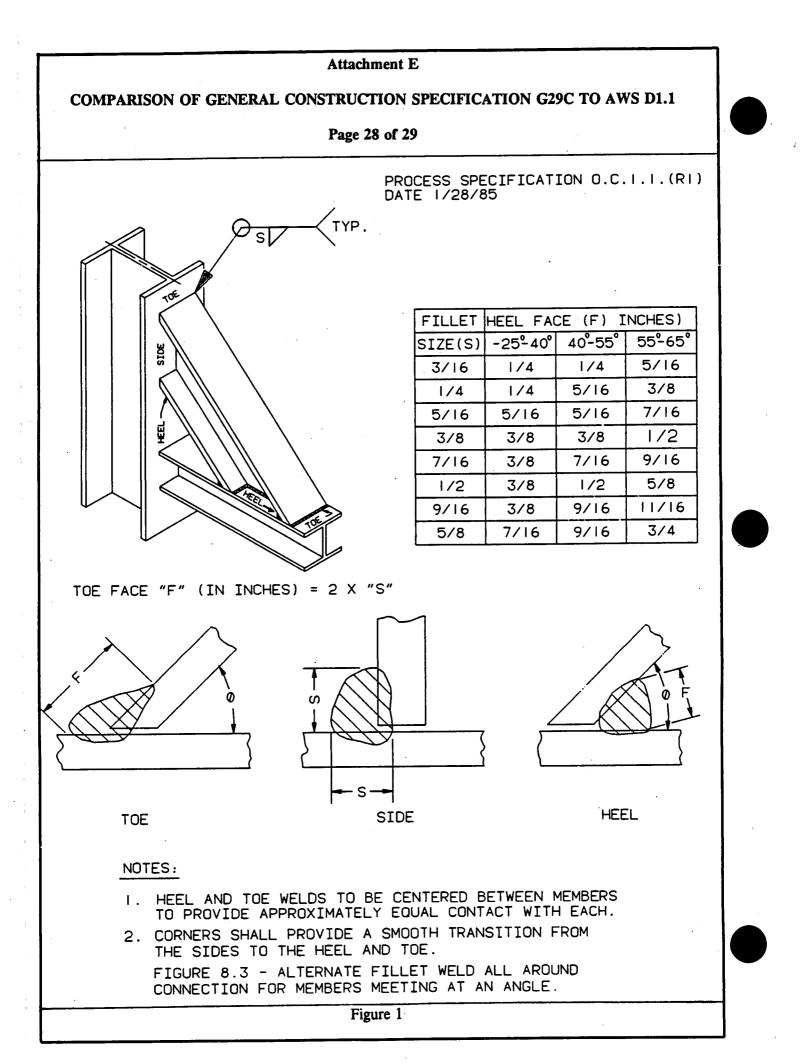
Justification: The criteria are appropriate for work in accordance with the AISC Specification. American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section III, "Nuclear Power Plant Components",

### COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1

Page 27 of 29

Subsection NF, "Component Supports" uses this criteria and is recognized in the law at Title 10 Part 50.55(a).

Subsection NF recognizes the techniques and methods of the AISC Specification for design of supports and then gives acceptance criteria for welded structures. The use of Subsection NF acceptance criteria for welds is consistent with AISC designed and fabricated structures. Subsection NF allows 1/32-inch deep undercut. These conditions including 1/16-inch deep undercut are also allowed by the criteria of NCIG-01 which has been approved by the NRC.



Attachment E COMPARISON OF GENERAL CONSTRUCTION SPECIFICATION G29C TO AWS D1.1 Page 29 of 29 PROCESS SPECIFICATION O.C.I.I.(RI) DATE 1/28/85 FILLET HEEL FACE (F) INCHES) 40°-55° 55[°]65° -25°-40° SIZE(S) 5/16 3/16 1/4 S 1/4 5/16 3/8 1/4 1/4 TOE-HEEL 5/16 5/16 7/16 5/16 3/8 1/23/8 3/8 7/16 9/16 7/16 3/8 1/2 3/8 1/2 5/8 9/16 3/8 9/16 11/16 SIDE CORNER CORNER 5/8 7/16 9/16 3/4 TOE FACE "F" (IN INCHES) = 2 X "S" S -S---TOE SIDE-UNEOUAL SIZE MEMBERS HEEL SIDE-EQUAL SIZE MEMBERS NOTES: I. HEEL AND TOE WELDS TO BE CENTERED BETWEEN MEMBERS TO PROVIDE APPROXIMATELY EOUAL CONTACT WITH EACH. 2. SIDE WELDS SHALL BE AT LEAST FLUSH WITH THE OUTER -SURFACE. 3. CORNERS SHALL PROVIDE A SMOOTH TRANSITION FROM THE SIDES TO THE HEEL AND TOE. FIGURE 9.3 - ALTERNATE FILLET WELD ALL AROUND CONNECTION FOR MEMBERS MEETING AT AN ANGLE. Figure 2

## TABLE A

# AWS D1.1-72 COMPARISON TO TVA SPECIFICATIONS

Parameter	TVA Specification									
	P.S.3.C	C.5.4(R2)	P.S.3.C.5.5(R0)	P.S.3.C.5.2(R2)	P.S.O.C.1.1(R1)					
•	Prior to 2/13/81	After 2/13/81	(VWAC)							
Cracks	Same as AWS D1.1	Same as AWS D1.1	Same as AWS D1.1	Same as AWS	Same as AWS					
Incomplete Fusion	Same as AWS D1.1	Same as AWS D1.1	Less stringent than AWS D1.1	Same as AWS	Same as AWS					
Overlap	Same as AWS D1.1	Same as AWS D1.1	Less stringent than AWS D1.1	Same as AWS D1.1	Same as AWS D1.1					
Underfilled Craters	Same as AWS D1.I	Same as AWS D1.1	Less stringent than AWS D1.1	Same as AWS D1.1	Same as AWS D1.1					
Undercut	Less stringent than AWS D1.1	Less stringent than AWS D1.1	Less stringent than AWS D1.1	Same as AWS D1.1	Less stringent than AWS D1.1					
Arc Strikes	Less stringent than AWS D1.1	Same as AWS D1.1	Less stringent than AWS D1.1	Same as AWS D1.1	Less stringent than AWS D1.1					
Porosity	Same as AWS D1.1	Same as AWS D1.1	Equal to AWS D1.1	Same as AWS D1.1	Less stringent than AWS D1.1					
Profile	Same as AWS D1.1-81 0.1S + .06" convexity	Same as AWS D1.1-81 0.1S + .06" convexity	Less stringent than AWS D1.1	Same as AWS D1.1-81 0.1S + 0.06"	Less stringent than AWS D1.1					
Leg Size	Less stringent than AWS D1.1	Same as AWS D1.1	Less stringent than AWS D1.1	Same as AWS D1.1	Same as AWS D1.1					
Reinforcement	Same as AWS D1.1	Same as AWS D1.1	Less stringent than AWS D1.1	Same as AWS D1.1	Same as AWS D1.1					
Slag	Same as AWS D1.1	Same as AWS D1.1	Less stringent than AWS D1.1	Same as AWS D1.1	Same as AWS D1.1					
Weld Length	Same as AWS D1.1	Same as AWS D1.1	Less stringent than AWS D1.1	Same as AWS D1.1	Same as AWS D1.1					

## TABLE B

# TVA SPECIFICATIONS COMPARED TO NCIG-01,

# REVISION 2, VISUAL WELD ACCEPTANCE CRITERIA FOR STRUCTURAL WELDING AT NUCLEAR POWER PLANTS

Parameter		TVA Specification								
	P.S.3.	C.5.4(R2)	P.S.3.C.5.5(R0)	P.S.3.C.5.2(R2)	P.S.O.C.1.1(R1)					
	Prior to 2/13/81	After 2/13/81	(VWAC)							
Cracks	Same as VWAC	Same as VWAC	Same as VWAC	Same as VWAC	Same as VWAC					
Incomplete Fusion	More Stringent	More Stringent	Same as VWAC	More Stringent	More Stringent					
Overlap	More Stringent	More Stringent	Same as VWAC	More Stringent	More Stringent					
Underfilled Craters	More Stringent	More Stringent	Same as VWAC	More Stringent	More Stringent					
Undercut	Less Stringent	More Stringent	Same as VWAC	More Stringent	More Stringent					
Arc Strikes	More Stringent	More Stringent	Same as VWAC	More Stringent	Equal					
Porosity	Equal	Equal	Same as VWAC	Equal	Equal					
Profile	More Stringent	More Stringent	Same as VWAC	More Stringent	More Stringent					
Leg Size	Less Stringent	More Stringent	Same as VWAC	More Stringent	More Stringent					
Reinforcement	More Stringent	More Stringent	Same as VWAC	More Stringent	More Stringent					
Slag	More Stringent	More Stringent	Same as VWAC	More Stringent	More Stringent					
Weld Length	More Stringent	More Stringent	Same as VWAC	More Stringent	More Stringent					

#### Attachment F

## Employee Concerns Evaluation and Classification

#### Page 1 of 2

A transcript of the concerns as expressed on the K forms was used to review and classify all of the welding-related Employee Concerns. Each concern was evaluated and classified by a team of senior design, quality assurance, and welding engineers. The experience of the team ranged from 15 years to 27 years and included experience in Mechanical (piping), Structural, Quality Assurance, Welding, Nondestructive Examination, Metallurgy, and Inspection.

The following criteria were used to evaluate and classify the concerns:

- 1. Usc 18 criterion of 10CFR50 Appendix B to determine all of the possible implications the concerns may have.
- 2. Assume that the events described in every concern are factual.
- 3. Consider only the programmatic implications.
- 4. Determine if the concern indicates a program deficiency or an implementation deficiency.
- 5. Evaluate the concern to each of the 18 criterion of Appendix B of 10CFR50 to determine all possible implications or that the concern is not applicable to the program.

A total of 548 employee concerns were evaluated and classified to the above criteria resulting in 1,198 separate implementation indicators. The results of the evaluation and classification are shown in Table 1 - "Employee Concerns Classification" on the next page.

The results indicate that there are no identified deficiencies in the program but that overall implementation of the program needs to improve particularly in the areas of Instructions, Procedures, and Drawings, Control of Special Processes, and to a lesser degree in Design Control, Inspection, Nonconformances, and Quality Assurance Records. The results show that 28.47% (156 of 548) of the concerns were outside the criteria of 10CFR50 Appendix B and are not applicable to the program.

## Attachment F Employee Concerns Evaluation and Classification page 2 of 2

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# Table 1Employee Concerns Classification

. '		Number of Indicators
Program Deficie	ncies	0
Insplementation I	Deficiencies	
Criterion	1 - Organization	3
:	2 - Quality Assurance Program	
•	3 - Design Control	47
	4 - Procurement Document Control	
	5 - Instructions, Procedures, and Drawings	374
	6 - Document Control	0
	7 - Control of Purchased Material,	
	Equipment, and Services	20
	8 - Identification and Control of Materials,	
	Parts, and Components	
•	9 - Control of Special Processes	
	10 - Inspection	
	11 - Test Control	1
•	12 - Control of Measuring and Test Equipment	0
	13 - Handling, Storage, and Shipping	
	14 - Inspection, Test, and Operating Status	
	15 - Nonconforming Materials, Parts, or Components	26
·	16 - Corrective Action	
	17 - Quality Assurance Records	
	18 - Audits	0
		• • • • •
	TOTAL	. 1,198
		,

Not Applicable to Program .....

156

#### Attachment G

#### Bellefonte Construction Procedures Reviewed

#### Page 1 of 4

**BNP-QCP-1.1, R16** BNP-QCP-1.2, R16 **BNP-QCP-1.3, R7** BNP-QCP-1.4, R2 BNP-QCP-2.2, R19 **BNP-QCP-2.6, R7** BNP-QCP-2.15, R5 BNP-QCP-3.7, R11 BNP-QCP-3.13, R12 BNP-QCP-4.3, R12 **BNP-QCP-4.6**, R0 BNP-QCP-5.3, R9 **BNP-QCP-6.4**, **R7 BNP-QCP-6.6**, R4 **BNP-QCP-6.7**, R14 BNP-QCP-6.13, R8 BNP-QCP-6.17, R12 **BNP-QCP-7.1, R4 BNP-QCP-7.2, R5 BNP-QCP-7.3**, **R7 BNP-QCP-7.4, R6** 

BNP-QCP-7.5, R14 **BNP-QCP-7.8, R4** 

- Receiving Inspection

- Storage

- Maintenance

- Handling of Nuclear Components

- Structural Steel Fabrication

- Cadwelding Inspection

- Structural Steel Installation

- Electrical Hangers

- Equipment Installation

- Instrument Tubing Installation

- Seismic Category I(L) and Nonseismic Tubing Installation

- Concrete Placement

- HVAC Ductwork

- Primary Containment Steel Liner

- Inspection of HVAC Duct and Mechanical **Equipment Supports** 

- Seismic Support Modifications

- Seismic Support Installation and Inspection

- Radiography Examination

- Ultrasonic Examination

- Magnetic Particle Examination

- Liquid Penetrant Examination

- Visual Examination of Weld Joints

- Vacuum Box Leak Testing

#### Attachment G

#### Bellefonte Construction Procedures Reviewed

## Page 2 of 4

- BNP-QCP-7.9, R17
- BNP-QCP-7.10, R7
- BNP-QCP-7.11, R1
- BNP-QCP-8.1, R13
- BNP-QCP-8.2, R8
- BNP-QCP-8.3, R5
- BNP-QCP-9.2, R10

BNP-QCP-9.3, R11

BNP-QCP-9.4, R6

BNP-QCP-10.1, R11 Addendum 1 (06/04/85)

BNP-QCP-10.2, R14

BNP-QCP-10.3, R12 Addendum 1 (06/24/85)

BNP-QCP-10.4, R14

BNP-QCP-10.5, R5

BNP-QCP-10.6, R17 Addenduni 1 (09/30/85)

BNP-QCP-10.7, R11

BNP-QCP-10.9, R12 Addendum 1 (03/21/86)

BNP-QCP-10.11, R12

- Fit-Up and Cleanliness
- Thickness Measurement by Ultrasonic Method
- Straight Beam Ultrasonic Examination of Plates
- Weld Filler Material Control
- Post Weld Heat Treatment
- Stud Welding
- Transfer of Permanent Plant Equipment, Systems, or Structures to the Division of Nuclear Power.
- Configuration Drawing Control
- Work Plans
- Preparation and Control of Quality Control Procedures (QCPs) and Construction Test Procedures (CTPs)
- Document Control
- Preparation and Review of Field Procurement Documents
- Control of Nonconformances and Significant Condition Reports
- Field Fabrication Orders
- Work Release
- Quality Assurance Records
- Material Identification and Marking
- Calibration of Measuring and Test Equipment

#### Attachnient G

Bellefonte Construction Procedures Reviewed

## Page 3 of 4

BNP-QCP-10.12, R9 Addenduni 1 (07/18/85)

BNP-QCP-10.13, R8 Addendum 1 (05/01/84) Addendum 2 (05/01/85)

BNP-QCP-10.15, R1

BNP-QCP-10.17, R0

BNP-QCP-10.18, R10 Addendum 1 (03/20/86)

BNP-QCP-10.19, R3

BNP-QCP-10.20, R3

BNP-QCP-10.24, R6 Addendum 1 (03/20/86)

BNP-QCP-10.25, R6 Addendum 1 (01/17-84)

BNP-QCP-10.28, R2

BNP-QCP-10.29, R6 Addendum 1 (11/01/84) Addendum 2 (12/20/84) Addendum 3 (05/01/85)

BNP-QCP-10.30, R5 Addendum 1 (12/20/84) Addendum 2 (09/13/85)

BNP-QCP-10.33, R5 Addendum 1 (06/12/85) - Material Issue Control

- Weld Procedure Assignment

- Eye Examinations for Inspection, Examination, and Testing Personnel

- Preparation N-5 Code Data Report

- Weld and Base Material Repairs

- Arc Strike Removal

- Delta Ferrite Control

- Welder, Welding Operator, and Pcening Operator Performance Qualification

- Qualification of Cadwelders

- Handling Allegations

- Quality Assurance Training and Certification Program for Quality Control Personnel

- Craft Quality Assurance Training

- Stop Work

#### Attachnient G

#### Bellefonte Construction Procedures Reviewed

#### Page 4 of 4

BNP-QCP-10.35, R3 Addendum 1 (09/10/85)

BNP-QCP-10.36, R3

BNP-QCP-10.37, R2

BNP-QCP-10.39, R0

BNP-QCP-10.40, R1

BNP-QCP-10.41, R2

BNP-QCP-10.43, R1

BNP-QCP-10.46, R0 Addendum 1 (01/29/85)

BNP-QCP-10.47, R2

BNP-QCP-10.50, R0 Addendum 1 (04/29/85)

BNP-QCP-10.53, R1

BNP-CTP-4.4, R2

BNP-CTP-7.6, R4

BNP-CTP-7.7, R5

- Employee Concerns and Differing Opinions
- Sequence Control Chart (SCCs)
- Handling of Office of Quality Assurance Audits and Audit Findings
- Surveillance of Site Contractor
- Cross-Work Control for Tentatively Transferred ASME Code Systems
- Trend Analysis Program

- Inspection Rejection Notice

- Review and/or Approval of Instructions, Procedures, Test Documents, and Procurement Documents
- Autoniated Process Control (APC)
- QA Training Program for Engineering Personnel
- "Change Requests" Field Change Request (FCR), Weld Map Change Request (WMCR), and Duct Map Change Request (DMCR)
- Flushing and Pressure Testing of Instrument Lines
- Hydrostatic Testing
- Pneumatic Testing

#### Attachment H

#### Weld Monitoring Program Description page 1 of 1

Bellefonte Nuclear Plant used a computerized weld monitoring program to status and assimilate data on all safety-related welds shown on weld maps issued by the Construction Engineering organization. For BLN, these welds included critical piping welds installed in accordance with ASME Section III and B31.1 requirements, Seismic Category I structural items, and ASME pipe supports.

The weld monitoring program provided a complete history of all weld repair activities and contained pertinent summary information on each weld.

The weld monitoring program used a conservative approach to the compilation of both repair and cut-out rates. Pertinent points are as follows:

Reject rates were computed on a per weld basis, rather than by total inches of weld rejected versus total inches of weld completed. This meant that any failed inspection from fit-up through a major weld repair was considered a reject when any aspect of the required inspection was rejected. The weld reject may have been as minor as cosinetic grinding or as important as a failed radiographic examination which would have resulted in excavation of a portion of the weld, repair welding, and documentation of repair inspections.

Weld repairs requiring excavation were characteristically limited to a relatively small portion of a weld. For example, a six-inch pipe weld contained approximately twenty and eighttenths (20.8) linear inches of weld and would require repair of a three-inch section. This amounted to a reject of only fourteen (14) percent of the weld area. The construction program indicated that this weld was a one hundred (100) percent reject.

Cut-outs were defined as complete removals of welds. Cut-outs were also computed on a per weld basis. Cut-outs resulted from (1) design changes after initial construction installations were completed, and (2) repairs to grossly defective welds when it was more economical to replace the weld in total than to excavate and repair several areas in the weld. Additionally, welds which failed fit-up inspections before welding actually commenced were also counted as cut-outs even though the weld joint was only tacked up and prepared for welding.

## Attachment I

## Discrepancies Identified from Review of BLN Construction Procedures

# Page 1 of 3

BLN Construction <u>Procedures</u>	Requirements Document	Discrepancies/Enhancements
BNP-QCP-7.1, R4	G-29M	Typo error in QCP 7.1, Paragraph 3.5, the reference to PS 3.M.2.2 should be to PS 3.M.3.2.
BNP-QCP-7.2, R5	G-29M	P.S.3.M.7.1 is not consistent with P.S.3.C.7.1 in specifying appropriate qualification levels of personnel performing and interpreting NDE examination results. P.S.3.C.7.1 appears to be correct.
BNP-QCP-7.2, R5	G-29C	The site should evaluate the need of specifying P.S.3.C.7.1 (R0) for UT of structural groove welds in a site procedure for consistency/compatibility with P.S.3.M.7.1.
BNP-QCP-7.3, R7, BNP-QCP-7.4, R6, BNP-QCP-7.5, R14, and BNP-QCP-7.9, R17	G29C/G29M	Appropriate inspector qualification levels for performing/interpreting various weld inspection examinations should be specified and/or referenced to QTPM and QCP-10.29 qualification levels.
BNP-QCP-10.47, R2	NCM	Site implementing procedure, Paragraph 6.1.4, does not address the requirement that "revisions" to operation sheets affecting examinations and test shall be sent to the ANI for setting of hold points as required by NCM Section 4.2, Paragraph 2.3.4. This has been implemented at BLN, but the QCP should be revised at next opportunity to reflect the requirement from NCM. Clarify QCP on next revision.
BNP-QCP-10.47, R2	NCM	Site implementing procedure does not address the requirement that the responsible engineering unit shall obtain ANI final acceptance of completed operation checklist as required by Section 4.2, Paragraph 2.3.8. (The operation checklist does provide a space for the ANI final acceptance and these sign offs have been obtained.) NCM Paragraph 2.2.2 (d) implies WEU has final responsibility. The NCM and QCP needs to be made consistent in the next revision cycle.
BNP-QCP-8.1, R13	NCM	Site procedure uses term "welder" to include welding operators. This terminology clarification should be made in the next revision cycle.

## Attachment I

## Discrepancies Identified from Review of BLN Construction Procedures

## Page 2 of 3

BLN Construction <u>Procedures</u>	Requirements Document	Discrepancies/Enhancements
BNP-QCP-10.13, R8	NCM	As an improvement revise Paragraph 6.2.1.1 to add the following. "Welding Engineering Unit may assign detailed weld procedures and NDE procedures for additional field welds provided the procedures have been specified by OE for the identical system, material thickness, piping diameter, material, and ASME Code Class as required by NCM Section 5.1, Paragraph 2.2.4.d."
BNP-QCP-10.13, R8	G29E	The criteria used for welding requirements in the brazing/welding of electrical conductors and connectors should be delineated in site procedures.
BNP-QCP-10.29, R6	OC QTPM Section III-2 Add.2	Site implementing procedure, Paragraph 6.4.1 does not address the requirement that "any person who has not performed inspection, examination, or testing activities in his qualified area shall be reevaluated" as required by OC QTPM III-2, Addendum 2.
BNP-QCP-10.47, R2	NCM	Site implementing procedure, Paragraph 6.1.1, assigns to the Welding Engineering Umit responsibility for incorporating approved welding and NDE information from OE into the APC System. NCM 5.1, Paragraph 2.2.4, assigns the responsibility to the Assistant Construction Engineer. The QCP should be made consistent (WEU prepares/issues and ACE approves process control documents) with the NCM in the next revision cycle.
BNP-QCP-10.47, R2	NCM	<ul> <li>The NCM assigns the responsibility for coordinating hold points with the ANI to: Welding Engineering Unit, Weld Quality Control, and Mechanical Quality Control; similarly NCM assigns the delivery of records to Document Control Unit to: Welding Engineering Unit, Weld Quality Control, and Mechanical Engineering Unit. Clarify in site procedure the ANI interface with the responsible engineering units in relationship to the Automated Process Control System (APC).</li> <li>WEU - Welding, NDE, PWHT, etc.</li> <li>MEU - Piping bends, threading, bolting, pressure testing, etc.</li> <li>IEU - Tubing bend, pressure testing, etc.</li> <li>HEU - Hanger installation processes.</li> </ul>

## Attachment I

## Discrepancies Identified from Review of BLN Construction Procedures

# Page 3 of 3

BLN Construction <u>Procedures</u>	Requirements Document	Discrepancies/Enhancements
BNP-QCP-7.5, R14	G-29C	The scope of G-29C process specifications O.C.1.1, 1.C.1.2, and 3.C.5.2 should be clarified to ensure the appropriate application of these process specifications to various plant features, structures, systems. Revise site procedures which reference these specifications from G- 29C, (O.C.1.1, 1.C.1.2 and 3.C.5.2 to include this detail after G-29C clarification is provided.
BNP-QCP-8.1, R13 and BNP-QCP-10.24, R6		BNP-QCP-8.1, "Filler Metal Control", contains the methods used for verification of welder qualification continuity. This information should be contained in BNP- QCP-10.24, "Welder Performance Qualification", which assigns the responsibilities for tracking and documenting welder qualification continuity.
BNP-QCP-8.1, R13	G29C P.S.O.C.1.1	The surveillance program included in this QCP and Section Standard Instruction "QC Training Effectiveness and Inspector Performance" should be combined into one specific procedure defining welding surveillance performed.
BNP-QCP-10.13, R8 and BNP-QCP-10.47, R2	•	QCP-10.13, "Weld Procedure Assignment' and QCP-10.47, "APC" are closely related and should cross reference each other or be combined.

#### Attachment J

## Significant Administrative Monitoring Programs page 1 of 1

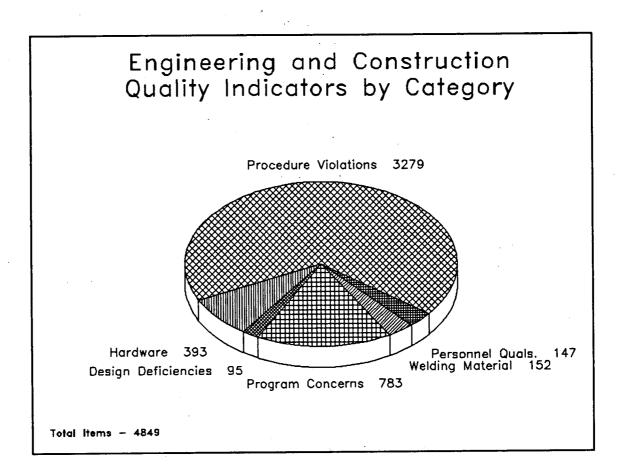
The review of Bellefonte Nuclear Plant's Welding Engineering Unit's administrative procedures (SOPs) determined that BLN had developed administrative procedures for the monitoring of program elements which illustrated the effectiveness of the Quality Assurance Program in three areas. These SOPs described programs which exceeded the basic requirements for the Welding Quality Assurance Program and gave increased confidence to the effectiveness of the program with emphasis on training and daily program implementation. These programs were as follows:

(a) Spot Radiography of Piping - Welding Engineering Unit initiated a practice of spot radiography. The guidelines for this effort were contained in WEU-SOP-711; issued January 15, 1980. This program examined randomly selected B31.1 and ASME III Class 3 butt welds that only required surface examination. This program was later revised to radiograph socket welds regardless of the piping classification. This practice served to provide both engineering and craft supervision additional information on compliance with installation requirements. Due to the formation of the Quality Manager Organization, the Welding Engineering Unit cancelled this SOP on June 28, 1983. The spot radiography program continued without these written guidelines. On January 7, 1986, a Quality Control unit instruction was reissued for spot radiograph of butt and socket welds.

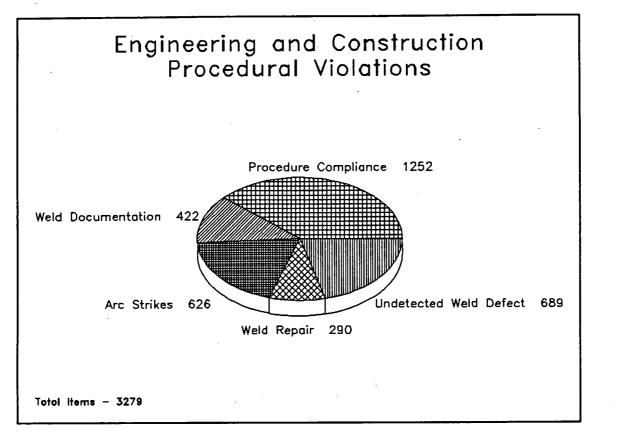
(b) Audit of Visual Weld Inspections - WEU-SOP-716, "Audit of Visual Weld Inspections", issued on May 14, 1981, implemented a random sampling of completed visual weld inspections as performed by each weld inspector. These random audit inspections were performed by individuals other than the original inspector. This practice increased the confidence of the weld inspection effort and monitored the effectiveness of Quality Control inspector training and performance. WEU-SOP-716 was cancelled on June 28, 1983, during an organization restructure. The criteria for this practice was transferred into a Quality Manager Section Standard Instruction, "QC Training Effectiveness and Inspector Performance", issued August 9, 1983.

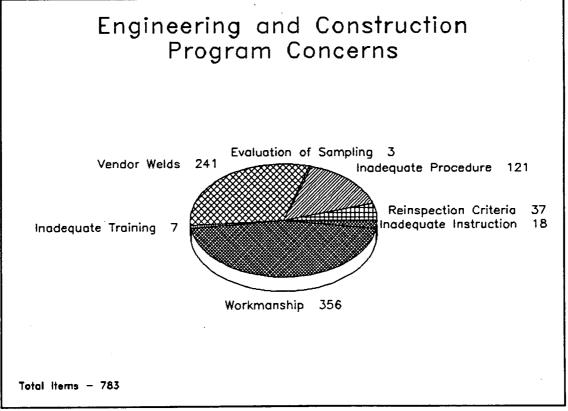
(c) NDE Training and Certification Program - WEU-SOP-715, "WEU Welding Inspector Training and Certification Program", issued February 7, 1981, outlined a stringent three phased visual weld inspector training program. A written examination concluded each specific phase. If the candidate answered less than 90 percent of the questions correctly additional training was required before progressing to the next phase. When the trainee completed additional training, another test was administered with the same minimum grade point required. If a passing grade was not achieved, the unit supervisor determined further action to be taken on a case-by-case basis. Successful completion of the site training was a prerequisite to offsite certification for visual inspection. This SOP was cancelled June 28, 1983 during an organization restructure previously discussed.

## Attachment K Quality Indicators by Category Page 1 of 4

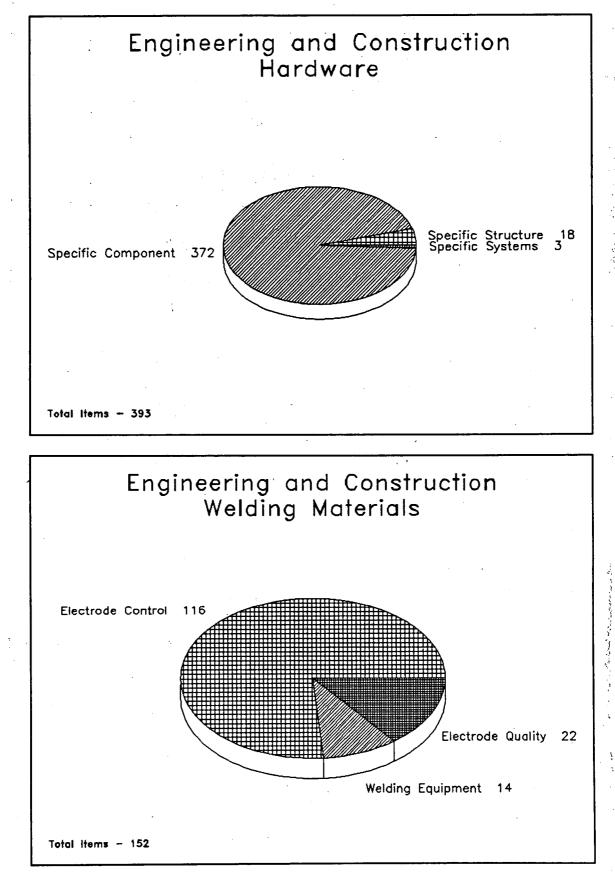


## Attachment K **Quality Indicators by Category** Page 2 of 4

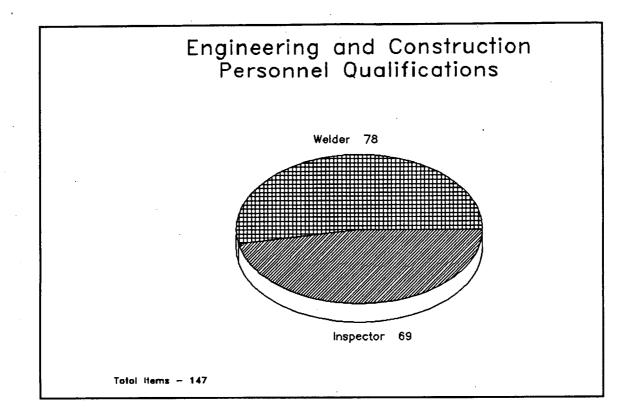


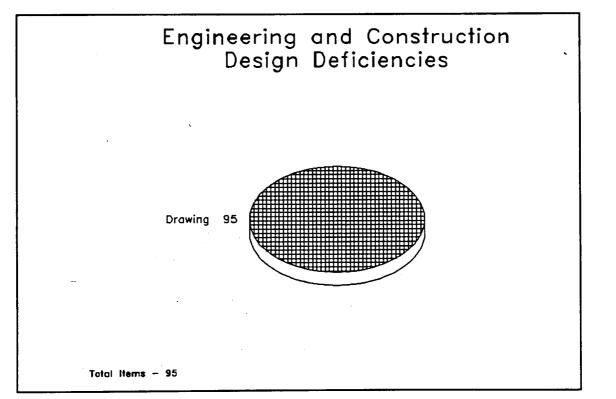


## Attachment K Quality Indicators by Category Page 3 of 4



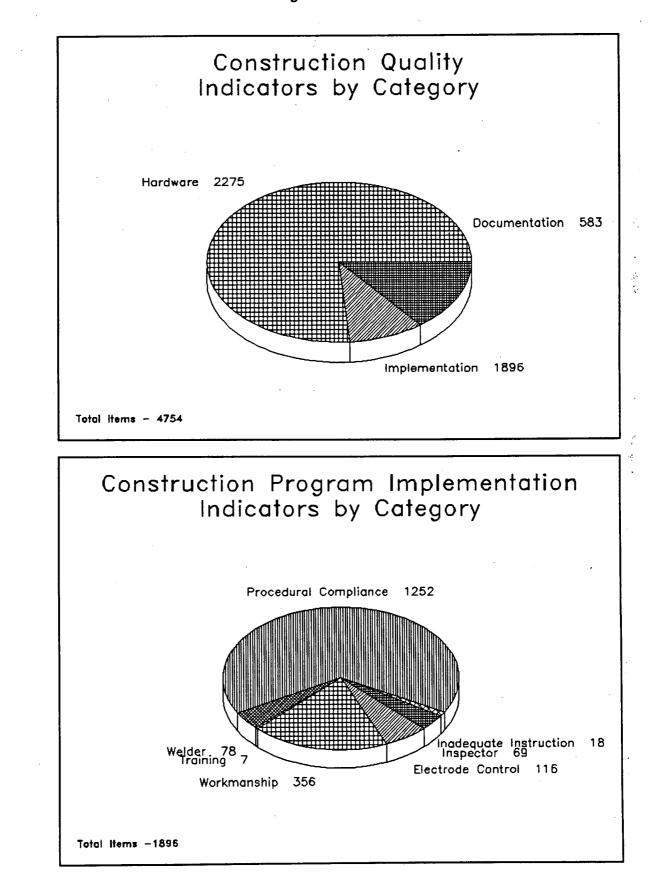
## Attachment K Quality Indicators by Category Page 4 of 4





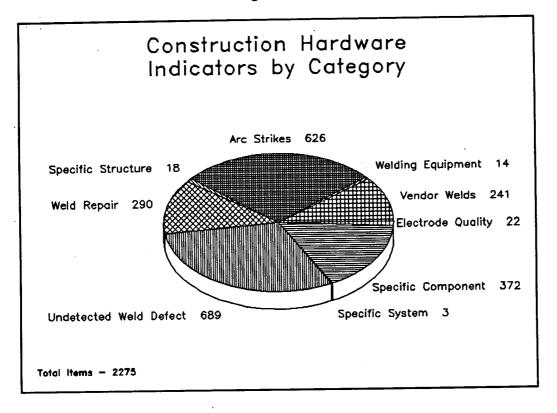
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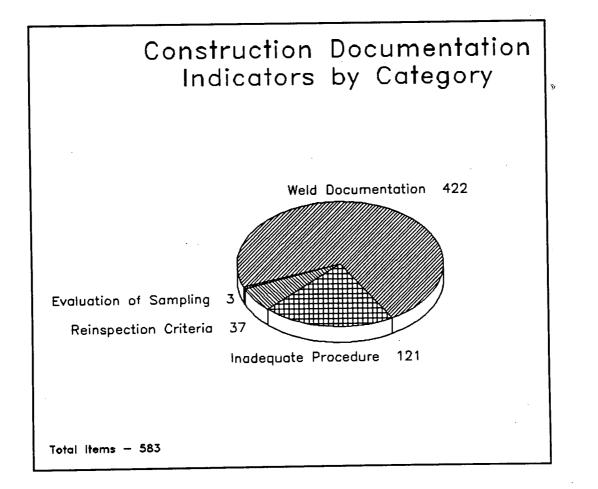
## Attachment L Construction Quality Indicators by Category Page 1 of 2



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## Attachment L Construction Quality Indicators by Category Page 2 of 2





## Attachment M Page 1 of 26

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## GENERIC EMPLOYEE CONCERNS

EX-85-039-001	IN-85-234-001
IN-85-424-001	IN-85-426-001
IN-85-352-002	IN-85-672-003
IN-85-441-003	IN-86-047-001
IN-85-424-004	IN-85-424-006
IN-85-424-007	IN-85-453-009
IN-85-454-004	WI-85-013-003
WI-85-041-006	IN-85-458-001
WI-85-041-008	IN-86-019-001
NS-85-001-001	WI-85-030-007
WI-85-030-008	IN-85-346-003
EX-85-021-002	IN-85-426-002
IN-85-627-036	IN-85-940-X04
IN-85-480-004	XX-85-049-001
IN-85-113-003	IN-85-335-002
XX-85-049-X03	IN-85-406-003
IN-85-134-002	IN-85-007-001
PH-85-012-X03	IN-85-476-004
IN-85-981-001	WI-85-081-007
IN-85-706-001	IN-85-192-002
IN-85-451-001	IN-85-406-002
IN-85-299-003	IN-85-282-002
IN-85-247-001	IN-85-600-001
IN-85-247-002	IN-85-303-001
EX-85-008-001	IN-86-230-003
IN-86-158-006	IN-85-424-002
BFM-5-001-001	BFM-5-001-002
*SQM-5-001-001	*SQM-5-001-002
WBM-5-001-001	WBM-5-001-002
*IN-85-212-001	IN-85-682-002
IN-85-488-001	<b>*IN-85-026-001</b>
IN-85-127-001	IN-85-007-003
IN-85-657-001	XX-85-041-001
PH-85-040-001	XX-85-100-001
XX-85-101-006	IN-85-501-001
IN-85-725-X15	XX-85-108-002

*This issue has been investigated by NSRS/QTC.

Page 1 of 25 GENERIC EMPLOYEE CONCERNS 09/30/86 (EMPLOYEE CONCERNS) 09:41:54 INSP SD RD GD IO -----CONCERN-----CAT ISSUE PLANT PRIORITY ORG OTC EGG ____ ----- - -EX-65-039-001 SR w 1 EGG L4 ELECTRODE PROGRAM ROD-OVEN PROB: WCPME KEYWORDS: WBNP-THERE ARE NO PORTABLE OVENS FOR STORING WELD ROD AFTER IT HAS BEEN ISSUED To the welder and the weld rod is not adequately accounted for when it is returned, i.e. Rod stubs and unused rod. Const dept concern CI has no FURTHER INFORMATION. IR: W1-85-053-004 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDER: 1. LACK OF PORTABLE ELECTRODE HOLDING OVENS. ACCOUNTABILITY INADEOUATE OTC EGG INSP SD RD GD 10 -----CONCERN-----ECTRODE. CAT ISSUE PLANT PRIORITY ORG ____ ------W ERT L4 SR IN-85-234-001 1 KEYWORDS: ELECTRODE PROGRAM ROD-OVEN PROB: WCPME WELD RODS ARE NOT REQUIRED TO BE KEPT IN ROD OVENS AFTER ISSUANCE TO STEAMFITTER Welders. The rod can be kept unheated for 8 hours at a time in a leather pouch. IR: EX-85-021-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: WELD ELECTRODE CONDITIONING. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10 -----CONCERN------W 1 ERT L4 SR IN-85-424-001 KEYWORDS: ELECTRODE PROGRAM ROD-OVEN PROB: WCPME NO PORTABLE OVENS USED/REQUIRED ON WATTS BAR. THE ROD OFTEN COLLECTS MOISTURE AND SHOULD NOT BE USED. IR: EX-85-021-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: 1. LACK OF PORTABLE ELECTRODE HOLDING OVENS. 2. MOISTURE CONTENT OF ELECTRODES.

09/30/86 (EMPLOYEE CONCERNS) 09:41:54 CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO -----CONCERN-----W 1 ERT L4 SR IN-85-426-001 ELECTRODE PROGRAM ROD-OVEN PROB: WCPME **KEYWORDS:** PORTABLE OVENS ARE NOT REQUIRED. WELD ROD IS KEPT OUT OF OVEN FOR AN ENTIRE SHIFT. NO FOLLOW-UP. IR: EX-85-021-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: 1. LACK OF PORTABLE ELECTRODE HOLDING OVENS. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10 -----CONCERN------ERT SR IN-85-352-002 W 1 Ł4 KEYWORDS: ELECTRODE PROGRAM ROD-OVEN PROB: WCPME NO PORTABLE OVENS ARE USED ON WATTS BAR. WELD ROD CAN BE KEPT OUT OF OVEN FOR AN ENTIRE SHIFT AND RETURNED TO OVEN FOR LATER USE. IR: EX-85-021-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: 1. LACK OF PORTABLE ELECTRODE HOLDING OVENS. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO -----CONCERN-------- --W L2 SR IN-85-672-003 1 PROB: WCPME KEYWORDS: ELECTRODE IMPLEMENTATION CONTROL

Page 2 of 25

AT SHIFT END, WELD ROO SLIPS ARE TURNED IN. THE SLIPS ARE CHECKED THEN THROWN AWAY. IF THE ISSUE ROOM DETERMINES AT A LATER DATE THAT A WELDER OID NOT CONFORM TO "TURN IN" PROCEDURES, IT IS HIS WORD AGAINST THEIRS AND HE GETS THE WARNING LETTER. THESE LETTERS HAVE BEEN ISSUED WITHOUT PROOF OF WRONGDOING. CONSTRUCTION DEPT. CONCERN.

IR: STAT: RC:

TECHNICAL COMMENTARY:

ISSUE CONSIDERED: 1. ELECTRODE ACCOUNTABILITY.

09/30/86 (EMPLOYEE CONCERNS) 09:41:5 CAT ISSUE PLANT PRIORITY ORG INSP SD RD GD IO -----CONCERN-----OTC EGG W ERT L4 SR 1 IN-85-441-003 **KEYWORDS:** ELECTRODE PROGRAM ROD-OVEN PROB: WCPME NO PORTABLE OVENS ON WATTS BAR. THE ROD SOMETIMES COLLECTS MOISTURE BY THE END OF THE SHIFT AND CANNOT BE USED. IR: EX-85-021-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: 1. LACK OF PORTABLE ELECTRODE HOLDING OVENS. 2. MOISTURE CONTENT OF ELECTRODES. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO -----CONCERN------_ _ --- -W 12 IN-86-047-001 1 SR KEYWORDS: ELECTRODE IMPLEMENTATION CONTROL ACCOUNT PROB: WCPME A SYSTEM IS NEEDED THAT VERIFYS THAT THE WELDER DID RETURN THE UNUSED WELD ROD AND STUBS AND WILL PROVIDE THE WELDER A RECEIPT SO THAT THE WELDER CAN PROVE HE DID RETURN THE MATERIAL IN CASE AN ERROR WAS MADE. CI HAS NO ADDITIONAL INFORMATION. CONSTRUCTION DEPARTMENT. IR: STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: ELECTRODE ACCOUNTABILITY CAT ISSUE PLANT PRIORITY ORG OTC EGG INS OTC EGG INSP SD RD GD IO -----CONCERN-------W 1 ERT L2 SR IN-85-424-004 ELECTRODE IMPLEMENTATION CONTROL **KEYWORDS:** PROB: WCPME OA TRAINING CLASS, 6-5-65, INFORMED CRAFT THAT STEAMFITTERS COULD WITHDRAW AND CONTROL WELD ROD IF THEY HAD A WELDER SIGNED WELD SLIP AND THE WELDERS CARD. IR: EX-85-021-001 STAT: RC: TECHNICAL COMMENTARY:

ISSUE CONSIDERED: ELECTRODE CONTROL.

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09/30/86 (EMPLOYEE CONCERNS) 09:41:54 ISSUE PLANT PRIORITY ORG CAT OTC EGG INSP SD RD GD IO -----CONCERN-W 1 ERT L2 SR IN-85-424-006 **KEYWORDS:** ELECTRODE IMPLEMENTATION CONTROL ACCOUNT PROB: WCPME NO ACCOUNTABILITY OF WELD ROD DURING ISSUANCE OR RETURN OF UNUSED ROD AND STUBS. IR: EX-65-021-001 STAT: RC: TECHNICAL COMMENTARY: ISSUES CONSIDERED: 1. ELECTRODE CONTROL. 2. ELECTRODE ACCOUNTABILITY. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO -----CONCERN--- CONCERN--------W 1 ERT L2 SR IN-85-424-007 KEYWORDS: ELECTRODE IMPLEMENTATION CONTROL PROB: WCPME LACK OF WELD ROD CONTROL: WELDERS GET ADDITIONAL ROD FROM OTHER WELDERS RATHER THAN GOING BACK TO THE ROD ROOM FOR MORE. SITE POLICY ALLOWS LEAVING ROO WITH OTHER WELDERS, OR LETTING SUB-JOURNEYMEN CHECK-OUT ROD AND RETURN ROD. (CAN ALSO LEAVE ROD IN TOOL BOXES). THE ROD ROOM DOES NOT COUNT ROD WHEN IT IS ISSUED, AND DOES NOT REQUIRE ACCOUNTING FOR ROD STUBS. OCCASSIONALLY, WELDERS ARE REPRIMANDED FOR NOT TURNING IN ROD WITHDRAWAL SLIPS, EVEN THOUGH THE ROO SLIP REALLY DOES NOT ACCOUNT FOR ANYTHING. CI HAS NO MORE INFORMATION. IR: EX-85-021-001 STAT: RC: TECHNICAL COMMENTARY: ISSUES CONSIDERED: 1 ELECTRODE CONTROL. DE CONTROL. 2. ELECTRODE ACCOUNTABILITY. OTC EGG INSP SD RD GD IO -----CONCERN------CAT ISSUE PLANT PRIORITY ORG ----W 1 ERT L2 SR IN-85-453-009 KEYWORDS : ELECTRODE IMPLEMENTATION CONTROL PROB: WCPME WELDERS FREQUENTLY GIVE WELD ROD TO OTHER WELDERS IR: EX-85-021-001 STAT: RC: TECHNICAL COMMENTARY:

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ISSUE CONSIDERED: ELECTRODE CONTROL.

09/30/86 (EMPLOYEE CONCERNS) 09:41:54 CAT ISSUE PLANT PRIORITY ORG INSP SD RD GD IQ -----CONCERN---OTC EGG SR IN-65-454-004 w 1 FRT 12 KEYWORDS : ELECTRODE IMPLEMENTATION CONTROL PROB: WCPME WELDERS FREQUENTLY GET ROD FROM EACH OTHER INSTEAD OF WITHDRAWING FOR ROD ROOM IR: EX-85-021-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: ELECTRODE CONTROL CAT ISSUE PLANT PRIORITY ORG INSP SD RD GD IO ----CONCERN-----OTC EGG . . . . . 1 00 SR W1 - 65 - 013 - 003w KEYWORDS: REINSPECTION PROGRAM PAINT CRITERIA PROB: WCDPW G29C (CONSTRUCTION SPECIFICATION) ALLOWED WELDS TO BE INSPECTED AFTER PAINTING FROM 1981 THROUGH THE END OF THE WELDING SAMPLING PROGRAM. THIS IS IN VIOLATION OF AWS D1.1. CI HAS NO MORE INFORMATION. (NOTE: THIS ITEM IS CURRENTLY UNDER INVESTIGATION BY ERT. THE REVISION WAS MADE TO SEPARATE THE ORIGINAL 003 CONCERN INTO TWO DISTINCT CONCERNS. ) IR: WI-85-013-003 RC: STAT: TECHNICAL COMMENTARY: ISSUE CONSIDERED: 1. INSPECTION OF WELDS THROUGH PAINT. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO -----CONCERN------P 3 W 1 SR  $W_{1-65-041-006}$ KEYWORDS: REINSPECTION PROGRAM PAINT PROB: WCPTI AWS WELD INSPECTOR(S) (UNKNOWN) DID NOT UNDERSTAND THE "5 MIL" PROVISION FOR INSPECTION OF COATED (CARBO-ZINC PRIMER) WELDS AS CONTAINED IN REVISIONS OF SPECIFICATION G-29C, PROCEDURE GCP-4.13, AND MEMORANDUM DATED NOVEMBER 1961. INSPECTOR(S) REFERRED TO CRITERIA AS "MILLIAMPS" AND THEREFORE COULD NOT HAVE IMPLEMENTED/INSPECTED FOR CONFORMANCE. CI HAS NO ADDITIONAL INFORMATION. NUC POWER DEPT. CONCERN. IR: EX-85-052-005 RC: STAT: TECHNICAL COMMENTARY:

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ISSUE CONSIDERED: LACK OF UNDERSTANDING OF PAINT THICKNESS MEASUREMENT FOR VISUAL WELD INSPECTION.

09/30/86 (EMPLOYEE CONCERNS) 09:41:54 CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO ----CONCERN---------W 1 FRT P 6 SR IN-85-458-001 **KEYWORDS:** REINSPECTION PROGRAM PAINT PROB: WCDPW TVA USED IMPROPER INSPECTION CRITERIA FOR AWS WELDS - MEMO FROM KNOXVILLE (POSSIBLY ENDES, 1980 OR 1981) ALLOWED INSPECTION THROUGH PAINT, INDIVIDUAL FROM KNOXVILLE (KNOWN) INVESTIGATED THIS, BUT RESULTS ARE UNKNOWN. CI HAS NO MORE INFORMATION. IR: STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: INSPECTION OF WELDS THROUGH PAINT. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO -----CONCERN-----w . 1 PS SR WI-85-041-008 KEYWORDS: REINSPECTION PROGRAM PAINT PROB: WCDPW PROCESS SPECIFICATION #3.C.5.4 OF G-29C PERMITTED INSPECTION OF AWS WELDS THROUGH COATING (CARBO-ZINC PRIMER) FOR ELEVEN MONTHS AFTER ENGINEERING EVALUATION/TEST SHOWED THAT WELD OUALITY (POROSITY, CRACKS, ETC) COULD NOT BE INSPECTED THROUGH PAINT, NUC POWER DEPT, CONCERN, CI HAS NO ADDITIONAL 18. STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: INSPECTION OF WELDS THROUGH PAINT. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO -----CONCERN-----____ --------------W 1 SR IN-86-019-001 **KEYWORDS:** REINSPECTION PROGRAM PAINT CRITERIA PROB: WCDPW CI IS CONCERNED THAT WELDS WERE ACCEPTED THROUGH CARBO-ZINC. INSPECTORS WERE DIRECTED VIA MEMO TO ACCEPT WELDS THROUGH PAINT. CI COULD NOT PROVIDE ANY ADDITIONAL INFORMATION. UNIT 1. CONSTRUCTION DEPT. CONCERN. 18: RC: STAT:

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TECHNICAL COMMENTARY:

(EMPLOYEE CONCERNS) 09/30/86 09:41:54 AT ISSUE PLANT PRIORITY ORG OTC FGG INSP SD RD GD IO -----CONCERN-----SR NS-85-001-001 w 1 **KEYWORDS:** REINSPECTION PROGRAM PAINT PROB: WCDPW WELDS (AWS) INSPECTED SUBSEQUENT TO PROTECTIVE COATING (CARBO-ZINC PRIMER) Application; final visual weld examination of structural welds in category structures, including pipe Hangers, cable tray supports and duct supports; IN CATEGORY I UNIT 1 & 2 IR: NS-85-001-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: INSPECTION OF WELDS THROUGH PAINT. OTC EGG INSP SD RD GD IO -----CONCERN------CAT ISSUE PLANT PRIORITY ORG ~~-------D0 SR WI-85-030-007 144 1 KEYWORDS: REINSPECTION PROGRAM PAINT PROB: WCDPW THE WBN FSAR COMMITS TVA TO THE REQUIREMENTS OF AWS D.1.1 FOR STRUCTURAL WELDING. CONTRARY TO THESE REQUIREMENTS, THE G-29C PROCESS SPECIFICATION WAS MODIFIED TO REFLECT LESS STRINGENT INSPECTION REQUIREMENTS (E.G. VISUAL INSPECTION OF WELDS THROUGH PAINT (CARBO ZINC PRIMER) AND NO DOCUMENTED INSPECTION BY CERTIFIED VISUAL INSPECTORS (FIT-UP, IN-PROCESS) PRIOR TO FINAL INSPECTION.) CI HAS NO ADDITIONAL INFORMATION. NUC. POWER DEPT. CONCERN. **IR**: STAT: RC: TECHNICAL COMMENTARY: ISSUES CONSIDERED: 1. INSPECTION OF WELDS THROUGH PAINT. 2. FITUP INSPECTIONS BY WELDER FOREMAN. CAT ISSUE PLANT PRIORITY ORG. OTC EGG. INSP SD RD GD IO -----CONCERN------~ ~ ~ ~ ------- ----w P 6 SR 1 WI-85-030-008 KEYWORDS REINSPECTION PROGRAM PAINT PROB: WCDPW THERE MAY HAVE BEEN THOUSANDS OF WELDS INSPECTED THROUGH CARBO-ZINC PRIMER. HOWEVER, TVA REPORTS INDICATE THAT ONLY 100-150 WELDS WERE INSPECTED IN THIS MANNER EVEN THOUGH THERE IS NO DOCUMENTATION IDENTIFYING WHICH WELDS WERE INSPECTED THROUGH CARBO-ZINC PRIMER. NUC. POWER DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION. IR: RC: STAT: TECHNICAL COMMENTARY:

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ISSUE CONSIDERED: INSPECTION OF WELDS THROUGH PAINT.

09/30/86 (EMPLOYEE CONCERNS) 09:41: ISSUE PLANT PRIORITY ORG CAT OTC EGG INSP SD RD GD 10 -----CONCERN--------W 1 ERT A2 SR IN-85-346-003 **KEYWORDS:** CERTIFICATION PROGRAM UPDATE PROB: WCDPW WELDER CERTIFICATIONS ARE UPDATED ON EVIDENCE OF ROD WITHDRAWL SLIPS. THE PROCESS MAY NOT HAVE BEEN USED IN THE APPLICABLE TIME PERIOD, 90 DAY OR 180 DAY, DEPENDING ON ASME OR AWS. IR: IN-85-352-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: WELDER PERFORMANCE QUALIFICATION CONTINUITY. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10 -----CONCERN-----W 1 ERT A2 SR EX-85-021-002 KEYWORDS: CERTIFICATION PROGRAM UPDATE PROB: WCDPW THERE IS NO METHOD/OBJECTIVE EVIDENCE TO VERIFY THAT A WELDER HAS USED A SPECIFIC PROCESS WHEN THEIR WELD CARDS ARE STAMPED/UP-DATED BY QC. NO FOLLOW-UP REQUIRED - NO ADDITIONAL INFORMATION AVAILABLE. IR: IN-85-352-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: WELDER PERFORMANCE QUALIFICATION CONTINUITY. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10 -----CONCERN------W 1 ERT A2 SR IN-85-426-002 KEYWORDS: CERTIFICATION PROGRAM UPDATE PROB: WCDPW UPDATING OF WELDER CERTIFICATIONS IS INADEOUATE IN THAT A WELDER IS ONLY REQUIRED TO PRESENT THEIR CARD FOR UPDATING AND SOMETIMES IS ASKED TO RUN A BEAD- NEVER A COMPLETE WELD. NO FOLLOW-UP. IR: IN-85-352-001 STAT: RC:

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TECHNICAL COMMENTARY:

ISSUE CONSIDERED: WELDER PERFORMANCE QUALIFICATION UPDATE.

09/30/86 (EMPLOYEE CONCERNS) 09:41:54 CAT ISSUE PLANT PRIORITY ORG QTC EGG INSP SD RD GD 10 ----CONCERN---------- --- -w 1 Δ4 SR 1N - 85 - 627 - 036KEYWORDS: CERTIFICATION IMPLEMENTATION UPDATE PROB: WCPIF SOME WELDERS HAVE HAD THEIR RECERTIFICATION CARDS BACKDATED. CONSTRUCTION DEPT. CONCERN. C1 HAS NO FURTHER INFORMATION. 1B: IN-85-352-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: WELDER PERFORMANCE QUALIFICATION UPDATE. CAT ISSUE PLANT PRIORITY ORG GTC EGG INSP SD RD GD 10 -----CONCERN------SR 1N-85-940-X04 w 1 KEYWORDS: CERTIFICATION PROGRAM UPDATE PROB: WCDPW UNTIL RECENTLY, A WELDER COULD HAVE WELDING CERTIFICATIONS UPDATED BY MERELY HAVING THE CERTIFICATION CARD INITIALED BY AN INSPECTOR. THIS PRACTICE MAY NOT HAVE ASSURED THAT THE UPDATE WAS BASED ON OBJECTIVE EVIDENCE OF UTILIZATION OF THE REQUIRED PROCESS WITHIN THE SPECIFIED TIME PERIOD. CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION. 1R: STAT: BC · TECHNICAL COMMENTARY: ISSUE CONSIDERED: WELDER PERFORMANCE QUALIFICATION UPDATE. CAT ISSUE PLANT PRIORITY ORG QTC EGG INSP SD RD GD 10 -----CONCERN---------w 1 ERT A4 SR IN-85-480-004 KEYWORDS : CERTIFICATION IMPLEMENTATION UPDATE PROB: WCPQW WELDER CERTIFICATION UPDATE IS INADEOUATE. PERSONNEL MAY WORK IN A POSITION THAT DOES NOT REQUIRE ANY WELDING FOR 5-6 YEARS BUT CERTIFICATIONS ARE CONTINUALLY UPDATED. WHEN THESE PERSONS RETURN TO WELDING NO TESTS ARE CONDUCTED. THEY JUST RUN STRINGERS TO UPDATE CERTIFICATIONS.

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IR: IN-85-770-002 STAT: RC:

TECHNICAL COMMENTARY:

ISSUE CONSIDERED: WELDER PERFORMANCE QUALIFICATION UPDATE.

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09:30/86       (EMPLOYEE CONCERNS)         09:41:54       PLANT PRIORITY ORG OTC EGG INSP SD RD GD IOCONCERN         S       1         SR       XX-85-049-001         KEYWORDS:       CERTIFICATION PROGRAM ELEC WELDERS       PROB: WCPOW         SEOU0YAH:       WELDER CERTIFICATIONS HAVE BEEN UPDATED FOR WELDERS WHO DID NOT MEET         COMPLIANCE.       COMPLIANCE       OF REQUIREMENTS OR BACKDATED TO GIVE THE APPEARANCE OF REQUIREMENT         CONSTUCTION DEPARTMENT CONCERN.       INFORMATION.       IR: I-85-135-SON       STAT:         CAT ISSUE PLANT PRIORITY ORG       OTC EGG INSP SD RD GD IOCONCERN       IN-85-113-003         KEYWORDS:       CERTIFICATION IMPLEMENTATION UPDATE       PROB: WCPIF         WELDERS ONLY HAVE THEIR CERTIFICATION CARDS STAMPED EVERY 90 DAYS. WELDERS ARE       NCPIF         WELDERS ONLY HAVE THEIR CERTIFICATION CARDS STAMPED EVERY 90 DAYS. WELDERS ARE       NCT REQUIRED TO BUNN ROD AND HAVE IT INSPECTED IN GRDER TO MAINTAIN THEIR         IR: IN-85-113-003       STAT:       RC:         TECHNICAL COMMENTARY:       ISSUE CONSIDERED: WELDER PERFORMANCE QUALITIFICATION UPDATE.         CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IOCONCERN								
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IR: IN-85-335-002 STAT: RC:	KEEP IHEIH	CERTIFIC	ATIONS UPDA	ATED FVFN	WITHOUT	ARE TOLD	TO PROCESS OR	
	IR: IN-85-	335-002	STAI	: RC:				

TECHNICAL COMMENTARY:

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09/30/86 (EMPLOYEE CONCERNS) 09:41:54 AT ISSUE PLANT PRIORITY ORG INSP SD RD GD 10 -----CONCERN------QTC EGG ------ -- --S NSRS **A**3 SR XX-85-049-X03 1 CERTIFICATION IMPLEMENTATION FALSE NONSPEC PROB: WCPIF **KEYWORDS:** SEQUOYAH: WELDER CERTIFICATION CARD FALSIFIED. CONSTRUCTION DEPT CONCERN. CI HAS NO MORE INFORMATION. 1R: 1-85-135-SQN STAT: RC: TECHNICAL COMMENTARY: CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO -----CONCERN-----w 1 EG&G P 3 SR IN-85-406-003 KEYWORDS: INSPECTION TOOL ISSUE INSP PROB: WCDPW PRIOR TO 1979, NO WELD INSPECTION TOOLS WERE ISSUED TO INSPECTORS. STAT: IR: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: AVAILABILITY OF WELD INSPECTION TOOLS. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10 -----CONCERN------SR EG&G P3 IN-85-134-002 w 1 **KEYWORDS:** INSPECTION TOOL ISSUE INSP PROB: WCDPW UNTIL RECENTLY (PAST 2 YEARS), TVA DID NOT PROVIDE OC INSPECTORS WITH WELDING INSPECTION TOOLS. SOME INSPECTORS PROVIDED THEIR OWN TOOLS BUT OTHERS DID NOT. CI HAS PASSED AWAY, NO FURTHER DETAILS AVAILABLE. **IR:** RC: STAT: TECHNICAL COMMENTARY: ISSUE CONSIDERED: AVAILABILITY OF WELD INSPECTION TOOLS.

0-9/30/86 (EMPLOYEE CONCERNS) 09:41: :41:54 ISSUE PLANT PRIORITY ORG GĂŤ QTC EGG INSP SD RD GD 10 -----CONCERN---W 1 EG&G P 3 SR IN-85-007-001 **KEYWORDS:** INSPECTION TOOL ISSUE INSP PROB: WCDPW INSPECTION TOOLS FOR WELDING INSPECTORS WERE NEVER ISSUED. I.E. FILLET WELD SIZE GAGES, FIT-UP GAGES, ETC. 1R: . STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: AVAILABILITY OF WELD INSPECTION TOOLS. CAT. ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO -----CONCERN-- -W 1 SR PH-85-012-X03 **KEYWORDS:** INSPECTION PROGRAM CRITERIA DUCT PROB: WCPIF WELDING AND BRAZING INSPECTION OF SAFETY-RELATED HVAC DUCTWORK WAS DELETED SUBSEQUENT TO 1981 FROM THE GA PROGRAM WITHOUT ADEQUATE JUSTIFICATION. WAT BAR UNITS 1 & 2, SAFETY RELATED DUCTWORK. ADDITIONAL DETAILS ARE AVAILABLE WATTS IR: PH-85-012-X03 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: WELDING AND BRAZING INSPECTION MAY HAVE BEEN/ WAS DELETED FROM THE OA PROGRAM. CAT ISSUE PLANT PRIORITY ORG QTC EGG INSP SD RD GD IO -----CONCERN------W 1 EG&G NR IN-85-476-004 KEYWORDS: QUALIFICATION INSPECTOR NONSPECIFIC OPI PROB: WCPQI APPROX 1980, TVA IMPLEMENTED A WELDING INSPECTORS TRAINING PROGRAM AND PEOPLE WITH A GROCERY CLERK BACKGROUND WERE INSPECTING WELDS WITHIN TWO WEEKS. IR: EX-85-052-005 STAT: RC:

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TECHNICAL COMMENTARY:

ISSUE CONSIDERED: QUALIFICATION OF WELDING INSPECTORS.

0.9/30/86 (EMPLOYEE CONCERNS) 09:41: CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10 -----CONCERN-----W 80 SR IN-85-981-001 1 **KEYWORDS:** QUALIFICATION INSPECTOR NONSPECIFIC PROB: WCPTT WELDING INSPECTORS WERE INADEQUATELY TRAINED PRIOR TO 1981, I.E., PERSONNEL WITH NO EXPERIENCE INVOLVING WELDING WERE SENT TO A TWO WEEK TRAINING CLASS AND THEN FUNCTIONED AS A WELDING INSPECTOR. CI HAS NO MORE INFORMATION. PERSONNEL WITH 18: EX-85-052-005 RC: STAT: TECHNICAL COMMENTARY: ISSUE CONSIDERED: QUALIFICATION OF WELDING INSPECTORS. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP.SD RD GD IO -----CONCERN---------W NR 1 W1 - 85 - 081 - 007KEYWORDS: QUALIFICATION INSPECTOR NONSPECIFIC OPI PROB: WCPQ1 CI EXPRESSED THAT WELDING INSPECTORS ARE NOT QUALIFIED FOR THE JOB. CI STATED THAT AN INSPECTOR NEEDED TO BE A WELDER SO THE INSPECTOR WOULD KNOW WHAT TO LOOK FOR IN A GOOD WELD. CI DECLINED TO PROVIDE ANY ADDITIONAL INFORMATION. CONSTRUCTION CONCERN. NO FOLLOW UP REQUIRED. CONSTRUCTION DEPARTMENT IR: EX-85-052-005 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: QUALIFICATION OF WELDING INSPECTORS. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO -----CONCERN------W 1 A 5 SR IN-85-706-001 KEYWORDS: QUALIFICATION CRAFTSMAN PROGRAM PROB: WCPTT WELDERS WHO WENT THROUGH TVA'S WELDER TRAINING PROGRAM HAVE INSUFFICIENT TRAINING AND EXPERIENCE TO HANDLE ALL VARIABLES INVOLVED TO PERFORM ADEQUATE WELDS FOR A NUCLEAR INSTALLATION. THIS INADEQUACY HAS CREATED A LOT OF REWORK. CI HAS NO MORE DETAILS. IR: STAT: RC:

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TECHNICAL COMMENTARY:

ISSUE CONSIDERED: TVA WELDER TRAINING PROGRAM IS INADEQUATE FOR NUCLEAR CONSTRUCTION.

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09/30/86			I	(EMPLOYEE CONCERNS)							
CAT ISSUE	PLANT	PRIGRITY	ORG	QTC	EGG	INSP	SD	RD	GD	10	CONCERN
	w	1	NSRS				SR				IN-85-192-002
KEYWORDS:	MISC	ELLANEOUS	WELD	RUS	TING		•			•	PROB: WCDPS

NUMEROUS UNPAINTED WELDS ON CONDUIT AND PIPING SUPPORTS THROUGHOUT PLANT ARE RUSTED. POSSIBLE LACK OF PROTECTIVE COATING. EXAMPLE: REACTOR BLDG UNIT 1 AZ. 170 DEGREES, EL 720'.

IR: STAT: RC:

TECHNICAL COMMENTARY:

ISSUE CONSIDERED: UNPAINTED WELDS ARE RUSTED.

09/30/86 (EMPLOYEE CONCERNS) 10:07:36 CAT ISSUE PLANT PRIORITY ORG INSP SD RD GD 10 -----CONCERN------QTC EGG ---------W 1 ERT 70 SR 1N+85-451-001 KEYWORDS: MISCELLANEOUS WELD RUSTING PROB: WCMHY CI STATED IN 1984 THEY (PAINTERS) WERE INSTRUCTED NOT TO PAINT ANYTHING ABOVE 6 FT. IN RBI, PRESENTLY, THERE ARE RUSTY WELDS THROUGHOUT. 18: STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: UNPAINTED WELDS ARE RUSTED. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10 -----CONCERN-----------------------w 1. EG&G DO SR IN-85-406-002 **KEYWORDS:** INSPECTION PROGRAM CRITERIA PROB: WCDPW PRIOR TO 1979 THERE WAS NO SPECIFIC WELD INSPECTION CRITERIA FOR USE BY INSPECTION PERSONNEL. IT IS BELIEVED THAT THIS PROBLEM WAS VALID TVA SYSTEM WIDE-ALL PLANTS. IR: STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: WELD INSPECTION CRITERIA USED BY OFFICE OF CONSTRUCTION CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IO -----CONCERN-----W 1 EG&G \$3 SR IN-85-299-003 KEYWORDS: WELDMENT QUALITY NONSPECIFIC PROB: WCMCU SS WELDS SEEM TO HAVE EXCESS METAL REMOVED AT BUTT WELD JOINTS, ALSO THE WELDS EXHIBIT EXCESSIVE SHRINKAGE AT JOINTS. THIS CONCERN IS GENERIC BUT HAVE EXAMPLES. THIS HAS BEEN NOTICED FOR THE PAST 8 YEARS IN BOTH UNITS. DETAILS KNOWN TO OTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT CONCERN. IR: STAT: RC: TECHNICAL COMMENTARY:

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0.9./30/86 (EMPLOYEE CONCERNS) 10:07:36 CAT ISSUE PLANT PRIORITY ORG QTC EGG INSP SD RD GD IO -----CONCERN------___ __ __ W 1 ERT SR IN-85-282-002 **KEYWORDS:** INSPECTION PROGRAM CRITERIA SUR PR PROB: WCMCU UNTIL RECENTLY, TVA WELD INSPECTORS REQUIRED ALL PIPE WELDS TO BE SURFACE GROUND TO A SMOOTH FINISH. THE CONCERN IS THAT SMOOTH GRINDING MAY ACTUALLY MASK A SURFACE DEFECT WHICH WOULD OTHERWISE BE DETECTABLE. NO FURTHER DETAILS WERE AVAILABLE. IR: IN-85-271-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: SURFACE GRINDING OF WELDS. CAT ISSUE PLANT PRIGRITY ORG OTC EGG INSP SD RD GD 10 -----CONCERN------1 ERT 13 SR IN-85-247-001 KEYWORDS: ELECTRODE QUALITY E7018 PROB: WCMEQ 7018 RODS (PURCHASED) ARE OF POOR QUALITY. THIS CONTRIBUTES TO POROSITY AND PIN-HOLES. IR: IN-85-284-001 STAT: RC: TECHNICAL COMMENTARY: ISSUE CONSIDERED: 1.E7018 electrodes are of poor quality. 2.Poor quality contributes to pinholes and porosity CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10 -----CONCER ----CONCERN----w 1 L 3 SR IN-85-600-001 KEYWORDS: ELECTRODE QUALITY E7018 PROB: WCMEQ E7018 WELD ELECTRODES PURCHASED BY TVA ARE OF POOR OUALITY. STEAM-FITTER WELDERS EXPERIENCED PROBLEMS WITH FLUX FALLING AND FLAKING OFF ROD AND WITH ROD NOT BEING IN THE CENTER OF THE FLUX. WORST PROBLEMS OCCURRED IN 1982 WITH ROD TVA SPECIALLY PURCHASED FROM HOBART CO. C/I COULD NOT PROVIDE HEAT,LOT OF PURCHASE ORDER NUMBER OF RODS. NO FOLLOW-UP REQUIRED. IR: IN-85-284-001 STAT: RC: TECHNICAL COMMENTARY:

ISSUE CONSIDERED: 1.E7018 electrodes are of poor quality. 2.Electrode core wire is not centered and flux flakes off. 3.Electrodes were manufactured by Hobart in 1982.





09/30/86 (EMPLOYEE CONCERNS) 10:07:36 CAT ISSUE PLANT PRIORITY ORG QTC EGG INSP SD RD GD 10 ----CONCERN-_ _ _ EG&G NO SR IN-85-247-002 w 1 EOUIPMENT WELD MACHINE MCKAY & HOBART PROB: WCMWE **KEYWORDS:** WELDING MACHINES (MCKAY & HOBART) USED IN FIELD BY STEAM FITTERS HAVE 2 SETTINGS 50 & 100 AMPS BOTH OF WHICH ARE UNSUITABLE FOR WELDING WITH 3/32" ROD. THIS CONTRIBUTES TO POROSITY AND PINHOLES IR: STAT: RC: TECHNICAL COMMENTARY: ISSUES CONSIDERED: 1 WELDING MACHINES (GRID PACKS)DO NOT HAVE SUITABLE CONTROL SETTINGS FOR WELDING WITH 3/32 E7016 ELECTRODES. 2.THIS UNSUITABILITY LEADS TO POROSITY AND PINHOLES IN COMPLETED WELDS. CAT ISSUE PLANT PRIORITY ORG QTC EGG INSP SD RD GD IO -----CONCERN------SR IN-85-303-001 w 1 EG&G NO EQUIPMENT WELD MACHINE REMOTE SWITCH KEYWORDS: PROB: WCMWE ALL THE WELDING MACHINES SHOULD HAVE REMOTE SWITCHES SO THAT THE TUNGSTEN TIP DOESN'T HAVE TO TOUCH THE BASE METAL TO START THE WELD. PRESENTLY THE NON-HOBART WELDERS, WHEN USED, MAY CAUSE TUNGSTEN TO BE LEFT IN THE WELD 1 R : STAT: RC: TECHNICAL COMMENTARY: ISSUES CONSIDERED: 1. ALL GTAW EQUIPMENT SHOULD HAVE REMOTE(HIGH FREQUENCY ARC STARTING)SWITCHES SO THAT TUNGSTEN INCLUSIONS CAN BE AVOIDED. AT ISSUE PLANT PRIORITY ORG QTC EGG INSP SD RD GD 10 -----CONCERN------SR EX-85-008-001 w 1 KEYWORDS: QUALIFICATION CRAFTSMAN SUBJOURNEYMEN PROB: WCPTT SUBJOURNEYMEN USED TO DO WORK THAT THEY'RE NOT QUALIFIED TO DO: THEY NEEDN'T HAVE ANY SPECIFIC TRAINING, BUT DO WORK PIPE FIT-UPS AND WELD ON 1/4" LINES) NORMALLY DONE BY A CLOSER TECHNICAL SUPERVISION THAN TVA PROVIDES. WHEN CRAFT COMPLAIN, THEY ARE "CHEWED OUT" BEYCND ALL REASONABLE LIMITS. NO MORE DETAILS KNOWN. WORK (EG IR: IN-85-130-001 STAT: RC:

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TECHNICAL COMMENTARY:

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09/30/88 10:07:36		CEMPLOYEE CON	(CERNS)	
			SD RD GD 10	CONCERN
	W 1	EG&G		IN-86-230-003
KEYWORDS:	INSPECTION IM	LEMENTATION JUDGEN	AENT	PROB: WCDPW
WITHHELD D	N A SUPERVISUR (	JH HIGH IFVFI (GRAT	IFI PERSONNEL	ACCEPTED BY SOMEONE Details known to gtc, N. CI would not providi
IR:		STAT: RC:		
TECHNICAL	COMMENTARY:			
CAT ISSUE	PLANT PRIORITY	ORG OTC EGG INSI	SD RD GD IO	CONCERN
	W 1	D0	SR	IN-86-158-006
KEYWORDS:	QUALIFICATION	CRAFTSMAN APPRENT	CE	PROB: WCPTI
SYSTEM HAS	INU UN INNEE M	JAIHS EXPERIENCE. /	IND RE ARIE TO	ELD. DURING THAT YEAR, WELD IN THE FIELD. TH CONCERN. C/I HAS NO
IR:		STAT: RC:		
TECHNICAL	COMMENTARY:			
ISSUE CONS CAT ISSUE	DERED: TVA DO	ES NOT ALLOW APPREI ORG OTC EGG INSI	NTICES TO WELD SD RD GD IO	CQNCERN
	W 1	NSRS		IN-85-424-002
KEYWORDS:	INSPECTION IN	PLEMENTATION JUDGE	AENT	PROB: WCDPW
			BE DEDEADWED	ROM MANAGEMENT TO PER- IE POOR WELDERS KEEP INEERING. QC WELDING THIS LACK OF SUPPORT.

IR: STAT: RC:

TECHNICAL COMMENTARY:

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TECHNICAL COMMENTARY:

ISSUE CONSIDERED: 1. UNCERTIFIED WELDER FOREMEN PERFORM PRE-WELD INSPECTIONS. 2. DOES THIS VIOLATE TVA QUALITY ASSURANCE REQUIREMENTS?

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	09/30/86 (EMPLOYEE CONCERNS)
	CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10CONCERN
	S 1 SR SQM-5-001-002
	KEYWORDS: INSPECTION PROGRAM FIT-UP RESP PROB: WCDPW
	SEQUOYAH - UNCERTIFIED WELDER FOREMEN ARE REQUIRED BY TVA TO PERFORM PREWELD INSPECTIONS ON INSTALLATIONS THEY ARE DIRECTLY RESPONSIBLE FOR WHICH IS A VIOLATION OF ANSI REQUIREMENTS. NUCLEAR POWER CONCERN. CI HAS NO FURTHER IN- FORMATION.
	IR: I-85-768-SON STAT: RC:
	TECHNICAL COMMENTARY:
	ISSUE CONSIDERED:UNCERTIFIED WELDER FOREMEN PERFORMING PRE-WELD INSPECTIONS VIOLATE ANSI N45.2.5. REQUIREMENTS CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IOCONCERN
	W 1 SR WBM-5-001-001
	KEYWORDS: INSPECTION PROGRAM FIT-UP PROB: WCDPW
	WATTS BAR - THE GENERAL CONST. SPEC. G-29C. PROCESS SPEC. O.C.1.1 IS IN CONFLICT WITH THE TVA QUALITY ASSURANCE COMMITMENTS AS STATED BY THE TVA TOPICAL REPORT, TVA-TR75-1A, IN THAT PROCESS SPEC. O.C.1.1. SECTION 6.0 ALLOWS UNCERTIFIED WELDER FOREMEN, WHO HAVE DIRECT RESPONSIBILITY FOR THE INSTALLATION, TO PERFORM PREWELD INSPECTIONS. NUCLEAR POWER CONCERN. CI HAS NO FURTHER INFORMATION. IR: STAT: RC:
	TECHNICAL COMMENTARY:
)	ISSUES CONSIDERED: 1. DO UNCERTIFIED WELDER FOREMEN PERFORM PRE-WELD INSPECTIONS? 2. IS THIS A VIOLATION OF TVA QUALITY ASSURANCE REQUIREMENTS? 3.1S THIS A VIOL- ATION OF ANSI N.45.2.5 REQUIREMENTS? CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10CONCERN W 1 SR WBM-5-001-002
	KEYWORDS: INSPECTION PROGRAM FIT-UP RESP PROB: WCDPW
	SEQUOYAH - UNCERTIFIED WELDER FOREMEN ARE REQUIRED BY TVA TO PERFORM PREWELD Inspections on installations they are directly responsible for which is a Violation of Ansi requirements. Nuclear power concern. Ci has no further Information.
	IR: STAT: RC:
	TECHNICAL COMMENTARY:
	ISSUE CONSIDERED:UNCERTIFIED WELDER FOREMEN PERFORMING PRE-WELD INSPECTION IS A VIOLATION OF ANSI(N45.2.5) REQUIREMENTS.

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Q9/30/86 10:07:36	(EMPLOYEE CONCERNS)	
	ORG QTC EGG INSP SD RD GD 10	CONCERN
W 1	NSRS P4 SR IN-	85-212-001
KEYWORDS: INSPECTION PRO	GRAM FIT-UP RESP	PROB: WCDPW
SUPPORTS IN REACTOR BUILD PRESENTLY BEING INSTALLED INSPECTIONS WERE REQUIRED	IICH WERE PERFORMED BY QC DURING 19 IINGS #1 AND 2 ARE NOT BEING PERFOR IN REACTOR BLDG. #2. CI QUESTIONS DURING 1978-1980 AND NOT REQUIRED RTHER INFORMATION AVAILABLE, WITHE	MED ON DUCT SUPPORTS WHY THESE FIT-UP AT PRESENT TIME.
IR: 1-85-444-WBN	STAT: RC:	
TECHNICAL COMMENTARY:		
ISSUE CONSIDERED: FIT-UP CAT ISSUE PLANT PRIORITY	INSPECTIONS WERE DELETED FROM DUCT ORG OTC EGG INSP SD RD GD 10	SUPPORTS. CONCERN
W 1		85-682-002
KEYWORDS: INSPECTION PRO	GRAM FIT-UP	PROB: WCDPW
OVER ON ALL FILLET WELDS WHEN DRAWING REQUIRES 2 S WRONG 2 SIDES. HE GOES BA	D IS QUESTIONABLE. EXAMPLE: AWS WE NLY (REF: QCP 4.13 VTC). NO FITUP IER THAN BY THE CRAFT. EXAMPLE: 050 AND LENGTH IS TO BE DETERMINED BY SIDES OF SQUARE TUBING TO BE WELDED CK AND WELDS THE OTHER 2 SIDES THU PER DRAWING. CI HAS NO ADDITIONAL CONCERN.	NOTES ALLOW 100% Welder. Consequently And Welder Welds The S Making an All
IR:	STAT: RC:	
TECHNICAL COMMENTARY:	•	
BY THE CRAFT. CAT ISSUE PLANT PRIORITY	*** ***	
KEYWORDS: INSPECTION PRO	GRAM FIT-UP DELETED	PROB: WCDPW
OCP 2.04 REVISION (1-1 1/ UP OF STRUCTURAL STEEL WI TOLERANCE CANNOT BE VERIF OFF UNDER THE CURRENT PRO	2 YEARS AGO) DELETED QC'S INSPECTI TH A MAX. ALLOWABLE TOLERANCE OF 3 IED AFTER WELDING. FOREMAN PERFORM DCEDURE REVISION.	/ IA CAD THIS
IR:	STAT: RC:	

TECHNICAL COMMENTARY:

ISSUE CONSIDERED: QC INSPECTION SIGN-OFF DELETED FROM STRUCTURAL STEEL INSPECTION PROCEDURE DOES NOT ALLOW VERIFICATION OF GAP.

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09/30/86(EMPLOYEE CONCERNS)10:07:36CAT ISSUE PLANT PRIORITY ORG QTC EGG INSP SD RD GD 10CONCW1NSRS P4SRW1NSRS P4SRRESPONSIBILITY FOR FITUP INSPECTIONS OF WELDS ON STRUCTURAL AND MISTEEL AS WELL AS PIPE RUPTURE RESTRAINT DEVICES WAS TAKEN FROM CIVCONTROL AND IS NOW BEING HANDLED BY CRAFT FOREMEN. THERE HAVE BEENIR: 1-85-108-WBNSTAT:STAT:RC:TECHNICAL COMMENTARY:CAT ISSUE PLANT PRIORITY ORG QTC EGG INSP SD RD GD 10CONCW1EG&G G0NRIN-85-127-KEYWORDS:VENDOR CRITERIA DIFFERENCESPROB:	•
CATISSUEPLANTPRIORITYORGQTCEGGINSPSDRDGDIOCONCW1NSRSP4SRIN-85-026-KEYWORDS:INSPECTIONPROGRAMFIT-UPRESPPROB: 10RESPONSIBILITYFORFITUPINSPECTIONSOFWELDSONSTRUCTURALANDMISTEELASWELLASPIPERUPTURERESTRAINTDEVICESWASTAKENFROMCIVCONTROLANDISNOWBEINGHANDLEDBYCRAFTFOREMEN.THEREHAVEBEENINSTANCESOFPASTINSPECTIONSWITHINADEOUATEFITUPS.IR:I-85-108-WBNSTAT:RC:IR:I-85-108-WBNSTAT:RC:TECHNICALCOMMENTARY:CATISSUEPLANTPRIORITYORGQTCEGGINSPSDRDGDIOCONCW1EG&GGONRIN-85-127-	<u>.</u>
W1NSRSP4SRIN-85-026-KEYWORDS:INSPECTION PROGRAM FIT-UP RESPPROB:PROB:RESPONSIBILITYFOR FITUP INSPECTIONS OF WELDS ON STRUCTURAL AND MI STEEL AS WELL AS PIPE RUPTURE RESTRAINT DEVICES WAS TAKEN FROM CIV CONTROL AND IS NOW BEING HANDLED BY CRAFT FOREMEN. THERE HAVE BEEN INSTANCES OF PAST INSPECTIONS WITH INADEOUATE FITUPS.IR:1-85-108-WBNSTAT:RC:TECHNICAL COMMENTARY:CAT ISSUE PLANT PRIORITY ORG WQTC EGGINSP SD RD GD 10W1EG&GGONRIN-85-127-	ERN
RESPONSIBILITYFORFITUPINSPECTIONSOFWELDSONSTRUCTURALANDMISTEELASWELLASPIPERUPTURERESTRAINTDEVICESWASTAKENFROMCIVCONTROLANDISNOWBEINGHANDLEDBYCRAFTFOREMEN.THEREHAVEBEENINSTANCESOFPASTINSPECTIONSWITHINADEOUATEFITUPS.IR:1-85-108-WBNSTAT:RC:TECHNICALCOMMENTARY:CATISSUEPLANTPRIORITYORGQTCEGGINSPSDRDGD10CONCW1EG&GGONRIN-85-127-	001
STEEL AS WELL AS PIPE HUPTURE RESTRAINT DEVICES WAS TAKEN FROM CIV         CONTROL AND IS NOW BEING HANDLED BY CRAFT FOREMEN. THERE HAVE BEEN         INSTANCES OF PAST INSPECTIONS WITH INADEOUATE FITUPS.         IR: 1-85-108-WBN       STAT:         RC:         TECHNICAL COMMENTARY:         CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10CONC         W       1         EG&G GO       NR         IN-85-127-	WCDPW
TECHNICAL COMMENTARY: CAT ISSUE PLANT PRIORITY ORG QTC EGG INSP SD RD GD 10CONC W 1 EG&G G0 NR 1N-85-127-	
CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10CONC W 1 EG&G G0 NR IN-85-127-	
W 1 EG&G GO NR IN-85-127-	
W 1 EG&G GO NR IN-85-127-	FRN
REIWORDS: VENDOR CHITERIA DIFFERENCES PROB:	
	WCMVW
INCONSISTENCY IN CRITERIA USED FOR WELD INSPECTION OF BERGEN-PATER HANGER WELDS. B.P. WELDS LOOK BAD, WHILE BETTER LOOKING TVA WELDS FOR COSMETIC REASONS. HANGER FAB SHOP, LOCATED AT SOUTH EAST CORNE BLDG., HAS BINS FULL OF B.P. HANGER PARTS WHICH EXEMPLIFIES THIS C DOES NOT KNOW SPECIFIC HANGER <b>#'S OR AREAS IN THE PLANT WHERE THIS</b> EXISTS.	ARE REJECTED
IR: STAT: RC:	
TECHNICAL COMMENTARY:	
ISSUE CONSIDERED: VENDOR WELDS ARE NOT OF THE SAME QUALITY AS TVA CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10CONC	FIELD WELDS. ERN
W 1 NSRS JO SR 1N-85-007-	003
KEYWORDS: VENDOR WELD QUALITY NONSPECIFIC PROB:	
GENERAL LOOK OVER VENDOR WELDS SHOULD BE PERFORMED. VENDOR WELDS A Spected at WBNP 1 or 2. They are easily distinguishable from field of the bad quality of the vendor welds. Vendor welds would not pas acceptance	WEING DECANOE
IR: I-85-753-WBN STAT: RC:	•
TECHNICAL COMMENTARY:	
ISSUE CONSIDERED: 1. VENDOR WELDS ARE NOT INSPECTED IN THE FIELD.	
2. VENDOR WELDS ARE NOT OF THE SAME QUALITY AS T	



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09/30/86 (EMPLOYEE CONCERNS) 10:07:36	
CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10CONCERN	
W 1 JO NR IN-85-657-001	
KEYWORDS: VENDOR CRITERIA DIFFERENCES PROB: WCMVW	
SEVERAL VENDOR WELDS HAVE BEEN INSTALLED IN THE VARIOUS LOCATIONS OF POWER HOUSE UNIT 1 & 2 WHICH DID NOT MEET THE ACCEPTANCE CRITERIA (G-29 M) OF TVA WELDING SPECIFICATIONS. AS AN EXAMPLE: HEATER C1 LOCATED AT T15 & G LINE ELEV 708'-0" TURBINE BUILDING. NAME OF VENDOR: YUBA,HEAT TRANSFER CORP. CONSTRUCTION DEPT CONCERN. CI HAS NO ADDITIONAL INFORMATION.	
IR: STAT: RC:	
TECHNICAL COMMENTARY:	
ISSUE CONSIDERED: VENDOR WELDS ARE NOT OF THE SAME QUALITY AS TVA WELDS. CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD IOCONCERN	
S 1 NSRS L5 SR XX-85-041-001	
KEYWORDS: ELECTRODE IMPLEMENTATION CONTROL PROB: WCPME	
AT SEQUOYAH, A WELD MADE IN '79 OR '80 IN DIESEL GENERATOR BUILDING, UNIT 1. USING THE WRONG TYPE ROD TO WELD CARBON STEEL PIPE TO STAINLESS STEEL PIPE. A COVER PASS USING THE CORRECT ROD WAS RUN OVER THE EXISTING WELD. CONSTRUCTION DEPT CONCERN. CI HAS NO MORE INFORMATION.	
IR: 1-85-756-SON STAT: RC:	
TECHNICAL COMMENTARY:	
ISSUE CONSIDERED: INCORRECT MATERIAL USED. CAT ISSUE PLANT PRIORITY ORG QTC EGG INSP SD RD GD 10CONCERN	
W 1 P6 SR PH-85-040-001	
KEYWORDS: INSPECTION IMPLEMENTATION PAINT PRIOR-TO PROB: WCDPW	
OA HANGERS WERE FREQUENTLY PAINTED BEFORE THE WELDS WERE INSPECTED. AUX. Building, reactor building #1, elev. 742'-0", & 745'-0". 1983. Construction Dept. Concern. CI has no further details.	-
IR: STAT: RC:	
TECHNICAL COMMENTARY:	
ISSUE CONSIDERED: INSPECTION OF WELDS THROUGH PAINT.	

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0-9-/30/86	
	PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10CONCERN
	S 1 RO SR XX-85-100-001
EYWORDS:	WELDMENT IMPLEMENTATION NONSPECIFIC PROB: WCPIF
DETAILS KI	AN UNDETERMINED NUMBER OF WELDS MAY HAVE BEEN IMPROPERLY REPAIRED. NOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTR. DEPT. CONCERN. URTHER INFORMATION.
R: XX-85	-100-001 STAT: RC:
ECHNICAL	COMMENTARY:
CAT ISSUE	PLANT PRIORITY ORG OTC EGG INSP SD RD GD IOCONCERN
	S 1 SR XX-85-101-006
EYWORDS:	OUALIFICATION CRAFTSMAN SPECIFIC PROB: WCPOW
DETAILS K	A WELDER PERFORMED WELDS WITHOUT HAVING THE PROPER CERTIFICATION. NOW TO GTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT CI HAS NO FURTHER INFORMATION.
IR: XX-85	-101-006 STAT: RC:
TECHNICAL	COMMENTARY:
CAT ISSUE	PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10CONCERN
	W 1 ERT L2 SR IN-85-501-001
EYWORDS:	ELECTRODE IMPLEMENTATION CONTROL PROB: WCPME
JNUSED BU 708',729'	UNDLES OF WELD ROD FREQUENTLY FOUND IN TRASH CANS I.E. TURBINE BLDG. , AND 755' ELEVATIONS, UNIT #2 (15-20 RODS FOUND 6-7-85)
IR: IN-85	5-052-008 STAT: RC:
TECHNICAL	COMMENTARY:

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ISSUE CONSIDERED: ELECTRODE ACCOUNTABILITY.

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09/30/86	( El	MPLOYEE CONC	ERNS)	
	T PRIORITY ORG Q	TC EGG INSP	SD RD GD IO	CONCERN
W	1	A4	SR	IN-85-725-X15
KEYWORDS: REC	ERTIFICATION PROG	RAM SPECIFIC	TES PL	PROB: WCPIF
BEGUN BY ONE W	WELDER RECERTIFI ELDER COULD HAVE LD TO MAINTAIN CO	BEEN COMPLETE	D BY ANOTHER	ADEOUATE: TEST PLATES R WELDER. DETAIL KNOWN
IR: IN-85-725-	X14 STAT:	RC:		
TECHNICAL COMM	ENTARY:			•
CAT ISSUE PLAN	T PRIORITY ORG O	TC EGG INSP	SD RD GD IO	CONCERN
S	1	P7	SR	XX-85-108-002

KEYWORDS: INSPECTION IMPLEMENTATION NONSPECIFIC PROB: WCPIF

SEQUOYAH: PROGRAMATIC BREAKDOWN ON THE WELD INSPECTION PROCESS. NINE OR TEN YEARS AGO C/I STATES THAT SOME WELDS ON 2" STAINLESS STEEL SOCKET WELDS WERE NOT INSPECTED AS REQUIRED. CONST. DEPT. CONCERN. C/I HAS NO ADDITIONAL INFO.

IR: 1-85-776-SQN STAT: RC:

TECHNICAL COMMENTARY:

#### Attachment N Page 1 of 6

#### **BLN - SPECIFIC EMPLOYEE CONCERNS**

XX-85-068-006 XX-85-068-003 *XX-85-069-003 XX-875-045-001 *XX-85-086-002 BEM-85-001-002 XX-85-034-X02 XX-85-034-001 BLN-86-015-001 XX-85-107-001 *XX-85-069-007 XX-85-110-001 BEM-85-001-001 XX-85-068-008 XX-85-068-005

*This issue has been investigated by NSRS/QTC.

	29/1				•	В	LN' SPE	ECIFIC LOYEE	EMPLOY CON			ERNS	5	Page	1 of 5	\$	
	:12:4 ISSI		LANT	PRI	TIRC	ORG	отс	EGG		SD	RD	GD	10		CON	ICERN-	
		•	8		1	NSRS	L1			SR				xx-	85-068	-006	
KEYV	VORDS	5:	ELEC.	TRODI	E PRO	GRAM	CONT	ROL							PROB:	WCPM	E
			- WEI			MATE	DOE	S NOT	SATI: NSTRU	SFY Ctic	COE DN E	DE F DEPT	EOL	JIREI CONCI	MENTS. Ern. C	TVA I HAS	ATTITU NO
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TECH		AL C	OMME	TAR	1:												
	ISSU	DNSI JE P	LANI	PRIC		LECTR ORG		EGG	ABILI	SD	RD	GD	10	<b>*</b> -	CON BE RO	ICERN-	
			U.					238		SS	Ρ			BLN	- 0 - 0 1 5	-001	-
KEYW	IORDS	5:	CONTR	ROL V	VELDI	ROD R	OD CA	AN .							PROB:	WCPM	E
DURI	NG A	co	NTACT	1 N 1	ERVII	EW. T	HECI	EXP	RESSEI	о на	s c	ONC	ERN	RE	LATIVE	TO W	ELD
ANOT	HER	PFR	SON C			485 L			CAN	SIN	. A	UNC	ONT	ROL	LED AR ATION EDURES	EA WH	
ANOT	HER	PFR	SON C			K UP HT.		NES'S	CAN	SIN	. A	UNC	ONT	ROL	LED AR	EA WH	
ANOT LEFT	HER	PER THE	SON C		PICI RNIGI	K UP HT.		NES'S	CAN	SIN	. A	UNC	ONT	ROL	LED AR	EA WH	
ANOT LEFT IR: TECH	HER IN	PER THE	SON CANS	ITARY PRIC	PICI RNIGI	STA	ANYON CURRE T:	NES'S	RODS			UNC CE	IONT IS P	ROLI	LED AR ATION EDURES	EA WH CARDS	ERE ARE
ANOT LEFT IR: TECH CAT	HER IN ISSU	PER THE	SON CANS	TARY PRIC	PICI ERNIGI	STA ORG	T: OTC	RC:	INSP	S IN V CE V SD SR	RD	GD	IONT RTI S P	ROLI	LED AR ATION EDURES CON 35-068	CERN-	ERE ARE
ANOT LEFT IR: TECH CAT	HER IN ISSU	PER THE	SON CANS	TARY PRIC	PICI ERNIGI	STA ORG	T: OTC	RC:	RODS	S IN V CE V SD SR	RD	GD	IONT RTI S P	ROLI	LED AR ATION EDURES	CERN-	ERE ARE
ANOT LEFT IR: TECH CAT TECH KEYW BELL NON- INSP	HER IN ISSU ORDS EFON QI R ECTO	PER THE L C E P 	SON CANS CANS OMMEN LANT B ELECT ASME RTS, ANIJ	PRIC PRIC PRIC PRIC PRIC	ATION EFALLO	ORG  STA ORG  EMEN NS/V1	T: OTC TATIC	EGG EGG ONS ONS O	INSP SACTIO	SD SD SR IFIC				ROL FIC ROC XX-1	LED AR ATION EDURES CON 85-068 PROB: D) ARE	CERN- -003 WCPM	ERE ARE
ANOT LEFT IR: TECH CAT  KEYW BELL NON- INSP	HER IN ISSU ORDS EFON QI R ECTO	PER THE L C E P 	SON CANS CANS OMMEN LANT B ELECT ASME RTS, ANIJ	PRIC PRIC PRIC PRIC PRIC	ATION EFALLO	ORG  STA ORG  EMEN NS/V1	TATIC OLATI BLEMS WN TCC	EGG EGG ONS ONS O	INSP	SD SD SR IFIC				ROL FIC ROC XX-1	LED AR ATION EDURES CON 85-068 PROB: D) ARE	CERN- -003 WCPM	ERE ARE

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Page 2 of 5 09/29/86 (EMPLOYEE CONCERNS) 17:12:57 CATISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10 -----CONCERN-----8 NSRS B0 NR 1 XX-85-107-001 QUALIFICATION INSPECTOR NONSPECIFIC OPI KEYWORDS: PROB: WCPQI BELLEFONTE - WELDING INSPECTORS AT BELLEFONTE DO NOT APPEAR TO BE KNOWLEDGEABLE ABOUT WELDING. CONSTRUCTION DEPT. CONCERN., CI HAS NO ADDITIONAL INFORMATION. IR: STAT: RC: TECHNICAL COMMENTARY: CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10 -----CONCERN------R 1 SR XX-85-069-003 KEYWORDS: QUALIFICATION INSPECTOR PROGRAM PROB: WCPQI BELLEFONTE. MANY EMPLOYEES ARE CERTIFIED BUT ARE NOT OUALIFIED. THEY DO NOT HAVE ENOUGH ON THE JOB TRAINING (OJT) EVEN THOUGH IT IS DOCUMENTED THAT THEY DO HAVE ENOUGH OJT. THE CONCERN EXISTED FROM 1980 TO PRESENT. DETAILS KNOWN TO QTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. NUC POWER CONCERN. CI HAS NO FURTHER INFORMATION. 18: 1-85-373-NPS STAT: RC: TECHNICAL COMMENTARY: CAT ISSUE PLANT PRIORITY ORG OTC EGG INSP SD RD GD 10 -----CONCERN-----**DA** B XX-85-069-007 KEYWORDS: OUALIFICATION INSPECTOR PROGRAM PROB: WCPQ1

BELLEFONTE. MANY EMPLOYEES ARE CERTIFIED BUT ARE NOT OUALIFIED. THEY DO NOT HAVE ENOUGH ON THE JOB TRAINING (OJT) EVEN THOUGH IT IS DOCUMENTED THAT THEY DO HAVE ENOUGH OJT.DETAILS KNOWN TO OTC, WITHHELD DUE TO CONFIDENTIALITY. NUC POWER CONCERN. C/I HAS NO FURTHER INFORMATION.

IR: STAT: RC:

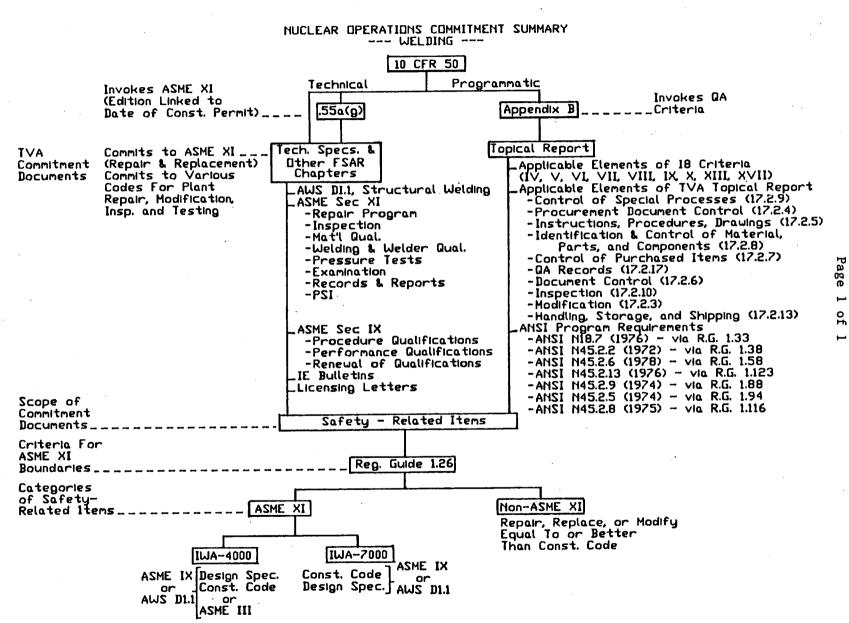
TECHNICAL COMMENTARY:

		Page 3 of 5
	EMPLOYEE CONCERNS)	
17-12:57 CAT ISSUE PLANT PRIORITY ORG		CONCERN
B 1 NSRS	A5 SR	XX-85-045-001
KEYWORDS: CERTIFICATION PROGRA	AM ELEC WELDERS	PROB: WCPOW
BELLEFONTE-TVA POLICY ALLOWS FO		THE TEAT CHOP AND IN A
SHORT-TIME BE CERTIFIED AS AN E	ELECTRICAL WELDER. THESE W	ELDERS DO PASS A STRICT
TEST BUT THE TEST DOES NOT TEST Variables an experienced welder	R CAN HANDLE. INSUFFICIENT	WELDER TRAINING.
IR: STAT:	: RC:	
TECHNICAL COMMENTARY:		
ISSUE CONSIDERED: 1. BLN WELDER	R PERFORMANCE OUALIFICATIO Overall Ability.	N TESTS DOES NOT TEST A
CAT ISSUE PLANT PRIORITY ORG	TRAINING PROGRAM IS INADED	UATE FOR NUCLEAR CONST
B 1 NSRS		XX-85-110-001
KEYWORDS: MISCELLANEOUS IMPLEN	MENTATION AUDIT	PROB: WCPIF
BELLEFONTE: WELDING AND NDE PRO	OGRAM CORRECTIVE ACTION, A	S IDENTIFIED IN OEDC
QUALITY ASSURANCE EVALUATION NO IMPLEMENTED FOR BELLEFONTE: THE	E SAME/UNCORRECTED PROBLEM	IS WERE FOUND TO EXIST
YEARS LATER, AND MAY STILL EXIS PWR DEPT CONCERN.	SI IODAY. CI HAS NO ADDITI	ONAL INFORMATION. NUC
IR: STAT:	: RC:	
TECHNICAL COMMENTARY:		
CAT ISSUE PLANT PRIORITY ORG	OTC EGG INSP SD RD GD 10	CONCERN
B 1 NSRS	DO SR	XX-85-088-002
KEYWORDS: DESIGN BOX ANCHOR EX	XCESS WELD	PROB: WDDDD
BELLEFONTE: A DESIGN DEFICIENCY		D ON BOX HANGERS WILLOW
IF PERFORMED PER DESIGN, CAUSES STEEL CODE PIPE). CONSTRUCTION	S THE WELD TO RUN INTO THE	PIPE (SS QR CARBON
IR: STAT		UNITER INFORMATION.
TECHNICAL COMMENTARY:	: RC:	
FEURITICAL CUMMENTANT:		

		Page 4 of 5
09/29/86	(EMPLOYEE	CONCERNS)
AT ISSUE PLAN	IT PRIORITY ORG QTC EGG	INSP SD RD GD 10CONCERN BS Rem 8/6/9L SR BEM-8-001-001
KEYWORDS: INS	PECTION PROGRAM FIT-UP RE	ESP PROB: WCDPW
REPORT, TVA-TR UNCERTIFIED WE	175-14, IN THAT PROCESS SP	-29C, PROCESS SPEC. O.C.1.1 IS IN COMMITMENTS AS STATED BY THE TVA TOPICAL PEC. O.C.1.1, SECTION 6.0 ALLOWS RECT RESPONSIBILITY FOR THE INSTALLATION, POWER CONCERN. CI HAS NO FURTHER
1 R :	STAT: RC:	
TECHNICAL COMM	ENTARY:	
ISSUES CONSIDE	ETRIG IS A VIULATION	FOREMEN PERFORM PRE-WELD INSPECTIONS. OF TVA QUALITY ASSURANCE REQUIREMENTS.
CAT ISSUE PLAN	T PRIORITY ORG OTC EGG	I OF ANSI N. 45.2.5 REQUIREMENTS. INSP SD RD GD IOCONCERN BS RAM 8/6/82 SR BEM-\$-001-002
KEYWORDS: INS	PECTION PROGRAM FIT-UP RE	
BELLEFONTE - U INSPECTIONS ON VIOLATION OF INFORMATION. IR:	NCERTIFIED WELDER FOREMEN INSTALLATIONS THEY ARE D ANSI REQUIREMENTS. NUCLEA STAT: RC:	I ARE REQUIRED BY TVA TO PERFORM PREWELD VIRECTLY RESPONSIBLE FOR WHICH IS A R POWER CONCERN. CI HAS NO FURTHER
TECHNICAL COM		•
TECHNICAL COMM		
TION OF ANSI	N.45.2.5 REQUIREMENTS? T PRIORITY ORG OTC EGG	FOREMEN PERFORM PRE-WELD INSPECTIONS. OF ANSI N45.2.5 REQUIREMENTS. INSP SD RD GD IOCONCERN
B	1 NSRS	SR XX-85-068-008
KEYWORDS: EQU	IPMENT WELD MACHINE GAS	
CORRECTIVE ACT	ION IS KNOWN TO MAKE BEEN	ESS/PURITY OF BOTTLED GAS USED IN WELDING NRC INSPECTOR IN 1982-1983. NO TAKEN. DETAILS KNOWN TO OTC. WITHHELD PT. CONCERN. CI HAS NO FURTHER
1R:	STAT: RC:	

TECHNICAL COMMENTARY:

Page 5 of 5 (EMPLOYEE CONCERNS) 09/29/86 17:12 QTC EGG INSP SD RD GD IO -----CONCERN-----CAT ISSUE PLANT PRIGRITY ORG XX-85-034-X02 NSRS V0 SR B 1 INSPECTION IMPLEMENTATION FALSE DOC PROB: WCPIF **KEYWORDS:** EMPLOYEE (KNOWN) FALSIFIED WELD RECORDS. BELLEFONTE, UNIT #1, 1977-1980, CONTAINMENT WALL. CONSTRUCTION DEPT. CONCERN. CI HAS NO MORE INFORMATION. STAT: RC: IR: TECHNICAL COMMENTARY: QTC EGG INSP SD RD GD 10 -----CONCERN-----CAT ISSUE PLANT PRIORITY ORG -PS XX-85-068-005 WE 8 1 552 Ν DOCUMENTATION ALTERATION SPECIFIC PROB: WCDRM KEYWORDS: DURING A REVIEW OF WELD CARDS BY THE AUTHORIZED NUCLEAR INSPECTOR (ANI), IT WAS Observed that the Heat Number was marked "NA", Two weeks later heat numbers were Found to have been entered on the documents, when the ani questioned where the Heat numbers came from, no explanation was provided. Construction dept. Concern. CI has no further information. IR: STAT: RC: TECHNICAL COMMENTARY: INSP SD RD GD 10 -----CONCERN-----CAT ISSUE PLANT PRIORITY ORG QTC EGG ---S.R. XX-85-034-001 1 R PROB: WCP1F INSPECTION IMPLEMENTATION DOCUMENT NONSPE KEYWORDS: BELLEFONTE OC INSPECTOR (NAME KNOWN) SIGNED OFF WELDS FOR CONTAINMENT WALL (APPROX DATES KNOWN). CI IS ANONYMOUSE. NO FOLLOW-UP POSSIBLE. STAT: RC: IR. TECHNICAL COMMENTARY:



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Requirements Commitment Summary

Welding

Attachment 0

#### Attachment P

#### Operations Welding Requirements Commitment Matrices

This Attachment contains the welding requirements implementation matrices for the following 16 elements:

- Procurement Document Control
- Instructions, Procedures, and Drawings
- Document Control
- Control of Purchased Material, Equipment, and Services
- Identification and Control of Material, Parts, and Components
- Control of Special Processes
- Inspection
- Handling, Storage, and Shipping
- Quality Assurance Records
- Maintenance and Modifications
- ASME Section XI Repairs (IWA-4000) and Replacements (IWA-7000)
- ASME Section XI Pressure Tests
- ASME Section XI Preservice Inspection (PSI) Program
- ASME Section IX
- AWS Structural Welding Code Steel
- Regulatory Guide 1.31, "Control of Ferrite Content in Stainless Steel Weld Metal"

#### WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

#### **Requirement Area:**

Procurement Document Control

#### Applicability to the Welding Program:

Preparation and control of procurement documents for welding materials and contractors performing welding services.

Assessment Summary:

The requirements for the procurement of welding material and services are considered to be adequately implemented by procedures and instructions.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: D. F. Jaquith

Date: March 21, 1986

Implementation Evaluation:

Attachment - 4 pages

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	IMPLEMENTING DOCUMENTS				
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM_PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION		
10 CFR 50, Appendix B					
IV. PROCUREMENT DOCUMENT CONTROL					
Measures shall be established to assure that ap- plicable regulatory requirements, design bases, and other requirements which are necessary to assure adequate quality are suitably included or referenced in the documents for procurement of material, equipment, and services, whether pur- chased by the applicant or by its contractors or subcontractors. To the extent necessary, procure- ment documents shall require contractors or sub- contractors to provide a quality assurance pro- gram consistent with the pertinent provisions of this Appendix.	curement of Materials, Components, Spare Parts,	DPM N76AlO, Appendices 1 and 3 (Purchase Specifications for CSSC Metallic Materials Welding and Brazing Materials - 1-4-85)	Standard Practice (SP) BLA9 (5-13-85 Procurement, Control of Items and Services for Plant Features SP BLA9.1 (R20, 10-16-85) Procure- ment of Materials, Components, Spare Parts and Services		
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Page	2	of	4
Date	2-21	-86	

		IMPLEMENT	ING DOCUMENTS
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A) (R8)			
17.2.4 Procurement Document Control			
Procurement document control applies to documents used to obtain materials, parts, components, and energies required to modify, anistation, repair, test, largert, or operate unclear sturreting facilities. The quality of purchased replacement materials, components, and spars parts are equal to or hotter then the original item. Control of procurements is accomplished primerily through procurement documents. The originating organization is	curement of Materials,	DPM N76AlO, Appendices l and 3 (Purchase Specifications for CSSC Metallic Materials Welding and	
adequate quality assurence requirements in the documents for pre-screensul of seturisis, parts, composets, and services, Procurement documents include the following as applicable;		Brazing Materials - 1-4-85)	SP BLA9.1 (R20, 10-16-85) Procure- ment of Materials, Components, Spare Parts and Services
<ol> <li>Basic technical requirements, including draviogs, test and specification requirements, special instructions, applicable regulations, codes, and indestrial studards.</li> </ol>			
<ol> <li>Begoirements for supplier survailinger and inspection, including provisions for TVA's access to its plant and records.</li> </ol>			
3. Bequirements thet the supplier provide a description of bis quality essurance program which meets opplicable requirements of 10 CFR 50. Appendix 8.			
4. Documentstion requirements, including resords to be propered, maintained, submitted, or made available for review, such se drevings, specifications, procedures, processent decuments, inspection and test recerds, quiffications, chenical and typical test revealts, and lestractions for nitimate disposition of the reverds.			
TVA willings recognized standards for the purchase of etendardised items such as bearings. V-belts, especitors, resistands, transistors, labricating ofla. Other items are parchesed by part author or recommendations supplied by the original mean/acturer or applier. Items which are covered by indestry codes or standards (o.g., wilding rod, pressare boundary meterials, atc.) are purchased in accordance with the opplicable codes and atameded.			1
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#### PLANT Bellefonte

# Page <u>3 of 4</u> Date <u>2-21-86</u>

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SOURCE DOCUMENTS/REQUIREMENTSDOM/ NOAMPROGRAM PROCEDUREPLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTIONRegulatory Guide 1,123, (Revision 1), July 1977 - Tourity Assurance Requirements for Costrol of For Nuclear Power Plants, (Revision 1), July 1977 - Curement of for Nuclear Power Plants, (Revision 1), July 1977 - curement of for Nuclear Power Plants, (Revision 1), July 1977 - curement of Materials, and Services for Nuclear Power Plants, (Revision 1), July 1977 - curement, Regularement, Materials, and Services for Nuclear Power Plants, (Revision 1), July 1977 - curement of Materials, Somponents, Spare Parts, and Services for Plant Features (Components, Spare Parts, and Services - 12-23-85)Standard Practice (SP) BLA9 (5-13-8 Procurement, Control of Items and Services for Plant Features (Spare Parts, and Services - 12-23-85)Note to the NCS off nuclear power plants are acceptable to the NCS staff and provide an adequate basis for complying with the pertinent quality assurance re- quirements of Appendix B to 10 CFR Part 50, subject to the following:DPM/ PROGRAM PROCEDUREPLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION2. Section 1.1 of ANSI N45.2.13-1976 states: "The ASMI: Boiler & Presure Vessel Code (hereafter referred to as the Code) as well as other ANSI standard does nmt, however, apply to activities covered by Section III, Division 1 and 2, and Section XI of the Code for Huss activities covered by Section III, Division 1 and 2, and Section XI of the Code for Huss activities a divities covered by Section HI, Division 1 and 2, and Section XI of the Code for Huss activities covered by the Code." While Section HI, Division 1 and 2, and Section XI of the Code for Huss activities covered by Section		IMPLEMENTING DOCUMENTS		
SOURCE DOCUMENTS/REQUIREMENTSNQAMPROGRAM PROCEDUREADMINISTRATIVE INSTRUCTIONRegulatory Guide 1.123, (Revision 1), Jely 1977 - "Genity Assurance Requirements for Control of Procurement of Equipment, Materials and Services for Nuclear Power Plants' (Endorses N5.2.13-1976)III, 2.1 (Pro- curement of Materials, Components, Spare Parts, and Services for nuclear power plants are acceptable to the NRC staff and provide an adequate basis for commplying with the pertinent quality assurance re- quirements of Appendix B to 10 CFR Part 50, subject to the following:Services for Services and services for nuclear power plants are acceptable to the following:Services for Services and services for nuclear power plants are acceptable to the following:Services for Services and services for plant features services for nuclear power plants are acceptable to the following:2. Section 1.1 of ANSI N45.2.13-1976 states: "The ASME Boiler & Pressure Vessel Code (hereafter referred to as the Code) as well as other ANSI stan- dards, has been considered in the development of this standard, and this standard do be com- patible with Code requirements. This standard does and, however, apply to activities covered by Section HI, Division 1 and 2, and Section XI (which addres)				
Regulatory Guide 1.133, (Revision 1), July 1977 - Guilty Assurance Regulaments for Control of Procurement of Equipment, Mitchis and Services for Nuclear Power Plants' (Endorses NK5,2,13-1976) C. REGULATORY POSITION The requirements that are included in ANSI N45.2.13-1976 for control of procurement of items and services for nuclear power plants are acceptable to the NRC staff and provide an adequate basis for complying with the pertinent quality assurance re- quirements of Appendix B to 10 CFR Part 50, subject to the following: 2. Section 1.1 of ANSI N45.2.13-1976 states: "The ASMI: Boiler & Pressure Vessel Code (hereafter referred to as the Code) as well as other ANSI stan- dards, has been considered in the development of this standard, and this standard is intended to be com- patible with Code requirements. It is standard does not, however, apply to activities covered by Section III, Division 1 and 2, and Section XI (which addres- NI, Divever, SI (X) (M)	SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	1 1
ses the control of spare and replacement parts) of the ASME Boiler and Pressure Vessel Code address general requirements for control of procurement of items and services for nuclear power plants, these sec- tions do not explicitly address all the activities described in the ANSI N45.2.13-1976 standard. ANSI N45.2.13-1976, subject to the exceptions of the	Regulatory Guide 1.123, (Revision 1), July 1977 - 'Quality Assurance Requirements for Control of Procurement of Equipment, Materials and Services for Nuclear Power Plants' (Endorses N45.2.13-1976) C. REGULATORY POSITION The requirements that are included in ANSI N45.2.13-1976 for control of procurement of items and services for nuclear power plants are acceptable to the NRC staff and provide an adequate basis for complying with the pertiment quality assurance re- quirements of Appendix B to 10 CFR Part 50, subject to the following: 2. Section 1.1 of ANSI N45.2.13-1976 states: "The ASMI: Boiler & Pressure Vessel Code (hereafter referred to as the Code) as well as other ANSI stan- dards, has been considered in the development of this standard, and this standard is intended to be com- patible with Code requirements. This standard does not, however, apply to activities covered by Section III. Division 1 and 2, and Section XI of the Code for those activities covered by the Code." While Section III, Divisions I and 2, and Section XI (which addres- ses the control of spare and replacement parts) of the ASMI: Boiler and Pressure Vessel Code address general requirements for control of procurement of those activities covered by the code." While Section III, Divisions I and 2, and Section XI (which addres- ses the control of spare and replacement parts) of the ASMI: Boiler and Pressure Vessel Code address general requirements for control of procurement of items and services for nuclear power plants, these sec- tions do not explicitly address all the activities described in the ANSI N45.2.13-1976 standard.	III, 2.1 (Pro- curement of Materials, Components, Spare Parts, and Services -	DPM/	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION Standard Practice (SP) BLA9 (5-13-89 Procurement, Control of Items and Services for Plant Features SP BLA9.1 (R20, 10-16-85) Procure- ment of Materials, Components, Spare

PLANT Bellefonte

Page <u>4</u> of <u>4</u> Date <u>2-21-86</u>

	IMPLEMENTING DOCUMENTS		
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION
ANSI N45.2.13-1976			
1. INTRODUCTION			
1.1 Scope			
This standard describes requirements and provides guidelines for the control of activities to be exercised during procurement of items and services which af- fect the quality of nuclear power plants. These re- quirements and guidelines apply to procurement	III, 2.1 (Pro- curement of Materials, Components, Spare Parts, and Services - 12-23-85)		Standard Practice (SP) BLA9 (5-13-85 Procurement, Control of Items and Services for Plant Features SP BLA9.1 (R20, 10-16-85) Procure- ment of Materials, Components, Spare Parts and Services

### WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

**Requirement** Area:

Instructions, Procedures, and Drawings

#### Applicability to the Welding Program:

Welding, heat treatment, and nondestructive examination (NDE) procedures; implementing instructions which require welding, heat treatment, and NDE; and design drawings which specify welding, heat treatment, and NDE.

#### Assessment Summary:

The requirements for instructions, procedures, and drawings as applied to the welding program are considered to be adequately implemented by procedures and instructions.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: D. F. Jaquith

Date: March 21, 1986

Implementation Evaluation:

Attachment - 3 pages

PLANT _____ Bellefonte

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INCLEMENTING DOCUMENTS       SOURCE DOCUMENTS/REQUIREMENTS       NOAM     PROGRAM PROCEDURE     PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION       10 CFR 50, Appendix B     SP BLM10     DPM N7302 (Process Specifications for Naintenance Requests - Processing and History System     SP BLM10 (Formerly DPM N8023)     SP BLA1 (25, 3-7-86, System of Standard Practices       V.INSTRUCTIONS, PROCEDURES, AND DRAWINGS     SP BLM10,1 (R9, 7-3-85)     SP BLM10,1 (Formerly DPM N8023)     SP BLA3 (R%, 9-16-85), Plant Instructions/Procedures, or draw- ings, of a byle appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings, In- structions, procedures, or drawings. Instructions, procedures, or drawings. Preparation or dearming that important activities have been satisfactorily accomplished.     SP BLM10,1 (R9, 7-3-85)     PMP 1802.02 (WBN) - (Preparation of Work Instructions, procedures, or drawings. III, 1, 1,1 (Document Control - 3-20-85)     SP BLA3 (R%, 9-16-85), Preparation, and Revise       III, 1, 1 (Document Control - 3-21-85)     SP BLM10, (T-27-84), Maintenance, Repair, Maintenance, Repair, II, 6.1 (Weilding - 10-12-84)     SP BLM11 (7-27-84), Maintenance, of ASME Code Class Stoments and Systems       II, 6.2 (Heat Treatment - 10-12-84)     SP BLM11.2 (R1, Treatment - 10-12-84)     SP BLM11.2 (R1, Treatment - 10-12-84)
10 CFR 50, Appendix BSP BLM10 (7-27-84), Maintenance Requests - Processing and History SystemDPM N73M2 (Process Specifications for Welding and Heat Treatment - 3-5-86)SP BLA1 (25, 3-7-86, System of Standard PracticesV. INSTRUCTIONS, PROCEDURES, AND DRAWINGSActivities affecting quality shall be prescribed by documented instructions, procedures, or drawings. Instructions, procedures, or drawings. III, 1.1 (Document Control - 3-21-85)SP BLM10.1 (R9, 7-3-86) PMP 1402.02 (WBN) - Preparation of Work Instructions for Request III, 1.1 (Document Control - 3-21-85)SP BLM11 (7-27-84), Maintenance, Repair, and Alteration of ASME Code Class Components and SystemsSP BLA12.2 (R18, 10-29-85), Performance of Modifications Before Licensing)II, 6.1 (Welding - 10-12-84)II, 6.2 (Heat Treatment - 10-23-84), MaintenanceSP BLM11.2 (R1, Treatment - 10-23-84), MaintenanceSP BLM11.2 (R1, Maintenance

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SOURCE DOCUMENTS/REQUIREMENTS         NOAM         PROGRAM PROCEDURE         PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION           10 CPR 50, Appendix B (Continued)         II, 6.3 (NDE 3-26-85)         BLM11.3 (R5, 7-3-85), Repairs and Replace- ments of ASME Sec- tion XI Components         BLM11.4 (R1, 12-5-83)           11, 2.3 (Repair and Replacements of ASME XI Components - 4-3-85)         BLM11.4 (R1, 12-5-83) Ferred ASME Code Systems and Components			IMPLEMENT	ING DOCUMENTS
10 CFR 50, Appendix B (Continued) II, 2.1 (Plant Maintenance - 4-18-85) II, 2.3 (Repair and Replacements of ASME XI Components - BLM11.3 (R5, 7-3-85), Repairs and Replace- ments of ASME Sec- tion XI Components BLM11.4 (R1, 12-5-83) Cross Work Control for Maintenance of Trans- ferred ASME Code Systems and Components	SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/	PLANT STANDARD PRACTICE/
	10 CFR 50, Appendix B	II, 6.3 (NDE 3-26-85) Il, 2.1 (Plant Maintenance - 4-18-85) II, 2.3 (Repair and Replacements of ASME XI Components -	BLM11.3 (R5, 7-3-85), Repairs and Replace- ments of ASME Sec- tion XI Components BLM11.4 (R1, 12-5-83) Cross Work Control for Maintenance of Trans- ferred ASME Code	

PLANT Bellefonte

Page <u>3 of 3</u> Date <u>4-23-86</u>

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		IMPLEMENTI	NG DOCUMENTS
		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAH	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A) (R8)			
17.3.3 Justructions, Procedures, and Drasings			
Intractions, procedures, and drawings for laternal use by two Office of Nucleur Power are developed to preserible theory is added to be theory is added to preserible theory is added to preserible theory is added to be the preserible theory is added to be the theory is added to be the preserible theory is added to be the preserible theory is added to be the theory is added to be the preserible theory is added to be theory is added to be the preserible theory is added to be theory is added to be theory is added to be the preserible theory is added to be the preserible theory is added to be theory is added to be theory is added to be the preserible theory is added to be theory is added to be the preserible theory is added to be the preserible theory is added to be theory is added to be	<pre>III, 1.1 (Document Control - 3-21-85) II, 6.1 (Welding - 10-12-84) II, 6.2 (Heat Treatment - 10-12-84) II, 6.3 (NDE 3-26-85) II, 2.1 (Plan Maintenance - 4-18-85) II, 2.3 (Repair and Replacements of ASME XI Components - 4-3-85)</pre>	(Preparation of Work Instructions for Repair and Replace- ments of ASME Sec- tion XI Components - 3-20-85)	SP BLA1 (25, 3-7-86, System of Standard Practices SP BLA3 (R4, 9-16-85), Plant Instructions/Procedures SP BLA3.1 (R26, 3-26-86), Preparation, Use, Revision, and Review SP BLA3.2 (R31, 1-6-86), Format and Content SP BLA5.9 (R17, 6-24-85), Drawing Control Before Receipt of an Operating License

#### WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

**Requirement** Area:

Document Control

#### Applicability to the Welding Program:

Control of welding, heat treatment, and nondestructive examination (NDE) procedures; and implementing procedures which require welding, heat treatment, and NDE.

Assessment Summary:

The requirements for document control as they apply to the welding program are considered to be adequately implemented by procedures and instructions.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: D. F. Jaquith

Date: April 24, 1986

Implementation Evaluation:

Attachment - 2 pages

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SOURCE DOCUMENTS/REQUIREMENTSNOAMDPH/ PROGRAM PROCEDUREPLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION10 CFR 50, Appendix BIII, 1.1DPM N73M2 (Process Specifications for Welding and Heat 3-21-85)SP BLA1 (25, 3-7-86, System of Standard Practices10 CFR 50, Appendix BIII, 1.1 (Document codurents, such as instructions, pro- cedures, and drawings, including changes thereion are distributed to and user distributed to an user distributed t				ING DOCUMENTS
10 CFR 50, Appendix BVI. DOCUMENT CONTROLMeasures shall be established to control the is- suance of documents, such as instructions, pro- cedures, and rawings, including changes hereid, which prescribe all activities affecting quality. These measures shall assure that documents, in- cluding changes, are reviewed for adequacy and approved for release by authorized personnei and review and approved to release by authorized personnei and review and approval unless the applicant desig- nates another responsible organization.III, 1.1 III, 1.1 DPM N73M2 (Process Specifications for Welding and Heat Treatment - 3-5-86)SP BLA1 (25, 3-7-86, System of Standard PracticesIII, 6.1 (Welding - 10-12-81)PMP 1502.07 (NDE Procedures - 1-18-85) (Formerly DPM N80E3)SP BLA3.1 (R26, 3-26-86) Preparation, Use, Revision, and Review (of Plant Instructions)II, 6.2 (Heat Treatment - 10-12-84)PMP 1502.07 (NDE Procedures - 1-18-85) (Formerly DPM N80E3)SP BLA3.3 (R22, 4-8-85) Distribution (of Plant Instructions)II, 6.3 (NDE Procedures - 3-26-84)II, 6.3 (NDE Procedures - 3-26-84)SP BLA5.9 (R17, 6-24-85), Drawing Control Before Receipt of an Operating LicenseSP BLA5.16 (R9, 4-23-85) Controlled DocumentsSP BLA12.2 (R18, 10-29-85) Performance of Modifications Before	SOURCE DOCUMENTS/REQUIREMENTS	NQAM		PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION
	10 CFR 50, Appendix B VI. DOCUMENT CONTROL Measures shall be established to control the is- suance of documents, such as instructions, pro- cedures, and drawings, including changes thereto, which prescribe all activities affecting quality. These measures shall assure that documents, in- cluding changes, are reviewed for adequacy and approved for release by authorized personnel and are distributed to and used at the location where the prescribed activity is performed. Changes to documents shall be reviewed and approved by the same organizations that performed the original review and approval unless the applicant desig-	<pre>III, 1.1 (Document Control - 3-21-85) II, 6.1 (Welding - 10-12-84) II, 6.2 (Heat Treatment - 10-12-84) II, 6.3 (NDE Procedures -</pre>	DPM/ PROGRAM PROCEDURE DPM N73M2 (Process Specifications for Welding and Heat Treatment - 3-5-86) PMP 1502.07 (NDE Procedures - 1-18-85) (Formerly DPM N80E3)	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION SP BLA1 (25, 3-7-86, System of Standard Practices SP BLA3.1 (R26, 3-26-86) Preparation Use, Revision, and Review (of Plant Instructions) SP BLA3.3 (R22, 4-8-85) Distribution (of Plant Instructions) SP BLA5 (4-3-85) Document Control SP BLA5.9 (R17, 6-24-85), Drawing Control Before Receipt of an Operating License SP BLA5.16 (R9, 4-23-85) Controlled Documents SP BLA12.2 (R18, 10-29-85) Performance of Modifications Before

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Page 2 of 2 Date 4-24-86

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		IMPLEMENTI	NG DOCUMENTS
SOURCE DOCUMENTS/REQUIREMENTS	NQAH	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A) R8			
<section-header><section-header><section-header><text><text><text><text></text></text></text></text></section-header></section-header></section-header>	<pre>III, 1.1 (Document Control - 3-21-85) II, 6.1 (Welding - 10-12-84)</pre>	DPM N73M2 (Process Specifications for Welding and Heat Treatment - 3-5-86) PMP 1502.07 (NDE Procedures - 1-18-85) (Formerly DPM N80E3)	<pre>SP BLA1 (25, 3-7-86, System of Standard Practices SP BLA3.1 (R26, 3-26-86) Preparation Use, Revision, and Review (of Plant Instructions) SP BLA3.3 (R22, 4-8-85) Distribution (of Plant Instructions) SP BLA5 (4-3-85) Document Control SP BLA5.9 (R17, 6-24-85), Drawing Control Before Receipt of an Operating License SP BLA5.16 (R9, 4-23-85) Controlled Documents SP BLA12.2 (R18, 10-29-85) Performance of Modifications Before Licensing</pre>

#### WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

**Requirement** Area:

Control of Purchased Material, Equipment, and Services

#### Applicability to the Welding Program:

Procurement control of welding material, receipt inspection of weld material, and control of the selection of contractors providing welding services.

#### Assessment Summary:

The requirements for the procurement control of welding material, receipt inspection fo welding material, and the selection of contractotrs providing welding services are considered to be adequately implemented by procedures and instructions.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: D. F. Jaquith

Date: April 23, 1986

Implementation Evaluation:

Attachment - 2 pages

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	_ <u> </u>	IMPLEMENTI	ING DOCUMENTS
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ Administrative instruction
10 CFR 50, Appendix B			ADDITION INSTRUCTION
VII. CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES			
Measures shall be established to assure that pur- chased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents. These measures shall include provi- sions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor source, and ex- amination of products upon delivery. Documen- tary evidence that material and equipment con- form to the procurement requirements shall be available at the nuclear power plant or fuel repro- cessing plant site prior to installation or use of such material and equipment. This documen- tary evidence shall be retained at the nuclear power plant or fuel reprocessing plant site and shall be sufficient to identify the specific re- quirements, such as codes, standards, or specifi- cations, met by the purchased material and equipment. The effectiveness of the control of quality by contractors and subcontractors shall be assessed by the applicant or designee at intervals consistent with the importance, complexity, and quantity of the product or services.	<pre>III, 2.1 (Procurement of Material, Components, Spare Parts, and Services 12-23-85) III, 2.2 (Receipt Inspection, Handling, and Storage of Materials, Components, and Spare Parts - 12-23-85)</pre>	DPM N76A10, Appendices 1 and 3 (Purchase Specifications for CSSC Metallic Materials Welding and Brazing Materials - 1-4-85)	SP BLA9.1 (R20, 10-16-85) Procurement of Materials, Components, Spare Parts, and Services SP BLA9.2 (R11, 10-9-85) Receipt Inspection

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	IMPLEMENTING DOCUMENTS		
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A) R8			
17.1.7 <u>Coutrol of Purchased Material, Bauippent, and Services</u>			
17.3.7.1 General Neterisis, aquipment, and sarvicas, whether purchased directly or through others, conform to prostrems dosument appecifications as satubilished in subsection 17.3.4. Previsions are unde, as appropriate, for neuron availation and selection, review for objective avidences of quality, languation at source, and examination upon delivery. Quality control measures of avapiliers are successed at periodic intervals commansures with the importance, quantity, and complexity of the product or services being perchand. This assument verifies that decommentation such as importion records and cartification of canformance are welld. There significant equipment failures occar, the cause is evaluated to datarmine if the original aquipment or the original design is appropriate for replacement ar repoir. Proposed (bid or quantification) by mapiliers nero reviewed to cause that so acceptions are taken which would wieleste endaty or quality requirements.	<pre>III, 2.1 (Procurement of Material, Components, Spare Parts, and Services 12-23-85) III, 2.2 (Receipt Inspection, Handling, and</pre>	· · ·	SP BLA9.1 (R20, 10-16-85) Procurement of Materials, Components, Spare Parts, and Services SP BLA9.2 (R11, 10-9-85) Receipt Inspection
17.1.7.4 <u>Receiving Tappection</u> Examination upon delivery is porformed in assordance with general written instructions which nontain measures to apende:	Storage of Materials, Components,		
A. The meterial, composent, or equipment is properly identified and corresponde with the resulvius documentation.	and Spare Parts -		
B. Inspection of the material, component or equipment, and accuptance records is performed and judged scamptable in accordance with predetarmined inspection instructions, before one or installation and dealaring the component or system operable.	12-23-85) III, 2.2		•
C. Documentation such as inspection records or estifiates of conformance attacting to the acceptability of materials, components, and aquipment is available at the acciast power plant before use or instaliation. In special aircumstaces, and with Plant Manager approval, acch it can any be instalied before stuelpt of essociated documents, The Itam will be tagged as nonsouforming and additional administrative courrols will provide associate that the affactud apstam will not be dealered approble before disposition of the someouformase.	applies to paragraphs 17.2.7.1 and 17.2.7.4		
D. Items shall not be accepted for stoch or reissied for installation or further work matli insportion is unspinte or inspection statue idsatified.			
E. Nonconforming items are segregated matern prestical, somtrolind, and classily identified matil proper disposition is made.			

### WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

#### **Requirement** Area:

Identification and Control of Material, Parts and Components

#### Applicability to the Welding Program:

Identification and control of welding material such as electrodes, fluxes, welding wire, and consumable inserts.

#### Assessment Summary:

The requirement for identification and control of welding material is considered to be adequately implemented by procedures and instructions.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: D. F. Jaquith

Date: April 23, 1986

Implementation Evaluation:

Attachment - 4 pages



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l	IMPLEMENTING DOCUMENTS			
		DPM/	PLANT STANDARD PRACTICE/	
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION	
SOURCE DOCUMENTS/REQUIREMENTS 10 CFR 50, Appendix B <b>VIII. IDENTIFICATION AND CONTROL OF</b> <b>MATERIAL, PARTS, AND COMPONENTS</b> Measures shall be established for the identifica- tion and control of materials, parts and com- ponents, including partially fabricated assemblies. These measures shall assure that identification of the item is maintained by heat number, part number, serial number, or other appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item. These identification and control measures shall be designed to prevent the use of incorrect or defec- tive material, parts, and components.	NQAM II, 6.1 paragraph 6.0 (Welding - 10-12-84) III, 2.3 (Issuing of Materials, Components, and Spare Parts - 7-29-85)	DPM/	PLANT STANDARD PRACTICE/	

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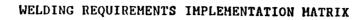
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	No.4W	DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A) R8			
17.3.8 Identification and Comprol of Materials, Parts, and Components			
17.3.4 <u>Identification and control of Materials, Perts, and Components</u> The identification and control of materials, perts, and components is accomplished in accordance with written requirements of applies to anterials, perts, or components in any steps of fabrication, storege, installation, or eas. Materials, perts, and components identified as conconforming are based on the absorbing of the plan. Identification and control requirements cover such items as treeshiller to associated documents (arcept for standardinad, comercial-prode item); precification of the item's functional addentification and control areasing; location and antibod of identification and components before rolland the item's functional application, and installation. Materials, parts, and components before rolland for another probability or associated documented, and control of the item's functional application, and installation. Materials, parts, and components and rations of anterials. Materials, parts, and components before rolland for another publication and control of the item's functional application. Materials, parts, and components another identification. Materials, p	<pre>II, 6.1 paragraph 6.0 (Welding - 10-12-84) III, 2.3 (Issuing of Materials, Components, and Spare Parts - 7-29-85) III, 2.2 (Receipt, Inspection, Handling, and Storage - 12-23-85)</pre>	DPM N73M2 (Process Specification for Welding Materials Control - 1-13-83) (P.S. 1.M.3.1) PMP TS.01.00.15.14.03 (Equipment and Mate- rial Storage Require- ments for Nuclear Power Stores)	SP BLA9.5 (R9, 10-4-85) Issuing of Materials, Components, and Spare Parts SP BLM8.1 (R4, 4-15-86) Welding SP BLM4.7 (R2, 9-17-84) Issue of Weld Materials to Welders BLMMI-4002 (1-18-82) Assurance of Weld Material Integrity
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	IMPLEMENTING DOCUMENTS		
		DPM/	PLANT STANDARD PRACTICE/
	<u> </u>	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
SOURCE DOCUMENTS/REQUIREMENTS Topical Report (TVA-TR75-1A) Table 17D-3, item F, Regulatory Guide 1.33, (Revision 2), February 1978 'Quality Assurance Program Requirements (Operations)' (Endorses ANSI N18.7-1976) ANSI N18.7-1976/ANS-3.2 Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants 5.2.13.3 Identification and Control of Materials, Parts and Components. Measures shall be provided or the identification and control of mate- rials, parts, and components including partially fabricated sub- assemblies. These procedures shall be implemented to provide insurance that only correct and accepted items are used and installed, and relating	NQAM II, 6.1 paragraph 6.0 (Welding - 10-12-84)	DPM N73M2 (Process Specification for Welding Materials Control - 1-13-83) (P.S. 1.M.3.1)	ADMINISTRATIVE INSTRUCTION SP BLA9.5 (R9, 10-4-85) Issuing of Materials, Components, and Spare Parts SP BLM8.1 (R4, 4-15-86) Welding SP BLM4.7 (R2, 9-17-84) Issue of Weld Materials to Welders
an item of production (batch, lot, component, part) at any stage, from initial receipt through fabrication, installation, repair or modification, to an applicable drawing, specifica- tion, or other pertinent technical document. Physical identification shall be used to the maximum extent possible. Where physical identifica- tion is either impractical or insuf- ficient, physical separation, pro- cedural control or other appropriate			BLMMI-4002 (1-18-82) Assurance of Weld Material Integrity

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_	IMPLEMENTING DOCUMENTS		
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/	PLANT STANDARD PRACTICE/
Topical Report (TVA-TR75-1A) (continued)	<u> </u>	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
<pre>means shall be employed. Identifica- tion may be either on the item or on records traceable to the item as appropriate. When codes, standards or specifications require traceability of materials, parts or components to specific inspection or test records,</pre>			
the program shall be designed to provide such traceability.			
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# WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

**Requirement Area:** 

Control of Special Processes

#### Applicability to the Welding Program:

Fully applies to welding, heat treatment, and nondestructive examination of safety-related items at TVA's operating nuclear plants.

Assessment Summary:

The requirements for control of special processes are considered to be adequately implemented by procedures and instructions.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: D. F. Jaquith

Date: April 24, 1986

Implementation Evaluation:

Attachment - 8 pages

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IMPLEMENTING DOCUMENTS         IMPLEMENTING DOCUMENTS         DPM/       PLANT STANDARD PRACTICE/         10 CFR 50, Appendix B       II, 6.1       PROGRAM PROCEDURE       ADMINISTRATIVE INSTRUCTION         INOAM         DPM // PROGRAM PROCEDURE         Measures shall be established to assure lhat special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements.       II, 6.2 (Heat Treatment - 3-5-86)       SP BLM8 (3-13-81), Special Processes SP BLM8.1 (R4, 4-15-86), Welding SP BLM8.2 (R1, 8-15-83), Heat Treatment - 3-5-86)         II, 6.2 (Heat Treatment - 10-12-84)       PMP 0202.14 (Certification of NDE Personnel - 3-6-85)       SP BLM8.3 (R14, 6-24-85), Nondestructive Examinations         MPM 1502.07 (NDE Procedures - 1-18-85)       SP BLM8.3 (R14, 6-24-85), SP BLM9.1 (R3, 4-15-86), Solering Hazard Control Instruction - PP2         SP BLM9.1 (R3, 4-15-86), Solering Hazard Control of Instruction - PP2         SP BLM9.1 (R3, 4-15-86), Solering Hazard Control of Instruction - PP2
10 CFR 50, Appendix B IX. CONTROL OF SPECIAL PROCESSES Measures shall be established to assure that spe- ciai processes, including welding, heat treating, and nondestructive testing, are controlled and other special requirements. II, 6.2 (Heat Treatment - 10-12-84) II, 6.3 (NDE 3-26-85) II, 6.2 (NDE 3-26-85) II, 6.2 (NDE 3-26-85) II, 6.2 (NDE 3-26-85) II, 6
Sources BLMMI-4001

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SOURCE DOCUMENTS/REQUIREMENTS	NOAM	DPM/	PLANT STANDARD PRACTICE/
	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
TVA Topical Report (TVA-TR75-1A) R8		i i i i i i i i i i i i i i i i i i i	
17.2.9 <u>Control of Special Processes</u>			
<ul> <li>Special processory, including, but treating, and provide control to the special processory is including to appropriate the special processory is a special processory of a special processory is a special processory processory is a special processor and a special processor and a special processory is a special processor and a special processor and a special processory is a special processor is a special processory and a special processory and is a special processory is a</li></ul>	II, 6.1 (Welding - 10-12-85) II, 6.2 (Heat Treatment - 10-12-84) II, 6.3 (NDE 3-26-85) III, 2.1 (Procurement 12-23-85) III, 1.1 (Document Control - 3-21-85) II, 5.4 (QA Surveys - 8-17-84)	PMP 1502.07 (NDE Procedures - 1-18-85)	<pre>SP BLM8 (3-13-81), Special Processes SP BLM8.1 (R4, 4-15-86), Welding SP BLM8.2 (R1, 8-15-83), Heat Treatment SP BLM8.3 (R14, 6-24-85), Nondestructive Examinations SP BLM9 (6-26-81), Repair/ Fabrication Processes SP BLM9.1 (R3, 4-15-86), Brazing SP BLM9.2 (R3, 4-15-86), Soldering Hazard Control Instruction - FP2 (5-29-84), Control of Ignition Sources BLMMI-4001</pre>

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	IMPLEMENTING DOCUMENTS		
		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
Topical Report, Table 170-3, Item F, R8			
Reg Guide 1.33, (Rev. 2), February 1978 "Quality Assurance Program Requirements (Operations)" (Endorses ANSI N18.7 - 1976)			
ANSI N18.7-1976/ANS 3.2			
Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants			
5.2.18 Control of Special Processes.	1 -	DPM N73M2 (Process	SP BLM8 (3-13-81), Special Processes
Measures shall be established and documented to assure that special processes, accomplished under controlled conditions in accordance with	(Welding - 10-12-85)	Specifications for Welding, Heat Treat- ment - 3-5-86)	SP BLM8.1 (R4, 4-15-86), Welding
applicable codes, standards, specifications, criteria, and other special requirements, use	II, 6.2 (Heat Treatment -	PMP 0202.14 (Certifi-	SP BLM8.2 (R1, 8-15-83), Heat Treatment
qualified personnel and procedures. Qualifica- tion of personnel, procedures, and equipment shall comply with the requirements of ap-	10-12-85) II, 6.3 (NDE -	cation of NDE Per- sonnel - 3-6-85)	SP BLM8.3 (R14, 6-24-85), Nondestructive Examinations
plicable codes and standards. Special processes are those that require interim inprocess controls	3-26-85)	PMP 1502.07 (NDE Procedures - 1-18-85)	SP BLM9 (6-26-81), Repair/ Fabrication Processes
in addition to final inspection to assure quality including such processes as welding, heat treating, chemical cleaning, and nondestructive			SP BLM9.1 (R3, 4-15-86), Brazing
examination. For special processes not covered by existing codes or standards, or where item quality requirements exceed the requirements of established codes or standards, the necessary qualifications of personnel, procedures, or			SP BLM9.2 (R3, 4-15-86), Soldering Hazard Control Instruction - FP2 (5-29-84), Control of Ignition Sources
equipment shall be defined.			BLMM1-4001

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	IMPLEMENTING DOCUMENTS		
		DPH/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A) R8, Table 17D-3, item J, Comment for Regulatory Guide 1.58 (endorses ANSI N45.2.6-1978):			· · · · · · · · · · · · · · · · · · ·
TVA's siternative to qualifying personnel using the levels of capabilities outlined in Section 3 of N45.2.6 will be to qualify them to internal TVA levels of capability. Qualifications requirements are established and listed in the TVA job description for inspection,			
examination, and testing positions. Only personnel satisfying these requirements are salected to fill these positions. Any additional training received by personnel will be documented. Appropriate quality assurance groups will provide certi- ficates for documenting this training.			
ASNT recommended prectice SNT-TC-1A - 1980 will be used to quelify and certify mondestructive examination personnel. Personnel currently certified to SNT-TC-1A-1975 are not required to recertify to SNT-TC-1A-1980.			

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		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING Recommended Practice No. SNT-TC-1A • June 1980 Edition			
PERSONNEL OUALIFICATION AND CERTIFICATION IN NONDESTRUCTIVE TESTING			
1. SCOPE			
1.1 It is recognized that the effectiveness of nondestruc- tive testing (NDT) applications depends upon the capabilities of the persons who are responsible for, and perform, nondestructive testing. This Recom- mended Practice has been prepared to establish guidelines for the qualification and certification of nondestructive testing personnel whose specific jobs require appropriate knowledge of the technical prin- ciples underlying the nondestructive tests they per- form, witness, monitor, or evaluate.	II, 6.3 (NDE - 3-26-85)	PMP 0202.14 (Certifi- cation of NDE Per- sonnel - 3-6-85)	SP BLM8.3 (R14, 6-24-85), Nondestructive Examinations
3. NONDESTRUCTIVE TEST METHODS			•
3.1 Qualification and certification of nondestructive testing personnel in accordance with this Recom- mended Practice is applicable to each of the follow- ing methods:			
<ol> <li>Radiographic Testing</li> <li>Magnetic Particle Testing</li> <li>Magnetic Particle Testing</li> <li>Ultrasonic Testing</li> <li>Ultrasonic Testing</li> <li>Liquid Penetrant Testing</li> <li>Eddy Current Testing</li> <li>Eddy Current Testing</li> <li>Neutron Radiographic Testing</li> <li>Leak Testing</li> <li>Acoustic Emission</li> </ol>			

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#### Page <u>6</u> of <u>8</u> 4-24-86 Date _

	IMPLEMENTING DOCUMENTS		
	NOAN	DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS Topical Report (TVA-TR75-1A) R8 Table 17D-3, item R	<u> </u>	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
Regulatory Guide 1.94, (Revision 1), April 1976 - 'Quality Assurance Requirements for Installation, Inspection, and testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants' (Endorsea N45.2.5-1974)			
COMMENT			
For modifications or repairs to structures within the scope of N45.2.5-1974, NUC PR would refer back to the Office of Engineering for any design analyses. TVA will comply with N45.2.5-1974 except as indicated in Section 3.8.3.6.1 of the Yellow Creek PSAR.			·
ANSI N45.2.5-1974			
SUPPLEMENTARY QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF STRUCTURAL CONCRETE AND STRUCTURAL STEEL OURING THE CONSTRUCTION PHASE OF NUCLEAR POWER PLANTS			
2.4 Personnel Qualifications			
Personnel performing tests and inspections re- quired by this standard shall be qualified in accord- ance with ANSI N45.2.6. Personnel performing field inspection and testing activities shall be certified for Level I capability. On-site supervisors of Level I per- sonnel shall be certified for Level II capability and shall be responsible for the proper performance of on- site inspections and tests. Persons charged with en- gineering managerial responsibility of the inspection and testing organization at the site in either a resident or nonresident capacity shall be certified for Level II capability. Personnel performing nondestruc- tive examinations shall be qualified to appropriate levels of capability as specified in American Society for Nondestructive Testing Recommended Practice SNT-TC-1A.	<pre>II, 5.3A (Training &amp; Certf. for QC Inspectors - 10-12-84) NOT APPLICABLE TO TVA; SEE NOTES FOR ANSI N45.2.6 II, 6.3 (NDE - 3-26-85)</pre>	PMP 0202.14 (Certifi- cation of NDE Per- sonnel - 3-6-85) (Formerly DPM N75C01)	SP BLA14.14 (R5, 5-3-85) Quality Control Inspector Training and Certification Programs SP BLM8.3 (R14, 6-24-85) Nondestructive Examinations





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		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
ANSI N45.2.5 (continued)			
5.5 Welding			
Inspection of structural steel welding shall be per- formed in accordance with the provisions of AWS D1.1, Section 6, entitled "Structural Welding Code," and supplemental addenda. This inspection shall in- clude visual examination of preparations, welding processes, and post-welding operations. Prior to weld- ing, venification of welding procedure and welder qualification shall be documented and shall include all essential variables identified in the procedure. In- process inspections shall include joint fit up prior to start of welding, preheat and interpass temperature re- quirements, filler metal, control of distortion, and post-weld heat treatment and cleaning requirements. Procedures shall be established to control the pur- chase, receiving, distribution, storage, and use of welding electrode. Weld repairs necessitated by visual or nondestruc- tive examinations shall be made in accordance with the procedure used to perform the original weld or a qualified repair procedure and re-inspected by the same method which disclosed the repairable defect. All weld repairs necessitated by nondestructive exam- ination shall be documented.	II, 6.1 (Welding - 10-12-85) II, 6.2 (Heat Treatment - 10-12-84) II, 6.3 (NDE - 3-26-85) II, 5.4 (Survey - 10-12-84) III, 2.1 (Procurement - 12-23-85) III, 2.2 (Receipt Inspection - 12-23-85)	DPM N73M2 (Process Specifications for Welding, Heat Treatment - 3-5-86) PMP 1502.07 (NDE Pro- cedures - 1-18-85)	<pre>SP BLM8 (3-13-81), Special Processes SP BLM8.1 (R4, 4-15-86), Welding SP BLM8.2 (R1, 8-15-83), Heat Treatment SP BLM8.3 (R14, 6-24-85), Nondestructive Examinations SP BLM9 (6-26-81), Repair/ Fabrication Processes SP BLM9.1 (R3, 4-15-86), Brazing SP BLM9.2 (R3, 4-15-86), Soldering Hazard Control Instruction - FP2 (5-29-84), Control of Ignition Sources BLMMI-4001 SP BLA9.1 (R20, 10-16-85) Procurement of Materials, Components, Spare Parts, and Services SP BLA9.2 (R11, 10-9-85) Receipt Inspection</pre>

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Date	4-2	4-86	

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			IMPLEMENT	ING DOCUMENTS	
	SOURCE DOCUMENTS/REQUIREMENTS	NOAM	DPM/	PLANT STANDARD PRACTICE/	
		<u>NQAM</u>	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION	
	ANSI 45.2.5 (continued)			SP BLA9.4 (R6, 10-9-85) Storage of Procured Material	
				SP BLA9.5 (R9, 10-4-85) Issuing of Materials, Components, and Spare Parts	
				SP BLM4.7 (R2, 9-17-84) Issue of Weld Materials to Welders	
				BLMMI-4002 (1-18-82) Assurance of Weld Material Integrity	
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# WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

## **Requirement** Area:

Inspection

## Applicability to the Welding Program:

Inspection of welds, receipt inspection of welding material, and in-service inspection (ISI).

#### Assessment Summary:

The requirements for welding inspection, receipt inspection, and ISI are considered to be adequately implemented by procedures and instructions.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: D. F. Jaquith

Date: April 24, 1986

Implementation Evaluation:

Attachment - 11 pages

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	IMPLEMENTING DOCUMENTS			
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/	
<ul> <li>10 CFR 50, Appendix B</li> <li>X. INSPECTION</li> <li>A program for inspection of activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance with the documented instructions.</li> </ul>	II, 5.1 (ISI - 10-12-84) II, 5.3	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION SP BLM5 (R6, 9-25-84), QC Inspec- tion Program	
procedures, and drawings for accomplishing the activity. Such inspection shall be performed by in- dividuals other than those who performed the activity being inspected. Examinations, mea- surements, or tests of material or products pro- cessed shall be performed for each work opera- tion where necessary to assure quality. If inspec- tion of processed material or products is impossi- ble or disadvantageous, indirect control by monitoring processing methods, equipment, and personnel shall be provided. Both inspection and process monitoring shall be provided when control ls inadequate without both. If mandatory inspec- tion hold points which require witnessing or in- specting by the applicant's designated represen-	(Inspection Program - 10-12-84) II, 6.3 (NDE - 3-26-85)	PMP 1502.07 (NDE Pro- cedures - 1-18-85) PMP 0202.14 (Certifi- cation of NDE Per- sonnel - 3-6-85)	SP BLA14.14 Quality Control Inspec- tor Training and Certification Programs SP BLM8.3 (R14, 6-24-85) Nondestructive Examinations SP BLE9 (R4, 7-25-84), In-service Examination and Testing Required by ASME Section XI SP BLE9.1 (R6, 5-18-84), Preservice and In-service Inspections of Pressure Retaining Components	
tative and beyond which work shall not proceed without the consent of its designated represen- tative are required, the specific hold points shall be Indicated in appropriate documents.			BLTI-PSI-1 (11-4-83), Preservice Inspection Program, Unit 1 NOTE: Unit 2 program has not been developed.	

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	IMPLEMENTING DOCUMENTS		
		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A), R8			
<section-header><section-header><text><text><text></text></text></text></section-header></section-header>	<pre>II, 5.3 (Inspection Program - 10-12-84) II, 6.3 (NDE - 3-26-85) II, 5.1 (ISI - 10-12-84) II, 5.3A (Training and Certification Program for QC Inspectors - 10-12-84) III, 1.1 (Document</pre>		<pre>SP BLM5 (R6, 9-25-84), QC Inspec- tion Program SP BLA14.14 Quality Control Inspec- tor Training and Certification Programs SP BLM8.3 (R14, 6-24-85) Nondestructive Examinations SP BLE9 (R4, 7-25-84), In-service Examination and Testing Required by ASME Section XI SP BLE9.1 (R6, 5-18-84), Preservice and In-service Inspections of Pressure Retaining Components BLTI-PSI-1 (11-4-83), Preservice Inspection Program, Unit 1</pre>
Personnel performing impoction ectivition are qualified in necoordance with applicable codes, standards, and TVA troining program. The immediate appervisor of personeel requiring qualification is responsible for assuring that the qualifications are maintained correct. (CONTINUED ON NEXT PAGE)	Control - 3-21-85)		NOTE: Unit 2 program has not been developed. SP BLA3.1 (R26, 3-26-86) Prepara- tion, Use, Revision, and Review of Plant Instruction/Procedures

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	IMPLEMENTING DOCUMENTS		ING DOCUMENTS
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A), R8 (continued)	- -		SP BLM10 (7-24-84), Maintenance Requests - Processing and History System
			SP BLA12 (3-6-86), Plant Hodification
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	IMPLEMENTING DOCUMENTS			
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION	
Topical Report, (TVA-TR75-1A) R8, Table 17D-3, <u>Item</u> F Regulatory Guide 1.33, (Revision 2), February 1978			SP BLM5 (R6, 9-25-84), QC Inspec- tion Program	
'Quality Assurance Program Requirements (Operations)' (Endorses ANSI N18.7-1976)			SP BLA14.14 Quality Control Inspec- tor Training and Certification Programs	
ANSI N18.7-1976/ANS 3.2 Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants			SP BLM8.3 (R14, 6-24-85) Nondestructive Examinations	
5.2.17 Inspections. A program for inspection of activities affecting safety shall be established and executed by or for the organization per- forming the activity to verify conformance with	II, 5.3 (Inspection Program - 10-12-84)	PMP 1502.07 (NDE Procedures - 1-18-85) PMP 0202.14 (Certifi-	SP BLE9 (R4, 7-25-84), In-service Examination and Testing Required by ASME Section XI	
applicable documented instructions, procedures, and drawings. Inspections, examinations, measurements, or tests of material, products, or activities shall be	II, 6.3 (NDE - 3-26-85)	6.3 (NDE - sonnel - 3-6-85)	SP BLE9.1 (R6, 5-18-84), Preservice and In-service Inspections of Pressure Retaining Components	
performed for each work operation where necessary to assure quality. Such inspections shall be performed by qualified individuals other than those who performed or directly			BLTI-PSI-1 (11-4-83), Preservice Inspection Program, Unit 1 NOTE: Unit 2 program has not been	
supervised the activity being inspected. In- spection of operating activities (work functions associated with normal operation of the plant,			NOTE: Unit 2 program has not been developed. SP BLA3.1 (R26, 3-26-86) Prepara-	
routine maintenance, and certain technical ser- vices routinely assigned to the onsite operating organization) may be conducted by second-line			tion, Use, Revision, and Review of Plant Instruction/Procedures	
supervisory personnel or by other qualified per- sonnel not assigned first-line supervisory respon- sibility for conduct of the work. These independ- ent inspections, i.e., those performed by indivi-			SP BLM10 (7-24-84), Maintenance Requests – Processing and History System	
duals not assigned first-line supervisory respon-			SP BLA12 (3-6-86), Plant Modifications	

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	IMPLEMENTING DOCUMENTS			
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION	
ANSI N18.7-1976 (continued)				
5.2.17 Inspections (continued) sibility for the conduct of the work, are not in- tended to dilute or replace the clear responsibil- ity of first-line supervisors for the quality of work performed under their supervision. For modifications and nonroutine main- tenance, inspections shall be conducted in a manner similar (frequency, type, and personnel performing such inspections) to that associated with construction phase activities (see also Sec- tion 5.2.7). Inspections of safety-related activities shall be performed in accordance with approved written procedures, which set forth the requirements and acceptance limits and specify the inspection responsibilities. If mandatory inspection hold points are required, the specific hold points shall be indicated in appropriate documents. In- formation concerning inspection shall be ob- cained from the related design drawings, specifications and/or other controlled documents. When inspection techniques require performing the inspection shall meet applicable icensing requirements, codes, and standards ap- propriate to the discipline involved (see also Sections 5.2.7, 5.2.6 and 5.3.10).				

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	IMPLEMENTING DOCUMENTS			
		DPM/	PLANT STANDARD PRACTICE/	
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION	
Topical Report, (TVA-TR75-1A) R8 Table 17D-3, Item N,			· ·	
Regulatory Guide 1.116, Revialon O-R - 'Supplementary Quality Assurance Requirements for Installation, Inspection, and Teating of Mechanical Equipment and Systema for the Construction Phase of Nuclear Power Planta' (Endorses N45.2.8-1975)				
ANSI N45.2.8-1975				
SUPPLEMENTARY QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION AND TESTING OF MECHANICAL EQUIPMENT AND SYSTEMS FOR THE CONSTRUCTION PHASE OF NUCLEAR POWER PLANTS				
1. INTRODUCTION				
1.1 Scope				
This standard contains requirements and guidelines				
o assure the quality of important items of nuclear power plants including structures, systems and com-			· ·	
ponents. The requirements and guidelines are in-				
ended to assure that these important items are in-				
talled, inspected and tested in a manner that will provide adequate confidence that they will perform				
atisfactorily in service.				
The requirements and guidelines for installation,		· · · · · ·		
nspection and testing activities during construction				
re intended to assure the quality of mechanical items ot covered by Section III of the ASME Boiler and				
ressure Vessel Code. The requirements of this stand-				
rd deal with the protection and control necessary to		1		
assure that the requisite quality of mechanical items of the plant are preserved from the time items are re-				
the plant are preserved from the time items are re-			<u></u>	

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	IMPLEMENTING DOCUMENTS		
SOURCE DOCUMENTS (REQUIDEMENTS	NOAM	DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS ANSI N45.2.8-1975 (continued) moved from storage or receiving until they are incor- porated into the plant up to but not including fuel loading of PWR plants and the completion of cold functional testing of BWR and HTGR plants. This standard is intended to be used in conjunc- tion with ANSI N45.2. If any conflict exists, ANSI N45.2 shall govern. 4.3 Examination Nondestructive examinations, when required, shall be performed to approved applicable procedures. Ex- amples of these examinations are liquid penetrant, magnetic particle, ultrasonic, eddy current and radi- ography. 4.4 Inspection Inspections of the work areas and the work in progress shall be performed to verify that mechanical items are being located, installed, assembled or con- nected in compliance with the latest approved-for- construction drawings, manufacturers' instructions, codes, installation instructions and procedures. In- spections performed shall include as appropriate, but not be limited to, the following: a. Identification. b. Location and orientation of components. c. Levelling and alignment. d. Clearances and tolerances. e. Tightness of connections and fastenings. f. Fluid levels and pressures. g. Absence of leakage.	NQAM II, 6.3 (Nondestruc- tive Examina- tion - 3-26-85) II, 5.3 (Inspection Program - 10-12-84) II, 5.3A (Training and Certification Program for QC Inspec- tors)	PROGRAM PROCEDURE PMP 1502.07 (NDE Procedures - 1-18-85) PMP 0202.14 (Certifi- cation of NDE Per- sonnel - 3-6-85)	SP BLM8.3 (R14, 6-24-85) Nondestructive Examination SP BLM5 (R6, 9-25-84), QC Inspection Program SP BLA14.14 (R5, 5-3-85) QC Inspection Training and Certification Programs

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	IMPLEMENTING DOCUMENTS			
		DPM/	PLANT STANDARD PRACTICE/	
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION	
ANSI N45.2.8-1975 (continued) h. Physical integrity. i. Cleanness. j. Welding operations including materials and process controls, adequate purging, and the removal of purge dams on completion. k. Adequacy of protective measures to assure that the item will not be damaged during installation. l. Adequacy of housekeeping, barriers and protec- tive equipment to assure that items will not be dam- aged or contaminated as a result of adjacent construc- tion activities.	II, 6.1 (Welding - 10-12-84) II, 6.3 (NDE - 3-26-85)	PMP 1502.07 (NDE Pro- cedures - 1-18-85)	BLM8.1 (R4, 4-15-86), Welding BLM8.3 (R14, 6-24-85), NDE	

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	IMPLEMENTING DOCUMENTS		
COURCE DOCUMENTS (DECUT DUMENTS		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A) R8 Table 17D-3, item J, Comment for Regulatory Guide 1.58 (endorses ANSI N45.2.6-1978):			
TVA's slternstive to qualifying personnel using the levels of capabilities outlined in Section 3 of N45.2.6 will be to qualify them to internal TVA levels of capability. Qualifications requirements are established and listed in the TVA job description for inspection,			
examination, and testing positions. Only personnel actisfying these requirements are selected to fill these positions. Any additional training received by personnel will be documented. Appropriate quality assurance groups will provide certi- ficates for documenting this training.			
ASNT recommended practice SNT-TC-1A - 1980 will be used to qualify end certify nondestructive examination personnel. Personnel currently certified to SNT-TC-1A-1975 ara not required to recertify to SNT-TC-1A-1980.			

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		NG DOCUMENTS	
		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
ANSI/ASME N45.2.6-1978			
OUALIFICATIONS OF INSPECTION, EXAMINATION AND TESTING PERSONNEL FOR NUCLEAR POWER PLANTS			
1. INTRODUCTION			
1.1 Scope			
This Standard delineates the requirements for the qualification of personnel who perform inspection, examination, and testing to verify conformance to specified requirements of nuclear power plant items (structures, systems, and components of nuclear power plants) whose satisfactory performance is re- quired to prevent postulated accidents which could cause undue risk to the health and safety of the pub- lic; or to mitigate the consequences of such accidents if they were to occur. The requirements may also be extended to other items of nuclear power plants when specified in contract documents.	II, 5.3A (Training and Certification for QC Inspec- tors - 10-12-84	)	SP BLA14.14 (R5, 5-3-85) QC Inspector Training and Certificati Programs
1.2 Applicability			
The requirements of this Standard apply to person- nel who perform inspections, examinations, and tests during fabrication prior to and during receipt of items at the construction site, during construction, during preoperational and startup testing, and during opera- tional phases of nuclear power plants. The require- ments of this Standard do not apply to personnel who perform inspections for government or municipal			
authorities, or who perform as authorized inspectors in accordance with the ASME Boiler and Pressure Vessel Code.			

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	IMPLEMENTING DOCUMENTS		
		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
ANSI/ASME N45.2.6-1978			
		· · ·	
1.2 (continued)			
The requirements of this Standard are not intended			
to apply to personnel who only perform inspection, examination, or testing in accordance with ASNT			
"Recommended Practice No. SNT-TC-IA", since			
these personnel are certified in accordance with the			
requirements of SNT-TC-IA and its applicable supple-			
ments.			
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# WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

#### **Requirement Area:**

Handling, Storage, and Shipping

#### Applicability to the Welding Program:

Controls over handling, storage, and shipping of welding material such as electrodes, fluxes, welding wire, and consumable inserts.

#### Assessment Summary:

With the exception of the following area for improvement, the requirements for handling, storage, and shipping of welding inaterial are considered to be adequately implemented by procedures and instructions.

Area for Improvements:

SP BLA9.4 should provide storage instructions to specifically address welding materials.

#### **Recommended Corrective Action:**

Revise SP BLA9.4 to delineate storage instructions for welding materials.

Prepared By: D. F. Jaquith

Date: April 24, 1986

Implementation Evaluation:

Attachment - 6 pages

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# WELDING REQUIREMENTS IMPLEMENTATION MATRIX

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	IMPLEMENTING DOCUMENTS		
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SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
10 CFR, Appendix B			
XIII. HANDLING, STORAGE, AND SHIPPING			
Measures shall be established to control the handl- ing, storage, shipping, cleaning, and preservation	III, 2.2 (Receipt	DPM N73M2 (P.S.1.M.3.1) (Specification for	SP BLA9.4 (R6, 10-9-85), Storage of Procured Material
of material and equipment in accordance with	Inspection,	Welding Materials	
work and inspection instructions to prevent damage or deterioration. When necessary for par-	Handling,	Control - 1-13-83)	Area for Improvement: BLA9.4
ticular products, special protective environments,	Storage - 12-23-85);		should contain storage instructions to specifically address welding
such as inert gas atmosphere, specific moisture content levels, and temperature levels, shall be	III, 2.3,		materials.
specified and provided.	(Issuing of		
	Materials, Components,		SP BLM8.1 (R4, 4-15-86), Welding
	and Spare		BLMMI-4002 (1-18-82), Assurance of
	Parts -		Weld Material Integrity
	7-29-85)	· · ·	
	II, 6.1		
	(Welding - 10-12-84)		
	10-12-047	· · ·	
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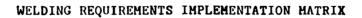
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SOURCE DOCUMENTS/REQUIREMENTS       NQAM         Topical Report (TVA-TR75-1A)       III, 2.2         All items under the cope of the quality scatteres program of bradid, stord, classed, and shipping       IIII, 2.2         All items under the cope of the quality scatteres program of the office, stored, and shipping       III, 2.2         General procedures are program of the procedures are program of the quality scatteres of instant for heading, classica, iteriog, minimal scatteres of instant for heading, classica, iteriog, and statistical scattered or antipication of the office of the scatteres of the scatteres of instant for heading, classica, the medicateres of instant of a statistical stored of commendations are followed and antipicate       III, 2.2	DPM N73M2 (P.S.1.M. (Specification for on, Welding Materials control - 1-13-83)	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION .3.1) SP BLA9.4 (R6, 10-9-85), Storage of Procured Material <u>Area for Improvement</u> : BLA9.4 should contain storage instructions to specifically address welding materials.
Topical Report (TVA-TR75-1A) 17.2.33 <u>Bandline, Storese, and Shipping</u> All items under the accept of the quality assurance program are bandled, stored, classed, and ablypping in a measure to present deterior store, containability, or loss of identification. General procedures are proposed for applications to these activities. As appropriate, detailed instructions or bandling, classing, profog, ministering while stored, or ablyping appendice trans or types of aquipment or miterial. Under detarged classing exception of the storestion or	DPM N73M2 (P.S.1.M. (Specification for on, Welding Materials control - 1-13-83)	.3.1) SP BLA9.4 (R6, 10-9-85), Storage of Procured Material <u>Area for Improvement</u> : BLA9.4 should contain storage instructions to specifically address welding
17.3.31 <u>Bandlies</u> . Storeage, and Shippies All items under the scope of the quality esserence program are bandled, stored, cleaned, and shippid in a memory to prevent deterforation, containability, or loss of identification. General procedures are proposed for applications to these activities. As appropriate, detailed instructions are insued for handling, cleaning, storing, meintaining while stored, or shipping apecific items or types of aquipment or miterial. Under handling	(Specification for Welding Materials Control - 1-13-83)	.3.1) SP BLA9.4 (R6, 10-9-85), Storage of Procured Material <u>Area for Improvement</u> : BLA9.4 should contain storage instructions to specifically address welding
All items under the scope of the quality esserance program are headled, stored, cleased, and shipped in a manner to prevent deterioration, containstion, damage, or loss of identification. General procedures are prepared for applications to these activities. As oppropriate, detailed instructions are insured for headles, cleasing, storing, maintaining white stored, or shipping aprecific times or types of againmant or miterial. Under activities clease are propried for application or	(Specification for Welding Materials Control - 1-13-83)	Procured Material <u>Area for Improvement</u> : BLA9.4 should contain storage instructions to specifically address welding
recommendations are followed and are implemented to maintain matrical laterity had protection. Periodal performed into activities are kanoledgeable of the sorb to be performed and prevedence support. Periodic curveillance is conducted by the Plant DA Staff of records the enterported to composible management. Scoredge definities about the reported to composible management. Scoredge (Issuing Material Componen and Spar- Parts - 7-29-85) II, 5.4 Surveys 10-12-84	.s, its, e (QA -	SP BLM8.1 (R4, 4-15-86), Welding BLMMI-4002 (1-18-82), Assurance of Weld Material Integrity



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	IMPLEMENTING DOCUMENTS		
		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A) R8 Table 17D-3, Item H, Comment for: Requisitory Golde 1.38, (Revision 2), May 1977 - 'Quality Assurance Requirements for Packaging, Shipping, Recaiving Storage, and Handling of Items for Water-Cooled Nuclear Power Plants' (andorses N45.2.2-1972);			
<ol> <li>TVA does not utilize specific levels of classification for pur- poses of packaging, sbipping, receiving, storage and handling (ANSI N45.2.2, Section 2.7).</li> <li>All purchased stems undergo receiving inspection. This inspection verifies that items have been properly packaged for shipment and will assure that any special protective measures specified in the standard to prevent damage. deterioration, or contamination will be imposed until the item or component is issued for use.</li> <li>TVA takes exception to the requirement (ANSI N45.2.2, Section 6.2.4) that salt-tablet dis- penser in any storage area shall not be permitted. TVA Power Stores Unit stores sait-tablet dispensers in scaled containers for use outside of the storage area only.</li> </ol>	<pre>III, 2.2 (Receipt Inspection, Handling, Storage - 12-23-85) III, 2.3, (Issuing of Materials, Components, and Spare Parts - 7-29-85)</pre>		SP BLA9.4 (R6, 10-9-85), Storage of Procured Material <u>Area for Improvement</u> : BLA9.4 should contain storage instructions to specifically address welding materials. SP BLM8.1 (R4, 4-15-86), Welding BLMMI-4002 (1-18-82), Assurance of Weld Material Integrity

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NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION
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II, 2.2 Receipt nspection, andling, torage - 2-23-85); II, 2.3, Issuing of aterials, omponents, nd Spare arts - -29-85) I, 6.1 Welding - 0-12-84)		SP BLA9.4 (R6, 10-9-85), Storage of Procured Material <u>Area for Improvement</u> : BLA9.4 should contain storage instructions to specifically address welding materials. SP BLM8.1 (R4, 4-15-86), Welding BLMMI-4002 (1-18-82), Assurance of Weld Material Integrity
	Receipt nspection, andling, torage - 2-23-85); II, 2.3, Issuing of aterials, omponents, nd Spare arts - -29-85) I, 6.1 Welding -	Receipt nspection, andling, torage - 2-23-85); II, 2.3, Issuing of aterials, omponents, nd Spare arts - -29-85) I, 6.1 Welding -



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		IMPLEMENTING DOCUMENTS		
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/	
ANSI N45.2.2-1972			ADMINISTRATIVE INSTRUCTION	
PACKAGING, SHIPPING, RECEIVING, STORAGE AND HANDLING OF ITEMS FOR NUCLEAR POWER PLANTS		· · · ·		
1. INTRODUCTION				
1.1 Scope				
This standard defines requirements for pack- aging, shipping, receiving, storage, and handling of nuclear power plant items. These items include the parts of structures, systems, and components whose satisfactory performance is required for the plant to operate reliably, to prevent accidents that could cause undue risk to the health and safety of the public, or to mitigate the consequences of such ac- cidents if they were to occur. The requirements stated herein deal with the protection and control necessary to assure that the requisite quality of those important parts of the plant are preserved from the time items are fabricated until they are incorporated in the plant.	<pre>III, 2.2 (Receipt Inspection, Handling, Storage - 12-23-85); III, 2.3, (Issuing of Materials, Components, and Spare Parts - 7-29-85) II, 6.1 (Welding - 10-12-84)</pre>		SP BLA9.4 (R6, 10-9-85), Storage of Procured Material <u>Area for Improvement</u> : BLA9.4 should contain storage instructions to specifically address welding materials. SP BLM8.1 (R4, 4-15-86), Welding BLMMI-4002 (1-18-82), Assurance of Weld Material Integrity	

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	IMPLEMENTING DOCUMENTS		
	i.	DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
<ul> <li>Topical Report (TVA-TR75-1A) R8, Table 17D-3, item F,</li> <li>Regulatory Guido 1.33, (Revision 2), February 1978 'Quality Assurance Program Requirements (Operations)' (Endorses ANSI N18.7-1976) ANSI N18.7-1976/ANS 3.2</li> <li>Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants</li> <li>5.2.13.4 Handling, Storage and Ship- ping. Measures shall be provided to control handling, storage and shipping, including cleaning, packaging and preservation of material and equipment in accordance with established instructions, procedures or drawings, to prevent damage, deterioration and loss. When necessary for particular items, special coverings, special equipment and special protective environments, such as inert gas at- mosphere, specific moisture content levels and temperature levels shall be given to provided, and their existence verified.</li> <li>Attention shall be given to providing adequate instructions for marking and labeling of items for packaging, shipment and storage. Marking shall be adequate to identify, maintain and preserve the shipment, including indication of the presence of special environments or the need for special control.</li> </ul>	<pre>III, 2.2 (Receipt Inspection, Handling, Storage - 12-23-85); III, 2.3, (Issuing of Materials, Components, and Spare Parts - 7-29-85) II, 6.1 (Welding - 10-12-84)</pre>	DPM N73M2 (P.S.1.M.3.1) (Specification for Welding Materials Control - 1-13-83)	SP BLA9.4 (R6, 10-9-85), Storage of Procured Material <u>Area for Improvement</u> : BLA9.4 should contain storage instructions to specifically address welding materials. SP BLM8.1 (R4, 4-15-86), Welding BLMMI-4002 (1-18-82), Assurance of Weld Material Integrity

# WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

**Requirement Area:** 

Quality Assurance Records

## Applicability to the Welding Program:

Retention of welding records such as detail weld procedures, welding procedure qualification records, welding performance qualification records, welder qualification continuity records, weld data sheets, workplans and maintenance requests related to welding.

#### Assessment Summary:

The requirement for retention of welding records is considered to be adequately implemented by procedures and instructions.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: D. F. Jaquith

Date: March 22, 1986

Implementation Evaluation:

Attachment - 7 pages

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	IMPLEMENTING DOCUMENTS		
COURCE DOCUMENTS (PROUTDENENTS	No.4M	DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	ΝΩΛΜ	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
10 CFR, Appendix B	III, 4.1 (QA Records - 2-28-86)		SP BLA5.13 (R14, 9-30-85), Quality Assurance Records
XVII. QUALITY ASSURANCE RECORDS	II, 6.1,		SP BLM8.1 (R4, 4-15-86), Welding
Sufficient records shall be maintained to furnish evidence of activities affecting quality. The records shall include at least the following: oper-	para. 7.0 (Welding - 10-12-84)		SP BLM8.2 (R1, 8-15-83), Heat Treatment
ating logs and the results of reviews, inspec- tions, tests, audits, monitoring of work perfor-	II, 6.2,		SP BLM8.3 (R14, 6-24-85), NDE
mance, and materials analyses. The records shall also include closely-related data such as qualifica- tions of personnel, procedures, and equipment. In- spection and test records shall, as a minimum, identify the inspector or data recorder, the type of	para. 4.0 (Heat Treat- ment - 10-12-84)		
observation, the results, the acceptability, and the action taken in connection with any deficiencies noted. Records shall be identifiable and retrieva- ble. Consistent with applicable regulatory	II, 6.3, para. 5.0 (NDE -		
requirements, the applicant shall establish re- quirements concerning record retention, such as	3-26-85)		
duration, location, and assigned responsibility.	II, 5.1, para. 1.3 (ISI -		
	10-12-84)		
	II, 5.3, paras. 5.0, 6.0, & 8.0 (Maintenance		
	& Modifica- tion Inspec- tion Program -		
·	10-12-84)		

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	IMPLEMENTING DOCUMENTS		
		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROGEDURE	ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A) R8	III, 4.1 (QA Records -		SP BLA5.13 (R14, 9-30-85), Quality Assurance Records
17.3.17 <u>Quality Assurance Records</u> Quality asserator records are those completed seands which furnish documentary avidance of the quality of CSC items or of sectivities effecting the quality of the CSC and those records required by the scheduletrative section of each suclear plast's technical specifications. Quality searches records iseles but ere sot ilmited to the following:	2-28-86); II, 6.1, para. 7.0 (Welding - 10-12-84);		SP BLM8.1 (R4, 4-15-86), Welding SP BLM8.2 (R1, 8-15-83), Heat Treatment
<ol> <li>Records complied during the design and construction of the plast, including dasign drevings, coolinection logs and results of reviews, inspectious, tests, sedite, moditoring of work performance, metericle ecciptes, red other similar documents,</li> </ol>	II, 6.2, para. 4.0 (lleat Treat-		SP BLM8.3 (R14, 6-24-85), NDE
3. Documents and records compiled doring operation, including operating legs; mointeneases and modification records; reportabiles occurrences; results of arviers, inspections, test addit, and material analyses; monitoring of work performance; qualification of personal, procedures, and equipment; specifications; procurement document; salibration records; and moncorformance; reports end corrective section. MIC PR establishes requirements of devign and required daving records. The addition, classification of personal, and storage requirements of devign and required daving records. The addition, classification and storage requirements of devign and required daving records. The addition with the transfer of construction and devign and classification of operation records and for the collection and classification of operation and CONST. The Manager of Nacleser Power establishes a records control required hality essurance records. (2) a record of quality essurance records. (2) a record of quality resurance records. (3) provisions for a correst sod accepted. (3) proceedings of quality records and accepted and (3) proceedings of quality resurance records. (4) provisions for a correst sod accepted (3) astabilishest of records of quality resorage records essenses of the status of quality resorage records evaluability esserage records evaluability assurance records evaluability assurance records evaluability assurance records for a correst sod accepted resorage of the status of quality resorance records evaluability esserance records evaluability assurance records for a correst sod accepted of accepted provisions for a correst sod accepted resoration of the status of quality resorance records evaluability esserance records for a correst sod accepted provisions for a correst sod accepted resoration of accepted provisions for a correst sod accepted provisions for a c	<pre>ment - 10-12-84); II, 6.3, para. 5.0 (NDE - 3-26-85); II, 5.1, para. 1.3 (ISI - 10-12-84); II, 5.3, paras. 5.0, 6.0, &amp; 8.0 (Maintenance &amp; Modifica-</pre>		
The Plant Hamsger provides storage, preservation, and selekasping of the regoired quality assurance records im accordance with TVA-setablished requirements and regointory requirements. Be definented plant personal who have access to the files, implements a retrievel-method, establishes am index before rescipt of the records, end provides written instruction for distribution, transfer, and handling of quality senareses records.	tion Inspec- tion Program 10-12-84); III, 4.2 (Transfer of QA Records from OE & OC 10-12-84)		



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#### WELDING REQUIREMENTS IMPLEMENTATION MATRIX

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	IMPLEMENTING DOCUMENTS		
		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A) R8, Table 17D-3, Item Q, comments for:			
		• •	
Regulatory Guide 1.88, (Rovision 2), October 1976 - 'Collection, Storage, and Maintenance of Nuclear Pow Plant Quality Assurance Records' (Endorses N45.2.9)	<b>FF</b>		· .
NUC PR will meet the requirements of Regulatory Guide 1.88 for protection of records from fire by storing records in containers or facilities which meet the applicable requirements of ANSI	III, 4.1 (QA Records - 5-15-85)		SP BLA5.13 (R14, 9-30-85), QA Records
N45.2.9 or NFPA 232-1975 for Class 1 records. When NFPA 232 is used, worst case fire load analyses will be performed to verify that storage containers (generally fire-rated file cahinets) will provide protection against a complete burnout of the section of the building in which the records are located. Fire protection engineers will perform annual surveys to ensure		-	
that changes in fire loading have not invalidated the fire load analyses.			·
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	IMPLEMENTING DOCUMENTS		
		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROGEDURE	ADMINISTRATIVE INSTRUCTION
ANSI N45.2.9-1974			
REQUIREMENTS FOR COLLECTION, STORAGE, AND MAINTENANCE OF QUALITY ASSURANCE RECORDS FOR NUCLEAR POVIER PLANTS			
1. INTRODUCTION			
1.1 Scope	·		
This standard provides general requirements and guidelines for the collection, storage, and maintenance of quality assurance records associated with the de- sign, manufacture, construction, and operation phase activities of nuclear power plants. It is not intended to cover the preparation of the records, <u>nor</u> to include working documents not yet designated as quality as- surance records.	<pre>III, 4.1 (QA Records - 5-15-85) II, 6.1, para. 7.0 (Welding - 10-12-84) II, 6.2, para. 4.0 (Heat Treat- ment - 10-12-84) II, 6.3, para. 5.0 (NDE - 3-26-85)</pre>		SP BLA5.13 (R14, 9-30-85), Quality Assurance Records SP BLM8.1 (R4, 4-15-86), Welding SP BLM8.2 (R1, 8-15-83), Heat Treatment SP BLM8.3 (R14, 6-24-85), NDE

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		DPM/	PLANT STANDARD PRACTICE/	
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION	
SOURCE DOCUMENTS/REQUIREMENTS ANSI N ¹¹ 5.2.9 (continued) APPENDIX A The following is a list of types of records with the recommended minimum retention periods indicated (see paragraph 3.2.7). For definition of lifetime records see paragraph 2.2.1, and for nonpermanent column the number indicates the retention period in years after which the record need not be maintained. The 0 years minimum recommended retention pe- riod is intended to permit dispositioning of the records on the day following the date of commercial operation. One year retention is intended to require maintenance of the record for the customary periods of warranty. Two year retention is intended to re- quire maintenance of the record through the first overhaul or reload. Five and six year retention is in- tended to achieve compliance with regulatory re- quirements.	NQAM III, 4.1 (QA Records - 5-15-85) Appendix I	DPM/	PLANT STANDARD PRACTICE/	
<u>Ricard Types</u> A.3 Monufacturing Records Applicable Cold Data Reports As Duilt Diswings and Records Cartificate of Inspection and Test Personnel Qualification O				

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			DPM/	PLANT STANDARD PRACTICE/
				ADMINISTRATIVE INSTRUCTION
SOURCE DOCUMENTS/R	EQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
ANST N45.2.9 (cont	(inued)			
Record Types	Lifetime Nonsermanent	· .		
A.3 Manufacturing Records (ConL)	·			
Certificates of Compliance	X O			
Deining Procedures Fildy-Outent Casimination Procedure	2			
Eddy Current Examination Final Results	. X			
Destrical Control Verification Test Results	1	1 1		
Forme Test Procedure Formes Test Results	x			
Forming and Bending Procedure Qualifications	0	1		
Heat Treatment Procedures	x	1		
Hest Tiestment Records Hot Bending Procedure	× 6			
Inspection and Test Instrumentation and Tooling Calibrat	lion	1		
Procedures and Records	(Until Recolibrated)	1		
Liquid Penetrant Exprendition Procedure Liquid Penetrant Examination Final Results	x	1		
Location of Weld Filler Material	x	1		
Magnetic Particle Examination Procedure	¥ 1	۱. I		
Magnetic Particle Examination Final Results Major Defect Repair Records	â			•
Material Properties Records	x	1 1		
Nonconformance Reports Packaging, Receiving, Storage Procedures	- X 0	1 1		
Ferformance Test Procedure and Results Records	. <b>x</b>	1 1		
Pipe and Filling Location Report	. X 1	1 1		
Pressure Test Procedula - Pressure Test Results	· x *	· ·		
Product Equipment Calibration Procedure	(Until Recalibrated)			
Product Equipment Calibration Records	(Unid Recalibrated)			
QA System Audat Report QA Manuals, Procedules and Instructions	1	1		
Radioersphic Procedures	1			
Radiographic Review Forms and Radiographs Unreasonic Examination Procedures	X 2	1		
Unsuppose Exemunation Final Results	x	1		
Welding Materials Control Procedures	1			
Welding Personnel Qualification Welding Procedure Qualifications and Data Reports	1	1 1		
Welding Procedures	X 1	1		
Work Processing and Sequencing Documents	1			
A 8 Installation-Continuction Records				
A.e.) Receiving and Storage				
Inspection Reports for Stored Terms	0	1 · 1		
Nonconformance Reports	x	1	· · · ·	
Receipt Inspection Reports on Hemi Receiving, Storage, and Inspection Procedures	12			
Storage Inventory and Issuance Records	Ō			
Vandor Quality Assurance Releases	ð			
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			IMPLEMENTING DOCUMENTS		
				DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQ	UIREME	NTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
ANSI N45.2.9 (contir	ued)				
<u>Record Types</u> A4 Installation Construction Records (Conc.)	Lifetime	Nenesmanne			
A.4.3 Welding Fernie Test Procedures Fernie Test Results	· <b>x</b>	2			
Heat Trearment Procedures Heat Trearment Procedures Liquid Penetrani Terri Procedures Liquid Practrani Terri Final Resulta Magnetic Particle Terri Fronz Meculta Majnetic Particle Terri Fronz Meculta Majnetic Respui Procedures and Resulta	. x x x	0 2 2			
Ridiographic Test Procedures Ridiographic Test Final Results Utrasionic Test Procedures Utrasionic Test Final Results Weld Fit-Up Reports Weld Location Diagrams	x x	2 2			
Weld Procedures Weld Procedures Welding Filter Merzi Material Reports Welding Materials Control Procedures Welding Personnel Qualifications	x x	1			
A.S Operation Phase Activity Records A.S.I. Operation, Mointenance and Testing Records and Drawing Changes Reflecting Plant Design Modifica- tions Made to Systems and Equipment Described in the Find Safety Anitysis Report New and Spart Fuel Insentory, Transfers of Fuel, and Assembly	x				
Historia Plan Radiason and Contamination Survey Records Off.Site Environmental Monitoring Survey Records Radiation Expotute Records of All Plant Periornel, and Others who Enter Radiasion Control Areas Rediscriting Lavels of Liquid and Gaseous Waste Referred to Environment	x x x x x				
Transient or Operational Cycling Records for Thom Plant Com- ponents That Have Darn Datigned to Operate Safely for o Ensisted Number of Transients or Operational Cycles Current Individual Plant Staff Member Opalifications, Experience, Training and Retraziong Records Ractor Coolant System In-Service Impection Records Manues of Meetings of the Plant Nuclear Safety Connistee and	x x x				
Cumpany Nucleur Review Board Normal Nuclear Unit Operation, Including Power Levels and Pe- nods of Operation as Each Power Level Principal Mantenance Activities, Escluding Inspection Repair, Subilitution or Replacement of Principal Items of Equip- ment Persianing to Nuclear Safety	<b>X</b> .				
Abnormal Occurrence Records Penodic Check, Inspections and Calibrations Performed to Verify that Surveillance Requirements are Being Met Special Rusetor Test on Experiment Records Clunges Made in the Operating Procedures Rudioactive Shipment Records		3 5 5 5			

### WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

**Requirement Area:** 

Maintenance and Modifications

### Applicability to the Welding Program:

Maintenance and modifications involving welding of safety-related items.

### Assessment Summary:

The requirement for controls over welding-related maintenance and modifications is considered to be adequately implemented by procedures and instructions.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: D. F. Jaquith

Date: April 24, 1986

Implementation Evaluation:

Attachment - 3 pages



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	INPLEMENTING DOCUMENTS			
SOUDCE DOCUMENTS (DEOUTDENENDS		DPM/	PLANT STANDARD PRACTICE/	
SOURCE DOCUMENTS/REQUIREMENTS	ΝΟΛΜ	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION	
Topical Report (TVA-TR75-1A) R8, Table 17D-3, Item F, Regulatory Guide 1.33, (Revision 2), February 1978 'Quality Assurance Program Requirements (Operations)' (Endorses ANSI N18.7-1976)				
ANSI N18.7-1976/ANSI-3.2 Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants				
5.2.7 Maintenance and Modifications. Maintenance or modifications which may affect functioning of safety-	II, 3.2 (Plant Modification: After	PMP 1402.02 (Prepara- tion of Work Instruc- tions for Repair and	SP BLM1 (R15, 4-3-85), Maintenance Program	
related structures, systems, or components shall be performed in a manner to ensure quality at least	Licensing - 12-23-85);	Repalcement of ASME XI Items - 3-20-85)	SP BLA12 (R4, 3-6-86), Plant Modifications	
equivalent to that specified in original design bases and require- ments, materials specifications, and	II, 2.1, (Plan Maintenance, - 4-18-85);			
inspection requirements.	II, 2.3 (Repairs &			
	Replacement of ASME XI Items 4-3-85)	-		

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	IMPLEMENTING DOCUMENTS		
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/
ANSI N18.7-1976 (continued)	· · · · · · · · · · · · · · · · · · ·		ADMINISTRATIVE INSTRUCTION
measurements, tests, welding, heat treatment, cleaning, nondestructive examination and worker qualifications in accordance with applicable codes and standards) and measures to document the performance thereof shall be established.	<pre>II, 3.2 para. 3.0 (Plant Modification: After Licensing - 12-23-85); II, 2.1, paras.30 and 4.0 (Plant Maintenance - 4-18-85); II, 2.3, para. 3.0 (Repairs &amp; Replacement of ASME XI Items 4-3-85)</pre>	1	SP BLM1 (R15, 4-3-85), Maintenance Program SP BLA12 (R4, 3-6-86), Plant Modifications
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Page <u>3 of 3</u> Date <u>4-24-86</u>

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		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
Topical Report (TVA-TR75-1A) R8			
17.2.3.9 <u>Hedilisation</u>			
Provadaros and Instructions ace developed and implemented to states that the dastyn, construction, installetion, inspection,	II, 3.2, paras 3.0, 5.0, and	PMP 1402.02 (Prepara- tion of Work Instruc-	SP BLM1 (R15, 4-3-85), Maintenance Program
end teating of audifications to the CSSC most quality series standards at Issue equal to those of the original installation. The teating samera systum integrity and provides for valuation of performance before systum operation. Procedures and lastrontions related to equipment or systums that are modified abell he reviewed and opdated to reflect the modification.	6.0 (Plant Modification: After Licensing -	tions for Repair and Repalcement of ASME XI Items - 3-20-85)	SP BLA12 (R4, 3-6-86), Plant Modifications
Modifiestion work is seetrolied by MOC PR is secondates with established policies and requirements. All work that diffests a liseneed facility is abject to the requirements of seatise 17.3. This isolades modifiestion work performed by MOC PR or others, each as the TVA Office of Construction (CINST) or an antilde applier. Modification work performed by CONST, as estilde applier, or others work be accomplicated using their ows procedures abox approved by MOC PR as an occeptable means of matting the requirements of Seation 17.2.	II, 2.3 (Repairs & Replacement of ASME XI Items 4-3-85)	-	
· .			
			· ·

### WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

#### **Requirement Area:**

ASME Section XI Repairs (IWA-4000) and Replacements (IWA-7000)

### Applicability to the Welding Program:

Implementation of the repairs and replacements program such as Code of Record, repairs and replacements procedures, nondestructive examination procedures, pressure test procedures, Authorized Inspection Agency, and records.

#### Assessment Summary:

With the exception of the following areas of improvement, the requirement for an ASME Section XI repairs and replacements program is considered to be adequately addressed by procedures and instructions.

#### Area for Improvements:

Revise Procedure 1402.02 (BLNP), Preparation of Work Instructions for Repairs and Replacements of ASME Section XI Components, and Standard Practice BLM11.3, Repairs and Replacements of ASME Section XI Components, for minor changes and clarification.

### **Recommended Corrective Action:**

Division of Nuclear Engineering (DNE), Mechanical Services Branch (MSB) revise Procedure 1402.02 (BLNP), Preparation of Work Instructions for Repairs and Replacements of ASME Section XI Components, and include the following. (See Page 2)

Prepared By: J. C. Goulart

**Date:** March 6, 1986

Implementation Evaluation:

Attachment - 13 pages

**Recommended Corrective Action:** 

- 1. Section 4.1.1 Replace (refer to ASME code boundary classification drawings issued by the nuclear central office (NCO) (In-Service Inspection (ISI) Programs Section) with (refer to fiow diagrams issued by the Office of Engineering Design (EN DES).
- 2. Sections 5.1.1, 5.1.2, 5.6.5, and 5.6.6 add/ANII after each ANI.
- 3. Section 4.2.2 Change NQAM, Part II, Section 3.2 to NQAM, Part II Sections 3.1 and 3.2.
- 4. Section 4.2.7 Include reference to NQAM, Part II, Section 3.1.
- Reference Section Add General Construction Specification N4M-870, Technical Instruction BLTI-PSI-1, DPM No. N73M2, Program Procedure 1502.07, General Construction Specification G-53, NQAM Part II, Sections 2.3, 3.1, 3.2, 5.1, 6, NQAM, Part III, Sections 4.1 and 7.2.

DNE, MSB jointly review Standard Practice BLM11.3, Repairs and Replacements of ASME Section XI Components, and incorporate the following for clarification during the next procedure update.

- 1. Section 2.1.1 Replace (refer to ASME code boundary classification drawings issued by NCO ISI Programs Section) with (refer to fiow diagrams issued by DNE).
- 2. Section 2.1.11 Delete, before submitted, in last sentence.
- 3. First paragraph after Section 3.1.1.3 add/ANII after ANI.
- 4. Section 2.1.4, second sentence Change to, this information is found in ASME Section XI, and SP BLE6.8, System Pressure Testing, and is to be coordinated with DNE ISI Programs Section until the DNE Program Procedure is developed.
- 5. Section 2.1.10, last sentence Add SP BLE8.1 after SP BLE9.1 listed twice.



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	IMPLEMENTING DOCUMENTS		
SOURCE DOCUMENTS/REQUIREMENTS	ΝΟΛΜ	DPH/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/
1980 Edition, Winter 1981 Addenda of ASME Section XI, Article IWA-4000 - Repair Procedures		PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
IWA-4120 Additional Rules and Requirements - Repairs shall be per- formed in accordance with the Owner's Design Specification and Construction Code of the component or system. Later editions of the Construction Code or of Section III, either in the entirety or portions thereof, may be used. If repair welding cannot be performed in accordance with these requirements, the following may be used:	Part II, Section 2.3, dated 4-3-85, Repairs and Replacements of ASME Sec- tion XI Components (Section 3.1.3)	PMP 1402.02 (BLNP) dated 3-20-85, Prep- aration of Work Instructions for Repairs and Replace- ments of ASME Section XI Components (Scope)	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Purpose)
<ul> <li>(a) IWB-4000 for Class 1 components</li> <li>(b) IWC-4000 for Class 2 components</li> <li>(c) IWD-4000 for Class 3 components</li> <li>(d) IWE-4000 for Class MC components</li> </ul>			

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[	IMPLEMENTING DOCUMENTS			
SOURCE DOCUMENTS/REQUIREMENTS	ночн	DPM/ Program Procedure	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION	
ASME Section XI, Article IWA-4000 (CONTINUED)				
<pre>IWA-4130 Repair Program (a) Repair operations shall be performed in accordance with a program delineating essential requirements of the complete repair cycle including (1), (2), and (3) below: (1) the nondestructive examination method which revealed the flaw and the descriptions of the flaw; (2) the flaw removal method, method of measurement of the cavity created by removing the flaw, and dimensional requirements for reference points during and after the repair; (3) weld procedure and postweld heat treatment, if applicable, and nondestructive examination program to be used after the repair. (b) Prior to authorizing repairs by welding, the Owner shall conduct an evaluation of the suitability of the welding procedure(s) to be used to make the repair. The evaluation should consider cause(s) of failure to ensure that the selected repair procedure is suitable. (c) Repair programs shall be subject to review by the enforcement and regulatory authorities having jurisdiction at the plant site.</pre>	Repairs and Replacements of ASME Sec- tion XI	PMP 1402.02 (BLNP) dated 3-20-85, Prep- aration of Work Instructions for Repairs and Replace- ments of ASME Section XI Components (Scope, 4.1.10, 4.1.5.a, 4.1.5.c, 4.1.5.d, and 4.1.5.e)	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Sections 2.1.5.1, 2.1.5.3, 2.1.5.4, and 2.1.10)	

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SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPH/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION
ASME Section XI, Article IWA-4000 (CONTINUED) IWA-4140 Inspection - The services of an Authorized Inspection Agency shall be used when making a weld repair. The Owner shall notify the Authorized Inspection Agency prior to starting the repair and keep the Inspector informed of the progress of the repair so that necessary inspections may be performed.	Part II, Section 2.3, dated 4-3-85, Repairs and Replacements of ASME Sec- tion XI Components (Section 3.1.2)	PMP 1402.02 (BLNP), dated 3-20-85, Prep- aration of Work Instructions for Repairs and Replace- ments of ASME Section XI Components (Scope)	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Section 2.1.5)

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SOURCE DOCUMENTS/REQUIREMENTS	NOVH	DPH/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/
SME Section XI, Article IWA-4000 (CONTINUED)		ENGERAL FROCEDURE	ADMINISTRATIVE INSTRUCTION
WA-4200 Material - Material shall onform to the requirements of either he original Design Specification or ection III.	Part II, Section 2.3, dated 4-3-85, Repairs and Replacements of ASME Sec- tion XI Components (Section 3.1.3)	PMP 1402.02 (BLNP) dated 3-20-85, Prep- aration of Work Instructions for Repairs and Replace- ments of ASME Section XI Components (Scope)	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Section 2.1.2)
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	IMPLEMENTING DOCUMENTS			
		DPH/	PLANT STANDARD PRACTICE/	
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION	
ASME Section XI, Article IWA-4000 (CONTINUED)				
IWA-4300 Welding and Welder Qualifications (Including Welding Operators) - (a) All welding shall be performed in accordance with welding procedure specifications which have been qualified by the Owner or repair organization in accordance with the requirements of Section IX and the additional requirements of Sec- tions III and XI. (b) All welders shall be qualified by the repair organization in accordance with the requirements of Section IX and the additional requirements of Sections III and XI. (c) Welders need not be employed directly by the repair organization provided the use of such welders is controlled by the Quality Assurance Program of the repair organization. This Program shall include the following: (1) require- ments for complete and exclusive administration and technical super- vision of all welders by the repair organization; (2) requirements for contractual control which provides the necessary authority to assign and	Welding	<pre>PMP 1402.02 (BLNP) dated 3-20-85, Prep- aration of Work Instructions for Repairs and Replace- ments of ASME Section XI Components (Scope, Sections 4.1.5.d and 4.2.4.e.3) DPM N73M2, dated 8-28-84, Process Specifications for Welding, Heat Treat- ment, and Allied Field Operations</pre>	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Section 2.1.5) BLM8.1 dated 9-25-84, Welding (Sections A and B)	
remove welders at the discretion of the repair organization. (3) evi-				
dence that the Quality Assurance	1			
Program is acceptable to the Owner's Authorized Nuclear Inservice				

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	IMPLEMENTING DOCUMENTS			
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADHINISTRATIVE INSTRUCTION	
ASME Section XI, Article IWA-4000 (CONTINHED) IWA-4400 Pressure Test				
<ul> <li>(a) After repairs by welding on the pressure retaining boundary, a system hydrostatic test shall be performed in accordance with IWA-5000.</li> <li>(b) The following may be exempted from the system hydrostatic tests: <ul> <li>(1) cladding repairs;</li> <li>(2) heat exchanger tube plugging;</li> <li>(3) piping, pump, and valve</li> </ul> </li> <li>repairs that do not penetrate through the pressure boundary; <ul> <li>(4) pressure vessel repairs where</li> <li>the repaired cavity does not exceed</li> </ul> </li> <li>10% of the minimum design wall</li> <li>thickness; <ul> <li>(5) component connections,</li> <li>piping, and associated valves that</li> <li>are 1 in. nominal pipe size and</li> <li>smaller.</li> </ul> </li> <li>Repairs made in accordance with a procedure which allows exemption from postweld heat treatment shall not be exempted.</li> </ul>	Part II, Section 2.3, dated 4-3-85, Repairs and Replacements of ASME Sec- tion XI Components (Purpose, Sections 3.1.5, 3.2.6)	PMP 1402.02 (BLNP) dated 3-20-85, Prepa- ration of Work Instructions for Repairs and Replace- ments of ASME Section XI Components (Sec- tions 4.1.4 and 4.2.4.d) Program Procedure has not been prepared for ASME Section XI Pressure Test.	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Sections 2.1.4 and 2.2.4) BLE6.8 dated 12-21-84, System Pressure Testing	



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SOURCE DOCUMENTS/REQUIREMENTS ASME Section XI, Article IWA-4000 (CONTINUED)		INPLEMENT DI'M/ PROGRAM PROCEDURE	ING DOCUMENTS PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION
IWA-4500 Examination			
<ul> <li>(a) The repaired areas shall be examined to establish a new preservice record. The examinations shall include the method that detected the flaw.</li> <li>(b) If the repair includes the complete removal or isolation of the item bearing the flaw, such as heat exchanger tube plugging, (a) above shall not apply.</li> </ul>	Part II, Section 2.3, dated 4-3-85, Repairs and Replacements of ASME Sec- tion XI Components (Section 3.1.6)	PMP 1402.02 (BLNP) dated 3-20-85, Prep- aration of Work Instructions for Repairs and Replace- ments of ASME Section XI Components (Sec- tion 4.1.10)	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Section 2.1.10)

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		INPLEMENT	ING DOCUMENTS
SOURCE DOCUMENTS/REQUIREMENTS	NOVI		PLANT STANDARD PRACTICE/
ASME Section XI, Article IWA-4000 (CONTINUED)		PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
IWA-4600 Replacements			
The rules and requirements of this Article shall apply to the attaching of replacements (as defined in UMA-7110 to the system where such attachment is by welding.	Part II, Section 2.3, dated 1-3-85, Repairs and Replacements of ASME Section XI Components	PMP 1402.02 (BLNP) dated 3-20-85, Prepa- ration of Work Instructions for Repair and Replace- ments of ASME Section XI Components	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Section 2.2.4)
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ASME Section XI, Article IWA-4000 (CONTINUED)	NV01	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
IWA-4700 Records - The records required by IWA-6000 shall be completed for all repairs.	Part II, Section 2.3, dated 4-3-85, Repairs and Replacements of ASME Sec- tion XI Components (Section 3.3.2)	PMP 1402.02 (BLNP), dated 3-20-85, Prep- aration of Work Instructions for Repairs and Replace- ments of ASME Section XI Components (Section 4.1.12)	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Section 2.1.11)

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	IMPLEMENTING DOCUMENTS		
		DPH/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	<u> </u>	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
1980 Edition, Winter 1981 Addenda of ASME Section XI, Article IWA-7000 - Replacements			
IWA-7320 Welding - Welding required for the installation of a replacement shall be performed by welders who are qualified, and by using procedures that are qualified, in accordance with Section IX, and the additional heat treating and impact tests required by IWB-4000.	of ASME Sec-	PMP 1402.02 (BLNP), dated 3-20-85, Prepa- ration of Work Instructions for Repairs and Replace- ments of ASME Sec- tion XI Components (Scope, Sections 4.1.5.d and 4.2.4.e.3)	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Section 2.2.4)
	Part II, Sec- tion 6.1 dated 10-12-84 Welding	DPM N73M2, dated 8-28-84, Process Specifications for Welding, Heat Treat- ment, and Allied Field Operations	BLM8.1 dated 9-25-84, Welding (Sections A and B)



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	SOURCE DOCUMENTS/REQUIREMENTS	ноли	DPN/ PROGRAM_PROCEDURE	ING DOCUMENTS PLANT STANDARD PRACTICE/
	ASME Section XI, Article IWA-7000 (CONTINUED) IWA-7510 Installation of Replace- ments - All procedures for installa- tion of renewal, spare, and replace- ment parts shall be in accordance with IWA-4100.	Part II, Section 2.3, dated 4-3-85, Repairs and Replacements of ASME Sec- tion XI Components	PMP 1402.02 (BLNP), dated 3-20-85, Prepara- tion of Work Instruc- tions for Repairs and Replacements of ASME Section XI Components	ADMINISTRATIVE INSTRUCTION BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Section 2.2.4)

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		DPH/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADHINISTRATIVE INSTRUCTION
ASME Section XI, Article IWA-7000 (CONTINUED)			
<ul> <li>IWA-7520 Reports and Records -</li> <li>(a) The following reports and records shall, to the extent required by the Construction Code and this Article, be maintained by the Owner, as applicable:</li> <li>(1) Certified Design Specification</li> <li>(2) Certified Design Report</li> <li>(3) Design Report</li> </ul>	Part II, Section 2.3, dated 4-3-85, Repairs and Replacements of ASME Sec- tion XI Components (Purpose)	PMP 1402.02 (BLNP), dated 3-20-85, Prepara- tion of Work Instruc- tions for Repairs and Replacements of ASME Section XI Components (Section 4.2.7)	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Section 2.2.7)
<ul> <li>(3) Design Report</li> <li>(4) Overpressure Protection Report</li> <li>(5) Manufacturer's Data Report</li> <li>(6) Material Certification</li> <li>(7) Evaluation Report required by IWA-7220</li> </ul>			
(b) Revisions to existing reports, records, and specifications may be shown as an amendment, or as a supplement, and attached to the original record or report to provide an up-to-date record of the replacement.			
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		DPM/	PLANT STANDARD PRACTICE/
SOURCE DOCUMENTS/REQUIREMENTS ASME Section XI, Article IWA-7000 (CONTINUED)	ΝΟΛΗ	PROGRAH PROCEDURE	ADMINISTRATIVE INSTRUCTION
Prior to return of the plant to service, a preservice inspection shall be made in accordance with IWB-2200, IWC-2200, IWD-2100, IWE-2200, or IWF-2200 for the	Part II, Section 2.3, dated 4-3-85, Repairs and Replacements of ASME Sec- tion XI Components (Section 3.2.7	PMP 1402.02 (BLNP), dated 3-20-85, Prepara- tion of Work Instruc- tions for Repairs and Replacements of ASME Section XI Components (Section 4.2.3.c)	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Section 2.2.4)

### WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

#### **Requirement Area:**

ASME Section XI Pressure Test

#### Applicability to the Welding Program:

ASME Section XI Pressure Test requirements following the repair and replacement of components which require welding on pressure retaining boundary of the component.

#### Assessment Summary:

Because of the construction phase and that construction has been slowed down, the central document program procedure for ASME Section XI Pressure Test, has not been prepared; but the plant procedure, Standard Practice BLE6.8, System Pressure Testing, requires that all ASME Section XI repairs and replacements would require pressure test to be done in accordance with ASME Section XI, IWA-5000, IWB-5000, IWC-5000 and IWD-5000.

#### Area for Improvements:

Establish a central office program procedure on ASME Section XI Pressure Test, when a more definite construction schedule has been identified, so that the requirements of latest approved code should be used if needed. Also, reference in the plant procedure Standard Practice BLE6.8, System Pressure Test, that ASME Section XI Pressure Test following repairs and replacements be coordinated with the Division of Nuclear Engineering (DNE), Mechanical Services Branch, In-Service Inspection (ISI) Programs Section.

#### **Recommended Corrective Action:**

DNE, ISI Programs Section establish a ASME Section XI Pressure Test procedure when a more definite construction schedule is established.

Bellefonte Nuclear Plan responsible section, revise Standard Practice BLE6.8, System Pressure Test, and incorporate that ASME Section XI pressure test following repairs and replacements be coordinated with the DNE, ISI Programs Section.

Prepared By: J. C. Goulart

**Date:** March 3, 1986

Implementation Evaluation:

Attachment - 1 page

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	IMPLEMENTING DOCUMENTS		
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SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
1980 Edition, Winter 1981 Addenda of ASME Section XI, Article IWA-7000 -			
IWA-1400 Pressure Test			
<ul> <li>(a) After repairs by welding on the pressure retaining boundary, a system hydrostatic test shall be performed in accordance with IWA-5000.</li> <li>(b) The following may be exempted from the system hydrostatic tests: <ul> <li>(1) cladding repairs;</li> <li>(2) heat exchanger tube plugging;</li> <li>(3) piping, pump, and valve repairs that do not penetrate through the pressure boundary;</li> <li>(4) pressure vessel repairs where the repaired cavity does not exceed 10% of the minimum design wall thickness;</li> <li>(5) component connections, piping, and associated valves that are 1 in. nominal pipe size and smaller.</li> </ul> </li> </ul>	tion XI Components (Purpose, Sections	PMP 1402.02 (BLNP) dated 3-20-85, Prepa- ration of Work Instructions for Repairs and Replace- ments of ASME Section XI Components (Sec- tions 4.1.4 and 4.2.4.d) Program Procedure has not been prepared for ASME Section XI, Pressure Test.	BLM11.3 dated 7-3-85, Repairs and Replacements of ASME Section XI Components (Sections 2.1.4 and 2.2.4) BLE6.8 dated 12-21-84, System Pressure Testing
postweld heat treatment shall not be			
exempted.			

### WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

#### **Requirement Area:**

ASME Section XI Preservice Inspection (PSI) Program

### Applicability to the Welding Program:

ASME Section XI PSI requirements following the repair and replacement of components which require welding on pressure retaining boundary of the component.

#### Assessment Summary:

The requirement for ASME Section XI PSI following the repair and replacement of components which require welding on pressure retaining boundary of the component is considered to be adequately implemented by procedures and instructions at this stage of construction.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: J. C. Goulart

**Date:** March 3, 1986

Implementation Evaluation:

Attachment - 5 pages

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SOURCE DOCUMENTS/REQUIREMENTS	NQAM	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION
10 CFR 50.55a(g)			
(3) For a boiling or pressurized	Part II,		BLTI-PSI-1 dated 4-15-85, Preservice
water-cooled nuclear power facility	Section 5.1		Inspection Program Unit 1. Unit 2
whose construction permit was issued	dated		program has not been prepared.
on or after July 1, 1974:	10-12-84,	1	
(1) Components which are classified	Inservice		
as ASME Code Class 1 shall be designed	Inspection		1
and be provided with access to enable	(see Sec-		1
the performance of inservice examina-	tion 1.1.1)		
tion of such components and shall			
meet the preservice examination	Part II,	PMP 1402.02 BLNP dated	BLM11.3 dated 7-3-85, Repairs and
requirements set forth in Section XI	Section 5.1	3-20-85, Preparation	Replacements of ASME Section XI
of editions of the ASME Boiler and	dated	of Work Instructions	Components (Purpose)
Pressure Vessel Code and Addenda 3.6	10-12-84,	for Repairs and	
applied to the construction of the	Inservice	Replacements of ASME	
particular component in accordance	Inspection	Section XI Components	
with paragraph $(c)$ , $(d)$ , $(e)$ , or $(f)$	(Section		
of this section.	1.3.4,		
(ii) Components which are classified		· · ·	
as ASME Code Class 2 and Class 3 and	Accordance		
supports for components which are	With Part II,		
classified as ASME Code Class 1, Class			
2, and Class 3 shall be designed and	Repair and		
be provided with access to enable the	Replacement	· · · · · · · · · · · · · · · · · · ·	
performance of inservice examination	of ASME XI		
of such components and shall meet the	Component).		1
preservice examination requirements			
set forth in Section XI of editions of	Part II,	Program Procedure has	RIEG 8 dated 10 01 Oli Sustan
the ASME Boiler and Pressure Vessel	Section 5.1	not been prepared	BLE6.8 dated 12-21-84, System
Code and Addenda ^{3.6} applied to the	dated	for ASME Section XI.	Pressure Testing (Section 3)
construction of the particular	10-12-84,	Pressure Test.	
component.	Inservice	riessure test.	
component.	Inspection		· · · · ·
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	IMPLEMENTING DOCUMENTS			
SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION	
10 CFR 50.55a(g) (CONTINUED)				
	Part II, Section 5.1 dated 10-12-84, In- service Inspection (Section 1.2.1.d Refer- ences in Accordance With Part II, Section 6.3 dated 3-26-85 Nondestructive Examination)	for Use on CSSC Items at All Nuclear Plants (Section 3.1.1)	BLM8.3 dated 6-24-85, Nondestructiv	
	Part II, Section 5.1 dated 10-12-84, Inservice Inspection (Section 1.2.5 References in Accordance With PMP 1502.02 Quali- fication and Certification Program for Nondestructive Examination Personnel)		BLM8.3 dated 6-24-85, Nondestructiv Examinations	

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SOURCE DOCUMENTS/REQUIREMENTS	NQAM	DPM/ PROGRAM PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION	
10 CFR 50.55a(g)(3) (v) All components (including supports) may meet the requirements set forth in subsequent editions of codes and addenda or portions thereof which are incorporated by reference in paragraph (b) of this section, subject to the limitations and modifications listed therein.		PMP 1402.02 (BLNP) dated 3-20-85, Preparation of Work Instructions for Repairs and Replace- ments of ASME Sec- tion XI Components	BLM11.3 dated July 3, 1985, Repairs and Replacements of ASME Section XI Components	

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SOURCE DOCUMENTS/REQUIREMENTS	<u> </u>	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION	
to support his determinations. (iv) Where an examination or test requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised inservice inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination shall be demonstrated to the satisfaction of the Commission not later than 12 months after the expira- tion of the initial 120-month period of operation from start of facility commercial operation and each subse- uent 120-month period of operation luring which the examination or test	Part II, Section 5.1 dated 10-12-84, Inservice Inspection (Section 4.0)		BLTI-PSI-1 dated 4-5-85, Preservic Inspection Program Unit 1 (Section on Request for Relief)	
s determined to be impractical.				

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SOURCE DOCUMENTS/REQUIREMENTS 10 CFR 50.55a(g)(6)	ΝΟΛΜ	PROGRAM PROCEDURE	ADMINISTRATIVE INSTRUCTION			
(ii) The Commission may require the licensee to follow an augmented inservice inspection program for systems and components for which the Commission deems that added assurance of structural reliability is necessary.			BLPI-PSI-1 dated 4-5-85, Preservice Inspection Program, "Break Exclusion Position for Complying Wlth APCSB 3-1 and MEB 3-1 (June 8, 1976 CEB-76-13) Augment ISI Requirements of Longitudinal and Circumferential Pipe Welds in the Valve Room Piping			
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### WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

**Requirement Area:** 

ASME Code Section IX

#### Applicability to the Welding Program:

ASME Code Section XI requires that, as a minimum, the original Code requirements are met.

### Assessment Summary:

DPM N73M2 is the primary weld program specification and fully complies with the requirements of ASME Code Section IX.

Standard Practice BLM8.1, "Welding" implements DPM N73M2 without exception at Bellefonte Nuclear Plant.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: R. L. Lahti/D. F. Jaquith

**Date:** May 1, 1986

Implementation Evaluation:

Attachment - 1 page

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Bellefonte

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	IMPLEMENTING DOCUMENTS				
SOURCE DOCUMENTS/REQUIREMENTS	NQAH	DPM/ Program procedure	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION		
Current Edition and Addenda of ASME IX (Per ASME XI, IWA-4100)		PMP-1403 TS 09.04.01 (Previously DPM N73M2 Rev. 12-20-85) which includes the following process specifications	Standard Practice BLM8.1 (R1, 4-15-86), Welding Implements the Requirements of PMP-1403 TS 09.04.01 (DPM N73M2)		
Article I, Part QW Welding General Requirements		1.M.1.2(R 3) and 1.M.2.2(R 2)			
Article II, Welding Procedure Qualifications	Part II, 6.1, Welding, 10-12-84	1.M.1.2(R 3)			
Control of Heat Treatment	Part II, 6.2, Heat Treat- ment, 10-12-8	Specifications			
Weld Documentation	Part II, 6.1, Welding, 10-12-84	Supplement C			
Article III, Welding Performance Qualifications	Part II, 6.1, Welding, 10-12-84	1.M.2.2(R 2) and Supplement A			
Welder Continuity	Part II, 6.1, Welding, 10-12-84	1.M.2.2(R 2) and Supplement B			
Material Specification		Supplement C and DPM N76A10, Appendix 3; WMS-1016 Rev. 6			

### WELDING OPERATIONS REQUIREMENTS IMPLEMENTATION MATRIX

**Requirement Area:** 

AWS Structural Welding Code - Steel

#### Applicability to the Welding Program:

As permitted by ASME Code Section XI, AWS D1.1 is used for repairs and replacements of structural items.

### Assessment Summary:

DPM N73M2 complies fully with the requirements specified by G-29C. The FSAR committed to inceting the requirements of the AWS Standard Code for Welding in Building Construction (D1.0). D1.0 has been replaced by AWS D1.1 which is applicable to the Nuclear Operations welding program. AWS D1.1 and G-29C are currently being evaluated by the Office of Engineering.

Area for Improvements:

None

**Recommended Corrective Action:** 

None

Prepared By: R. L. Lahti/D. F. Jaquith

**Date:** April 2, 1986

Implementation Evaluation:

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	IMPLEMENTING DOCUMENTS					
SOURCE DOCUMENTS/REQUIREMENTS	NQAH	DPM/ PROGRAM_PROCEDURE	PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION			
1972 Edition of the AWS Structural Welding Code - Steel D1.1 FSAR 3.8.1.2 "as modified by G-29C"	Part II, 6.1, Welding, 10-12-84	DPM N73M2 which includes the following process specifications:				
Item 1 General Provisions		1.C.1.2(R 2)				
Part 2 General Requirements		P.S.1.C.1.2(R 2)				
Part B Procedure Qualifications		P.S.1.C.1.2(R 2)				
Part C Welder Qualifications		P.S.1.C.2.2(R 1)				
Part D Welder Operator Qualifications		P.S.1.C.2.2(R 1)				
Welder Continuity Part C, Paragraph 5.30		<b>P.S.1.C.2.2(</b> R 1)	:			
Welding Material Control Part A General		P.S.1-M-3.1 (R 7)				
4.1 Filler Metal Requirements		DPM N76A10 Appendix 3				
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Page <u>1 of 1</u> Date <u>1-3-86</u>

		IMPLEMENTING DOCUMENTS						
SOURCE DOCUMENTS/REG	THTRENENTS	NQAM	DPM/			PLANT STANDARD PRACTICE/ ADMINISTRATIVE INSTRUCTION		
SOURCE DOCUMENTS/REQUIREMENTS				l		BLA9.1 (R20, 10-16-85), Procurement		
Regulatory Guide 1.31 (1	R3, April 1978)	Part II, Welding,	5.1,	DPM N76A Purchase	10 (1-4-85) Specifications	of Materials,	Components,	Spare
		10-12-84		i ui onușie		Parts, and Se	rvices	•
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