



**QUALITY
TECHNOLOGY
COMPANY**

P.O. BOX 600

Sweetwater, TN 37874

(615)365-4414

ERT INVESTIGATION REPORT, Rev. 3

PAGE 1 OF 13

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
* IN-85-474-001, *EX-85-054-002, *IN-85-979-002,
* EX-85-148-001

*Added by Rev. 3

CONCERN: SEE BELOW

INVESTIGATION
PERFORMED BY: Ray Chappell

DETAILS:

This report contains the findings derived from a generic investigation of the concerns listed below:

#EX-85-010-002

CONCERN: Subjourneymen (names given) are performing journeyman's work to include (running pipe, rebuilding valves, operating power equipment). Foreman (name given) said that subjourneymen could do anything the foreman feels he/she is qualified to do.

#PH-85-005-001

CONCERN: Possibility of subjourneymen performing journeymen's work in NucPwr, although individual had no personal knowledge of this, he stated that he thought this should be looked into and verified one way or another.

#EX-85-008-001

CONCERN: Subjourneymen used to do work that they are 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 craft complain, they are "chewed out" beyond all reasonable limits.

8602260432 860220
PDR ADOCK 05000327
P PDR

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
IN-85-474-001, EX-85-054-002, IN-85-979-002,
EX-85-148-001

DETAILS, continued

#EX-85-009-001

CONCERN: Using subjourneymen to do journeyman work in several different areas on the job possibly could lead to substandard work all over the job.

#IN-85-556-001

CONCERN: Subjourneymen allowed to grind, fit, weld, disassemble valves; used basically as journeymen.

#IN-85-589-002

CONCERN: Power division is using subjourneyman level craft personnel to perform welding, wiring and other operations which require a certified trained journeyman to perform properly. All crafts were alleged to be involved in this practice.

#IN-85-705-001

CONCERN: Unqualified personnel (subjourneymen) performing journeyman's work (terminations) in the control room, unit 1.

#EX-85-012-001

CONCERN: Watts Bar subjourneymen are doing the work of qualified fitters. Per C/I subjourneymen are not craftsmen and they do not have training as qualified fitters. 6 or 8 subjourneymen are doing the work of fitters in nuclear power maintenance department. (no names given).

#IN-85-130-001

CONCERN: Pipefitters using "subjourneymen" to perform work that only journeymen are qualified to do. This involves using power tools. This happened within the last three (3) weeks (April-May 1985) in Unit 1 - mechanical maintenance section.

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
IN-85-474-001, EX-85-054-002, IN-85-979-002,
EX-85-148-001

DETAILS, continued

#IN-85-474-001

CONCERN: Employee was told by Foreman to perform work that he was not qualified to do, or else be RIF'd. (Unit 2). This involved the termination of an electrical junction box by a sub-journeyman.

#IN-85-979-002

CONCERN: Utilizing sub-journeyman to perform journeyman tasks while knowing they are not qualified. 3

#EX-85-054-002

CONCERN: CI assigned to a sub-journeyman and had no option but to use the sub-journeyman.

#EX-85-148-001

CONCERN: Sub-journeymen are terminating QA and non-QA cables in junction boxes per direction of foreman.

PERSONNEL CONTACTED:

DOCUMENTS REVIEWED

Memorandum from: H. H. Mull, Manager of Construction, dated 3/26/82,
(Doc. 820329003) to: J.E. Wilkins, Project Manager
Guidelines for Selection of Craft Subjourneymen, dated 3/15/82
Labor Agreement, dated 12/30/83

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
IN-85-474-001, EX-85-054-002, IN-85-979-002,
EX-85-148-001

DETAILS, continued

DOCUMENTS REVIEWED, continued

A substantial number of concerns have been received regarding subjourneymen performing the job functions normally performed by qualified journeymen. Concerned individuals identified subjourneymen in several crafts, including NucPwr maintenance, performing work activities such as, welding, grinding, terminations, valve repairs, threading, bending, pipe fitting, and the use of power tools in general.

FINDINGS:

The investigation of these concerns addressed the following:

- A) Type of work being performed by subjourneymen.
 - B) Violations of the Labor Agreement.
 - C) Potential Safety hazards to subjourneymen
 - D) Potential quality impact of subjourneymen performing journeymen work.
- A) ERT performed a walkdown of Units One (1) and Two (2) and observed journeymen and subjourneymen that were assigned to various crafts, including NucPwr maintenance. During the walkdown these personnel were observed, and questioned regarding their classification. (Journeymen, subjourneymen) and assigned department (Craft, maintenance). Subjourneymen were questioned regarding the type of work they had previously performed since being employed as a subjourneymen.

NOTE: Subjourneymen in maintenance cannot be readily identified since the "green stripe" worn on the crafts hard hats, that identify them as subjourneymen, are not worn on maintenance hard hats.

In addition to the walkdown, interviews were held with various foremen, journeymen, and subjourneymen at the ERT center. Following are the general subjects covered:

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
IN-85-474-001, EX-85-054-002, IN-85-979-002,
EX-85-148-001

DETAILS, continued

FINDINGS, A, continued

- a) Tools used by subjourneymen
- b) Type of work performed by subjourneymen
- c) Safety
- d) Job requirements for subjourneymen, and
- e) Qualification requirements for subjourneymen.

As a result of visual observations and interviews performed during the ERT walkdown, and the formal interviews, the following was verified:

Subjourneymen are, in fact, using power and hand tools and performing journeymen job responsibilities. Examples of tools used, and work performed by subjourneymen are:

- * Grinders
- * Drills
- * Pipe threaders (hand and power)
- * Power band saws
- * Air driven power tools
- * Hand tools consisting of: Hammers, side cutters, hack saws, ratchet and sockets, pliers, wrenches (pipe, crescent, and open/box end), crimping tools, wire strippers, screw drivers, and punches.

Work being performed by subjourneymen using the above listed tools is as follows:

- * Various grinding operations
- * Drilling holes
- * Pipe and conduit bending (hand and power)
- * Pipe threading (hand and power)
- * Air impact wrench (removing studs off spears, installation and removal of nuts and studs)
- * Bolting up hangers and support angles
- * Assembling conduit

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
IN-85-474-001, EX-85-054-002, IN-85-979-002,
EX-85-148-001

DETAILS, continued

FINDINGS, A, continued

- * Assembling HVAC duct
- * Assembling and disassembly of pipe spools
- * Removing air conditioners from wall
- * Hooking up lavatories
- * Pulling cables
- * Sealing conduit penetrations
- * Fire proofing cables
- * Valve repair
- * Attaching rigging and handling material
- * Cable terminations

All personnel interviewed were questioned regarding the amount of safety training they had received since being employed by TVA. The following responses were received:

- * No formal safety training program provided.
- * The only training received is during the Monday morning safety meeting held by the foreman.
- * Journeymen normally look after subjourneymen in pointing out the "do's" and "don'ts" in safety.
- * It is up to the individual to work in a safe manner, and be aware of safety hazards.
- * Personnel working here should have enough experience to identify safety hazards.

All subjourneymen interviewed were questioned regarding their job requirements, and qualifications of a subjourneyman. The following responses were received:

- * Most of the subjourneymen stated that they were not supposed to use power tools, but were suppose to provide support to the journeymen, (going for material, tools, helping hold things) however, they could use hand tools.
- * Some responded by stating they were not suppose to use any type of tools, they were only to be runners for material and tools.

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
IN-85-474-001, EX-85-054-002, IN-85-979-002,
EX-85-148-001

DETAILS, continued

FINDINGS, A, continued

- * Many of the sub journeymen stated they could do anything their journeyman or foreman instructed them to do.

In questioning the sub journeymen regarding qualification requirements, the following responses were received:

- * Some sub journeymen did not know, or remember what the requirements were.
- * Most of the sub journeymen stated 90 days of some type of construction experience.

(B) Review of the "Labor agreement", and support documents, (construction only) revealed the following:

- (a) "These council classifications perform the unskilled duties of the craft in order to free the journeyman craftsmen to utilize their technical expertise on the more complicated work".

This investigation has shown that TVA management/supervision is not directing sub journeymen work activities within the contract guidelines. The sub journeymen are not being limited to "unskilled" duties.

ERT interprets "unskilled" duties to be those that do not affect the fit, form, or function of the material, component, equipment or system.

ERT does not consider many of the duties being performed by sub journeymen, (pipe & conduit bending, threading, assembly, fire proofing, electrical terminations, etc.) to be unskilled duties.

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
IN-85-474-001, EX-85-054-002, IN-85-979-002,
EX-85-148-001

DETAILS, continued

FINDINGS, B, continued

Although the specific job duties of the subjourneymen are not delineated in the contract, it is not believed that the intent of the contract was to allow subjourneymen to be used for any type of work (skilled, power tool use).

(b) "They shall be sufficiently experienced and qualified to enable them to perform assigned work in a competent and safe manner."

(c) "Candidates for subjourneyman positions shall have at least three months experience in commercial, industrial or construction type work or have equivalent vocational or technical training. Subjourneymen must be capable of performing safely and competently a wide variety of unskilled duties of the craft."

A selected review of several subjourneymen personnel files verified that when they were hired, their previous experience did not meet the minimum requirements as stated above. Interpretation of qualifications and experience was treated in its' most liberal sense.

The two (2) primary reasons for initiating the classification of the subjourneyman are:

- 1) Much of the work traditionally performed by skilled craftsmen does not require the full skills of their trade. (transporting tools, material, paperwork, assisting the journeyman in holding things, etc.).
- 2) Since wage rates for these classifications are substantially below those for journeymen; consequently, use of these employees would mean a cost savings.

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
IN-85-474-001, EX-85-054-002, IN-85-979-002,
EX-85-148-001

DETAILS, continued

FINDINGS, B, continued

(d) Mr. Horace H. Mull's memo dated March 26, 1982, states "appointments to these positions will not exceed 11 months and 29 days". The labor relations group informed ERT that the reason for the time limitation, was that subjourneymen were considered temporary personnel, and they could not be retained past one (1) year. Until recently subjourneymen were being laid off, and then rehired within a few days to enable them to work another year. TVA management has classified them as a #62, which means they are still not permanent employees, but their length of employment is indefinite. However, these employees are still classified as "subjourneymen". If managements position on this matter has changed, clarification in writing is necessary to eliminate the violation of the originally established guidelines.

(e) Mr. Horace H. Mull's memo dated March 26, 1982 states "these employees will not use power tools". Investigation of this requirement has verified that subjourneymen are using many types of power tools, in the performance of their daily job requirements. Again, most of the subjourneymen are not experienced in the use of the various type of power tools they are using, causing a potential for the subjourneymen, journeymen and other personnel to receive unwarranted injuries. There is also a potential for damaging material and equipment through the improper use of power tools.

(C) Verification of various subjourneymen's limited background experience, and the lack of a formal safety training program for subjourneymen when they are employed, constitutes a potential for the following safety hazards.

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
IN-85-474-001, EX-85-054-002, IN-85-979-002,
EX-85-148-001

DETAILS, continued

FINDINGS, C, continued

- (a) Subjourneymen with no actual jobsite experience, or formal safety training of how to safely conduct themselves on a jobsite such as (how to correctly lift material, identify whether a ladder or scaffolding is safe to climb, correct method of climbing up and down a ladder, use of safety belt, etc.) could potentially result in a fatal injury.
- (b) Subjourneymen who do not have previous jobsite experience, or have not been formally indoctrinated in the method of moving around material/equipment installations, not only have the potential of injuring themselves, but could potentially damage the completed installations, such as:
- * Stepping on instrument tubing causing it to collapse, or leak during operation.
 - * Stepping on electrical conduit and damaging the conduit or possibly damaging the terminations, switches, etc.
 - * Dropping material and damaging other equipment.
- (D) In addition to the potential quality impact of subjourneymen not being trained, or qualified in jobsite activities, the use of subjourneymen in the performance of journeymen work exhibits a high potential for quality to be jeopardized due to the following:
- * Subjourneymen are not adequately trained to perform specific job functions.
 - * A journeyman working with the subjourneymen he may not see all the errors that are being made by the subjourneymen.
 - * Final inspection will not always identify the errors made by the subjourneymen.

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
IN-85-474-001, EX-85-054-002, IN-85-979-002,
EX-85-148-001

DETAILS, continued

FINDINGS, D, continued

- * Unqualified sub journeymen performing journeymen work could potentially install the wrong material, or install material/equipment incorrectly.

Note:

There are occasions when the sub journeymen have worked unsupervised. The personnel interviewed, (Foremen, Journeymen, Sub journeymen) confirmed that during work activities the sub journeymen, for the majority of the time, are under the direct supervision of the journeyman.

Review and investigation of the job description and responsibilities for sub journeymen that are employed in NucPwr maintenance revealed the following:

ERT was informed by labor relations that sub journeymen working in NucPwr maintenance are called by different titles depending on the craft they are assigned to. An example of these titles are boilermaker helper, bricklayer improver, machinist helper, painter utilityman, etc. A review of various personnel files for minimum qualification requirements found them to be satisfactory.

Although the sub journeymen are to have a general knowledge of safe and proper use of handtools, the sub journeymen are not allowed to perform task that require the skills of a journeyman.

Maintenance supervision stated that sub journeymen are not allowed to perform any work that affects the quality of the material/equipment and that sub journeymen never work alone, they always work with a journeyman.

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
EX-85-009-001, IN-85-556-001, IN-85-589-002,
IN-85-705-001, EX-85-012-001, IN-85-130-001
IN-85-474-001, EX-85-054-002, IN-85-979-002,
EX-85-148-001

DETAILS, continued

FINDINGS, D, continued

There is no written contractual agreement that restricts subjourneymen in NucPwr maintenance from using power tools. However, ERT was informed by Nuc Pwr that the subjourneymen are restricted to the use of hand type power tools (drills, grinders, air wrenches, etc.). Electrical maintenance stated that their subjourneymen were not allowed to operate such things as overhead cranes, power buckets, etc.

ERT was also informed by Nuc Pwr that when journeymen and subjourneymen are hired they are given a "safety orientation" to familiarize them with plant operation.

OBSERVATIONS:

After reviewing the contractual requirements for construction and NucPwr maintenance, and interviewing various craft and supervisory personnel, the following observations were made.

- a) The subjourneyman's duties and responsibilities in construction is considerably different from those in NucPwr maintenance, which causes confusion within the craft and supervision.
- b) There are no clear, concise job duties and responsibilities documented for each trade, including maintenance.
- c) There are various interpretations of what constitutes a power tool.
- d) There are various interpretations of what constitutes unskilled vs. skilled job functions.
- e) The qualification requirements for subjourneymen are substantially different for construction vs. maintenance, although both are to perform the unskilled duties of the craft, and belong to the same union.

CONCERN NO: EX-85-010-002, PH-85-005-001, EX-85-008-001
 EX-85-009-001, IN-85-556-001, IN-85-589-002,
 IN-85-705-001, EX-85-012-001, IN-85-130-001
 IN-85-474-001, EX-85-054-002, IN-85-979-002,
 EX-85-148-001

 DETAILS, continued

OBSERVATIONS, continued

This concern is substantiated.

The ERT investigation did not attempt to verify, or inspect the quality of work completed by the subjourneymen. The ERT did not identify any specific quality deficiencies resulting from work that was performed by subjourneymen. Although completed work is inspected and accepted by QC, there is a potential for substandard work to go undetected; therefore, the work activities that were performed by subjourneymen should be reviewed by TVA to identify potential impact to quality.

Basis:

- 1) Subjourneymen are using power tools.
- 2) Subjourneymen are performing work normally performed by skilled journeymen.
- 3) Deleted
- 4) When unskilled subjourneymen use power tools the potential exists for personal injury, or damaging installed material/equipment.
- 5) Employing subjourneymen that do not have jobsite construction experience provides a potential for personal injury and/or damage to installed material/equipment, especially since no formal safety training program exists for subjourneymen.
- 6) Deleted

PREPARED BY

Ray Craywell
 DATE

2/11/86

REVIEWED BY

OT Thero
 DATE

2/11/86

Revision 3 Report Reviewed & Accepted. No new recommendations offered. Report only adds four similar concerns!

M. J. [Signature]
 DATE *2/17/86*

FINAL

REQUEST FOR REPORTABILITY EVALUATION

IN-85-474-001, EX-85-054-002.

1. Request No. IN-85-474-001, EX-85-148-001 (ERT Concern No.) (ID No., if reported)

2. Identification of Item Involved: _____ (Nomenclature, system, manuf., SN, Model, etc.)

3. Description of Problem (Attach related documents, photos, sketches, etc.)

Subjourneymen performing work they are not qualified to perform. (Fitups, operate power equipment, assemble and disassemble equipment, run pipe, weld and grind) Using subjourneymen to perform journeymen work could possibly lead to substandard work all over the job site.

4. Reason for Reportability: (Use supplemental sheets if necessary)

A. This design or construction deficiency, were it to have remained uncorrected, could have affected adversely the safety of operations of the nuclear power plant at any time throughout the expected lifetime of the plant.

No Yes _____ If Yes, Explain: _____

AND

B. This deficiency represents a significant breakdown in any portion of the quality assurance program conducted in accordance with the requirements of Appendix B.

No Yes _____ If Yes, Explain: _____

OR

C. This deficiency represents a significant deficiency in final design as approved and released for construction such that the design does not conform to the criteria bases stated in the safety analysis report or construction permit.

No Yes _____ If Yes, Explain: _____

OR

REQUEST FOR REPORTABILITY EVALUATION

- D. This deficiency represents a significant deficiency in construction of or significant damage to a structure, system or component which will require extensive evaluation, extensive redesign, or extensive repair to meet the criteria and bases stated in the safety analysis report or construction permit or to otherwise establish the adequacy of the structure, system, or component to perform its intended safety function.
No Yes If Yes, Explain: _____

OR

- E. This deficiency represents a significant deviation from the performance specifications which will require extensive evaluation, extensive redesign, or extensive repair to establish the adequacy of the structure, system, or component to perform its intended safety function.
No Yes If Yes, Explain: _____

IF ITEM 4A, AND 4B OR 4C OR 4D OR 4E ARE MARKED "YES", IMMEDIATELY HAND-CARRY THIS REQUEST AND SUPPORTING DOCUMENTATION TO NSRS.

This Condition was Identified by:

R. Prayle 3/2/86
ERT Investigator

Phone Ext.

O. J. Jones
ERT Project Manager

365-4444
Phone Ext.

Acknowledgment of receipt by NSRS

[Signature]
Signed

Date 2/19/86

Time 1350