WELDING PROJECT

EMPLOYEE CONCERN

EVALUATION REPORT

WELDER TRAINING AND EXPERIENCE
AT BROWNS FERRY NUCLEAR PLANT

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EMPLOYEE CONCERN

SUMMARY SHEET

WELDER TRAINING AND EXPERIENCE AT BROWNS FERRY NUCLEAR PLANT

I. SCOPE OF EVALUATION

This report addresses three employee concerns dealing with the training and experience of welders employed in safety related applications at Browns Ferry Nuclear Plant (BFN). These concerns were grouped into two issues to aid in the evaluation effort.

A. Qualification and experience of subjourneymen.

B. Adequacy of TVA welder training program.

Text of the three concerns is provided in the technical report (WP-07-BFN) under Attachment 1.

II. ANALYSIS OF ISSUES ADDRESSED BY CONCERNS

A. The issue relating to the qualification and experience of subjourneymen was raised by one concern which states that subjourneymen are used to perform tasks for which they are not qualified, that they are not required to have specific training, that they do work normally done by a journeyman, and that they are not provided adequate technical supervision.

The primary purpose of the subjourneyman position is to free the journeyman from trade related tasks which do not effectively utilize his skills. The TVA practice of allowing the subjourneyman to progress beyond menial tasks as he gains experience is commensurate with similar practices throughout the power construction industry. This practice is not in violation of any of the applicable codes, standards, or commitments.

A detailed discussion of this issue is presented in the technical report (WP-07-BFN), Paragraph III A.

B. Two of the concerns relate to the adequacy of the training and experience of welders trained by TVA.

The TVA welder training program was offered at BFN approximately during the years 1974 through 1976. The length of training was dependent on the progress of the individual trainee.

When sufficient competence was demonstrated, the trainee was tested under the rules of the governing codes, AWS D1.1 and/or ASME Section IX in the same manner as a journeyman welder.

Complete details of this issue are discussed in WP-07-BFN, Paragraph III B.

III. COLLECTIVE SIGNIFICANCE

No adverse effect on hardware or the TVA welding program at Browns Ferry Nuclear Plant was identified. TVA utilization of subjourneymen is in accordance with the trade labor agreement and commensurate with management practices throughout the construction industry. The welders trained at BFN were tested and qualified in accordance with the Structural Welding Code and/or the ASME Boiler and Pressure Vessel Code.

IV. ROOT CAUSE(S)

The reason for the concerns relating to welder training and qualification at Browns Ferry Nuclear Plant is the TVA decision to evaluate concerns initiated at Watts Bar for generic applicability to other nuclear facilities.

V. CORRECTIVE ACTION

No corrective action is required.

VI. REINSPECTION REQUIRED

No.

VII. ISSUE CLOSURE

Closed.

VIII. ATTACHMENTS

1. Evaluation Report WP-07-BFN, Revision 0.

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EVALUATION REPORT

WELDER TRAINING AND EXPERIENCE AT BROWNS FERRY NUCLEAR PLANT

I. SCOPE OF EVALUATION

This report addresses three employee concerns. Text of the concerns is provided under attachment 1.

The subject concerns were originated at Watts Bar Nuclear Plant (WBN) and evaluated for generic application to Browns Ferry Nuclear Plant (BFN). The expurgated text of the concerns was compared with the requirements of the American Welding Society Structural Welding Code and the ASME Boiler and Pressure Vessel Code. The findings presented herein are based upon this comparison, review of the site implementing procedure, and discussion with cognizant TVA personnel.

II. ISSUES ADDRESSED BY CONCERNS

A. Subjourneymen perform work for which they are not qualified and require closer technical supervision than TVA provides.

B. The TVA welder training program does not provide the welder with sufficient training and experience for nuclear installations.

III. ANALYSIS OF ISSUES ADDRESSED BY CONCERNS

A. One of the concerns states that subjourneymen are used to perform tasks for which they are not qualified, that they are not required to have specific training, that they do work normally done by a journeyman, and that they are not provided adequate technical supervision.

Subjourneymen have been utilized in limited numbers at Browns Ferry Nuclear Plant for approximately one year. The primary function of a subjourneyman is to perform the lesser skill tasks associated with the trade, such as material handling.

It is possible for a subjourneyman to progress to actively assisting the craftsmen in skilled areas. This depends on the same factors associated with the development of any other members of the work force. Thus, an employee with aptitude and motivation will, when given the opportunity, progress from the menial tasks to those requiring some degree of skill. To not only allow, but to actively promote such skill development is nothing more than sound management practice.

Discussion with cognizant TVA technical and administrative personnel revealed that a subjourneyman may progress beyond the totally unskilled tasks in a given trade. Relative to subjourneymen, the General Agreement between TVA and the trade unions provides that "TVA shall assign the work to those employees who in its judgement are qualified to safely and efficiently perform the work." The level of technical supervision required for any given task depends on the worker. The Foreman is principally responsible for assignment of tasks within the demonstrated capability of each worker. He then ensures that the appropriate technical guidance is provided, on an individual and task basis, to each subjourneyman. The journeyman normally provides the direct supervision and instruction.

One example given in the text of the concern is that subjourneymen perform welds on 1/4 inch lines. It is possible within the TVA system for a subjourneyman to become a qualified welder by satisfactory performance testing under the rules of AWS D1.1 and/or ASME Section IX. Subjourneymen have performed welds on 1/4 inch and other lines ony after becoming properly qualified.

The primary purpose of the subjourneyman position is to free the journeyman from trade related tasks which do not effectively utilize his skills. The TVA practice of allowing the subjourneyman to progress beyond menial tasks as he gains experience is commensurate with similar practices throughout the power construction industry. This practice is not in violation of any of the applicable codes, standards or commitments.

B. Two of the concerns relate to the adequacy of the training and experience of welders trained by TVA.

The TVA welder training program, a voluntary off-duty course, was offered at BFN approximately during the years 1974 through 1976. The training was typically 250 to as high as 500 hours of instruction and supervised hands on training. The length of training was dependent on the progress of the individual trainee. When sufficient competence was demonstrated, the trainee was tested under the rules of governing code in the same manner as a journeyman welder. The acceptance standards are specified by the codes (AWS D1.1 and/or ASME Section IX).

There is no code or regulatory requirement which quantifies the experience required of a welder. Rather, the governing codes specify performance qualification testing as a means of assuring that a welder is capable of depositing sound weld metal.

It is recognized that certain weldments require a higher degree of welder skill than others. A wide range of performance qualification tests have been designed using different base and filler materials, various geometries, thicknesses, welding positions and welding processes.

Additionally, in making work assignments, the Foreman considers the individual skill (or experience) of the welder relative to the difficulty in making the joint. Review of Corrective Action Reports, Deficiency/Deviation/ Nonconformance Reports, USNRC Inspection Reports, Quality Assurance Audit Reports, and TVA welding related memoranda issued from 1972 through 1985 failed to provide any indication of a problem with the competency of TVA trained welders.

IV. COLLECTIVE SIGNIFICANCE

The subjourneymen employed at Browns Ferry are utilized in accordance with the applicable labor agreement and with good management practices.

The TVA welders trained at Browns Ferry were tested and qualified in accordance with the Structural Welding Code, AWS D1.1, and The ASME Boiler and Pressure Vessel Code, Section IX.

This evaluation disclosed no adverse effect on hardware or the TVA welding program at Browns Ferry Nuclear Plant.

V. ROOT CAUSE(S)

The concerns addressed by this evaluation originated at Watts Bar Nuclear Plant. The reason for the employee concerns at Browns Ferry is the TVA decision to apply the concerns to other nuclear sites for evaluation for generic applicability.

VI. CORRECTIVE ACTION

No corrective action required.

VII. ATTACHMENTS

1. Text of concerns.

WELDING PROJECT

EMPLOYEE CONCERN EVALUATION REPORT

ATTACHMENT 1

TEXT OF EMPLOYEE CONCERNS

Evaluation Report WP-07-BFN addresses three employee concerns. The text of the concerns is shown on the following pages.

EX-85-008-001
IN-85-706-001
IN-86-158-006

TENNESSEE EY AUTHORITY
OFFICE OF NUCLEAR POWER
EMPLOYEE CONCERN PROGRAM SYSTEM (ECPS)
EMPLOYEE CONCERN INFORMATION BY CATEGORY/SUBCATEGORY
WP - 07 WELDER TRAINING PROGRAM FOR CONST

CATEGORY: WE NON QA/QC WELDING

CONCERN NUMBER	CAT	SUB CAT	SHRD	PLT LOC	1 REPORT APPL 2 SAF RELATED BF BL SQ WB	HISTORICAL REPORT	CONCERN ORIGIN	CONCERN DESCRIPTION
EX -85-008-00101 T50051	WE	50107	N	WBN	1 Y Y Y Y 2 SR SR SR SR	EX-85-010-002	QTC	SUBJOURNEYMEN USED TO DO WORK THAT THEY'RE NOT QUALIFIED TO DO: THEY NEEDN'T HAVE ANY SPECIFIC TRAINING, BUT DO WORK (EG PIPE FIT-UPS AND WELDS ON 1/4" LINES) NORMALLY DONE BY A JOURNEYMAN WITH 5 YEARS MINIMUM EXPERIENCE. SUBJOURNEYMEN REQUIRE CLOSER TECHNICAL SUPERVISION THAN TVA PROVIDES. WHEN CRAFTS COMPLAIN, THEY ARE "CHEWED OUT" BEYOND ALL REASONABLE LIMITS. NO MORE DETAILS KNOWN. (SQN ISSUES ADDRESSED IN RPT WP-07-SQN R1)
IN -85-706-00101 T50064	WE	50107	N	WBN	1 Y Y Y Y 2 SR SR SR SR		QTC	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. (SQN ISSUES ADDRESSED IN RPT WP-07-SQN R1)

2 CONCERNS FOR CATEGORY WE WP - 07

CONCERNS ARE GROUPED BY LAST 2 DIGITS OF SUBCATEGORY NUMBER.

CATEGORY: WE NON QA/QC WELDING

CONCERN NUMBER	CAT	SUB CAT	SHRD	PLT LOC	1 REPORT APPL 2 SAF RELATED BF BL SQ WB	HISTORICAL REPORT	CONCERN ORIGIN	CONCERN DESCRIPTION
IN -86-158-00601 T50180	WE	50914	N	WBN	1 Y Y Y Y 2 SR SR SR SR		QTC	UNTIL 1973 TVA DID NOT LET THEIR APPRENTICESHIP PEOPLE WELD. DURING THAT YEAR, EVEN WITH TWO OR THREE MONTHS EXPERIENCE, AN APPRENTICE COULD TAKE THE TEST, PASS, AND BE ABLE TO WELD IN THE FIELD. THE SYSTEM HAS WORKED THAT WAY EVEN SINCE 1973. CONST. DEPT. CONCERN. C/I HAS NO FURTHER INFORMATION. (SQN ISSUES ADDRESSED IN RPT WP-14-SQN R1)

REF. SECTIO
CAT - WE
SUBCAT - 14

1 CONCERNS FOR CATEGORY WE WP - 14

CONCERNS ARE GROUPED BY LAST 2 DIGITS OF SUBCATEGORY NUMBER.