

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

DOCKETED
USNRC

82 MAY 11 10 21

In the Matter of)	
)	
TEXAS UTILITIES GENERATING)	Docket Nos. 50-445 and
COMPANY, <u>et al.</u>)	50-446
)	
(Comanche Peak Steam Electric)	(Application for
Station, Units 1 and 2))	Operating Licenses)

AFFIDAVIT OF ROGER F. REEDY
REGARDING ASME SURVEY OF
BROWN & ROOT AT COMANCHE PEAK

I, Roger F. Reedy, being first duly sworn, do depose and state: I perform Engineering consulting services with the firm Reedy, Herbert, Gibbons & Associates in the area of ASME Code requirements and application of those requirements to nuclear power plant construction. As a consultant for Texas Utilities Generating Company, I have examined the Brown & Root records pertaining to the ASME Certificates of Authorization issued to Brown & Root, Inc. for the Comanche Peak project. In this role, I have also examined the findings reported by the ASME Survey Team at the October 12-14, 1981 Survey and January 18-20, 1982 Resurvey of the Brown & Root Quality Assurance Program at Comanche Peak, and the responses to those findings taken by Brown & Root, and conclude that Brown & Root has demonstrated to the proper

authorities implementation of a QA Program which satisfies ASME Code requirements. A statement of my educational and professional qualifications is attached hereto as Attachment 1.

I. ASME NUCLEAR CODE

The American Society of Mechanical Engineers ("ASME") writes and publishes a set of Engineering Safety Standards known as the ASME Boiler and Pressure Vessel Code. Section III of that Code, known as the ASME Nuclear Code, provides rules for the design and construction of pressure vessels, piping, pumps, valves and storage tanks used in nuclear power plants. The Nuclear Code presents a set of minimum requirements developed to assure the integrity and safety of the pressure containing equipment and systems in the nuclear power plant.

The ASME Nuclear Code provides requirements for the construction of nuclear components. These requirements are applicable to projects which are being constructed in jurisdictions which have adopted the ASME Code for that purpose. In addition, the Nuclear Regulatory Commission regulations require that for nuclear power plants with construction permits docketed prior to 1982, such as Comanche Peak, the systems and components of those plants be designed, fabricated, installed, tested and inspected in accordance with generally recognized codes and standards, such as the requirements of the ASME Nuclear Code. 10 C.F.R. § 50.55a.

II. ASME CERTIFICATES OF AUTHORIZATION

All work performed pursuant to the ASME Nuclear Code must be certified by a Certificate Holder as complying with the applicable requirements of the Code. This certification is authorized by issuance of Certificates of Authorization which permit the stamping of the item with an ASME Code Symbol Stamp following completion. These stamps are issued only upon a demonstration to the ASME that an acceptable Quality Assurance ("QA") program exists for the work to be performed pursuant to the requested authority.

Before authorizing an organization to apply the ASME Code Symbol Stamp to any code item, an ASME Survey Team must review the facilities of the Certificate Holder and assure that the Quality Assurance Manual and related procedures comply with the applicable requirements of the ASME Nuclear Code. The Survey Team then audits performance to verify implementation of the QA program. The verification includes review of work in progress and appropriate records, including records of already completed Code work, and interviewing personnel. Once this verification has been made, the Certificates of Authorization and applicable Code Symbol Stamp will be issued to the organization upon the recommendation of the Survey Team and with the concurrence of the ASME

Subcommittee on Nuclear Accreditation. The Certificates of Authorization allow the organization to apply the ASME Code Symbol Stamp to components. This authorization is valid for a period of three years.

There are three types of ASME Code Symbol Stamps. The "N" Symbol Stamp is the stamp which signifies that all requirements for design and construction have been met and accepted. The N Symbol Stamp is used by the organization which accepts overall responsibility for the completed work. The "NPT" Stamp for parts of ASME Code components signifies that the designated work has been accomplished. An NPT Stamp does not include responsibility for the design. The "NA" Symbol Stamp is a stamp which indicates that the equipment has been installed or assembled to Code requirements. At Comanche Peak, Brown & Root, Inc. has been issued both the NA and NPT Stamps.

III. INSPECTION

ASME Third-Party Inspections of Nuclear Construction

A fundamental controlling principle of the ASME Boiler and Pressure Vessel Code is that a component must receive "third-party authorized inspection" during construction to assure compliance with all Code requirements. The signature

of an Authorized Nuclear Inspector on an ASME Data Report, verifying that the component has been constructed in accordance with all applicable Code requirements, is a key element in the ASME accreditation system.

The third-party inspection is performed by the Authorized Nuclear Inspector who is generally employed by an insurance company which underwrites insurance for the type of equipment being constructed. At Comanche Peak, the Authorized Nuclear Inspector is employed by the Hartford Steam Boiler Inspection and Insurance Company. The insurance company inspector is independent of the manufacturer and the user of the equipment and has interest in safety because of the financial obligation of the insurance company on the equipment.

The National Board of Boiler and Pressure Vessel Inspectors is a professional group composed of the Chief Inspectors of each of the States which have adopted ASME Code rules. The National Board trains inspectors, prepares and administers examinations and certifies the qualifications of the Authorized Inspectors. The National Board assists the ASME by participating on the Survey Teams who review and qualify manufacturers and installers of both nuclear components and other ASME pressure vessel and boiler construction. The National Board has an obligation to review the

effectiveness of the Authorized Inspectors program to assure that they are performing their inspection duties in accordance with the requirements of the National Board and the ASME Code rules.

IV. CONSTRUCTION PERFORMED IN THE ABSENCE OF EFFECTIVE CERTIFICATES OF AUTHORIZATION

Before construction activities on a nuclear component can be initiated, it is necessary for the organization doing the work to have an agreement with an Authorized Inspection Agency for providing their services and those of Authorized Nuclear Inspectors. The Authorized Inspection Agency must review and accept the Quality Assurance Manual of the organization and determine that the organization is capable of properly implementing the QA Manual.

Once these activities have been accomplished, it is acceptable for the organization to begin ASME Code work on the item which is to be Code Stamped with the concurrence of the Authorized Nuclear Inspector. That ASME Code work may include Code design and construction activities engaged in prior to receiving a Certificate of Authorization from ASME. Published ASME interpretations of the Nuclear Code establish such practice as acceptable and permissible under Code rules. Attachment 2 is a copy of such interpretations.

All Code work performed during this time is subject to review during the ASME Survey Team's review and audit of the QA Program. It is an accepted practice for organizations to begin work in this way, in order that the ASME Survey Team can verify implementation of the QA Program when the survey is performed.

Similarly, work performed during a time when no Certificate of Authorization is in effect, as occurred at Comanche Peak following expiration of the Brown & Root Certificates on January 8, 1982 and prior to their reissuance on March 15, 1982, is treated in the same manner as work performed by a contractor prior to the initial ASME Survey. The acceptance of the work performed during this period of time is at the discretion of the Authorized Nuclear Inspector and his Supervisor.

As discussed below, the Brown & Root ASME Code work at Comanche Peak meets the requirements of the ASME Code in that (1) Code procedures have been followed for all work, including that performed during this open period, and the work has been accepted or is subject to acceptance by the Authorized Nuclear Inspector and (2) all findings by the ASME Survey Team during the accreditation process have been addressed and the activities evaluated to determine that work performed satisfied ASME Code requirements.

V. ASME SURVEY OF BROWN & ROOT
ASME QA PROGRAM AT COMANCHE PEAK

In general, the purpose of a Quality Assurance Program is to establish an organizational plan for performing and assuring that the work on a project is accomplished in accordance with applicable design, fabrication and installation requirements. The Quality Assurance Manual describes the essential features of the QA Program by detailing the responsibilities of personnel and controls needed for the work performed. ASME Code Section III, NCA-4134. 2(c) 1/ The QA Manual, in conjunction with the necessary supplementary implementing procedures, provides the specific details for control and documentation of the work. ASME Code Section III, NCA-4134.2(a) and NCA-4134.5. Some QA personnel prefer that the controls be outlined in the QA Manual with specific details being described in procedures. Others prefer that the specific details be described in the QA Manual with less reliance on implementing procedures.

In the ASME Code, it is a requirement that the QA Manual describe the essential controls of the Quality Assurance system. The Code permits the QA Manual to be supplemented by procedures. The principal reason

1/ All references to the ASME Code are to the 1980 Edition through the Winter 1981 Addenda. All Code provisions cited herein are attached in Attachment 3.

that essential controls are required to be in the QA Manual, rather than in the procedures, is that revisions of the ASME QA Manual require more approvals than revisions to procedures, thus providing additional controls to the QA Program. ASME Code Section III, NCA-4134.2(d).

In performing a review of an ASME QA Program, an ASME Survey Team will first examine in detail the subject QA Manual. After the QA Manual has been reviewed, the Survey Team must establish that the work is being carried out in accordance with the provisions of the Manual. In commenting on the Brown & Root QA Program for Comanche Peak, the ASME Survey Team identified details where they required changes to the QA Manual and in certain practices in order to more clearly control the implementation of activities as they are described in the Manual. Comments on the ASME QA Program for Comanche Peak are discussed in the ASME letter of November 23, 1982. Attached to Affidavit of R.J. Vurpillat as Attachment 2.

Below I describe the meaning of each comment made by the ASME Survey Team and describe the significance of each comment with respect to Brown & Root ASME Code work at Comanche Peak. Also, based on my review of the affidavit of Ray Vurpillat regarding the responses of Brown & Root to those comments, I believe that the ASME Code work performed by Brown & Root at the Comanche Peak site was done in accordance with applicable ASME Code requirements.

VI. BROWN & ROOT ASME QUALITY
ASSURANCE MANUAL FOR COMANCHE PEAK

A. ASME Comment

The manual was vague, failed to establish required controls, responsibilities, or provide for objective evidence that required activities were satisfactorily performed.

Applicable ASME Code Requirements

The ASME Code requires that a QA Manual self-contain the essential elements of control for the QA Program. ASME Code Section III, NCA-4134.2(c). The Manual may be supplemented by the implementing procedures. When an ASME Survey Team determines (by judgment) that the Manual should be more detailed, it is common practice to require reiteration of some of the detailed procedure controls in the Manual. As long as the QA Program (Manual plus implementing procedures) adequately addresses the Code requirements, there is no technical violation of the Code. However, the Manual may be required to be made more detailed for work performed after the ASME Survey.

Analysis and Conclusion

As stated in the affidavit of Ray Vurpillat, the QA Manual which was reviewed by the ASME Survey Team had been revised by Brown & Root several months before the ASME Survey. These revisions had been approved by the Authorized Nuclear Inspector. When making these changes, some of the essential

features that had been described both in the original QA Manual and the implementing procedures were taken out of the QA Manual, although they remain in the procedures.

The Survey Team indicated that this revision left the QA Manual too vague. This was corrected by later revising the QA Manual to include the details which had remained in the procedures. Affidavit of R.J. Vurpillat at 2-3.

Because the essential control features were still a part of the Brown & Root QA Program, the technical requirements of the ASME Code were met during this period. Based upon the findings of the Survey Team with regard to Brown & Root implementation, Code work was not adversely affected by the revisions to the QA Manual.

B. ASME Comment

The manual established the Summer 1974 Addenda for piping and the Winter 1974 Addenda for component supports as the Code effectivity. The manual addressed activities only permitted by later Code addenda; such as NX-2610, NA-3867.4 (f) and supply of material - NCA-3820(e), without any identification of the applicability of these provisions.

Applicable ASME Code Requirements

The provisions of the ASME Edition and Addenda specified by the Owner must be followed. ASME Code Section III, NCA-1140(a).

The only time new alternative provisions in later Code Addenda may be used is when detailed in the design documents. ASME Code Section, III NCA-1140(b).

Analysis and Conclusion

The comment states that Brown & Root used specific ASME Code provisions from later Code Addenda than the Addenda specified for the work being performed. In other words, later changes to the Code which provided for acceptable alternative methods of meeting Code requirements were used by Brown & Root. This is permitted by the rules of the ASME Code. ASME Code Section III, NCA-1140(b). The Code does not specifically require that use of later Addenda paragraphs be documented in the QA Manual. In fact, as noted in the Affidavit of R.J. Vurpillat at 3, Brown & Root has documented evidence in their design documents that the use of these later Addenda paragraphs was permitted, and ASME has been so advised. Accordingly, this means that the technical requirements of the ASME Code were satisfied.

C. ASME Comment

The manual control system did not contain the exhibits displayed in the manual or any manual approval method.

Applicable ASME Code Requirements

Record forms used to document or control work may be included as typical exhibits in the QA Manual. ASME Code Section III NCA-4134.2(c).

Analysis and Conclusion

As stated in the affidavit of R.J. Vurpillat at 4, it is true that the documents used to control and transmit the QA Manual were not included in the QA Manual exhibits. However, the control documents were part of the Quality Assurance program and the QA Manual approval and transmittal was performed in accordance with the program detailed in the implementing procedures. After the ASME Survey, the transmittal forms were added to the Manual as exhibits.

While the addition of these exhibits clarified the system of Manual approval and transmittal, the earlier approach did not adversely impact the Quality Assurance program in effect at the time. Accordingly, the technical requirements of the Code were satisfied.

D. ASME Comment

The program elements of process control, nonconformity control and document control required significant changes.

Applicable ASME Code Requirements

The Code requires that the essential elements of control be addressed in the QA Manual. ASME Code Section III, NCA-4134.2(c).

Analysis and Conclusion

As stated in the affidavit of R.J. Vurpillat at 4-5, these elements of control were part of the Brown & Root Quality Assurance system but were detailed in the QA implementation procedures rather than in the QA Manual. The correction was to add more clarifying detail to the QA Manual, which was later done.

This situation does not adversely reflect on the implementation of any QA functions by Brown & Root. There was no need for any corrective action of the part of Brown & Root other than to include more detail in the QA Manual itself. Accordingly, the technical requirements of the Code were satisfied.

E. ASME Comment

The design control element (control of field change design information and feed back of construction information to the Owner) was missing from the manual.

Applicable ASME Code Requirements

The Code requires that the essential elements of control be addressed in the QA Manual. ASME Code Section III, NCA-4134.2(c).

Analysis and Conclusion

As stated in the affidavit of R.J. Vurpillat at 5, Brown & Root has always had implementing procedures on how field change information is controlled from the design stage forward. The corrective action taken to address the ASME comment was to add these controls to the QA Manual. There was no required change in the features of control. Accordingly, the technical requirements of the Code were satisfied.

F. ASME Comment

All elements required changes to provide definitive information since few auditable controls were included.

Applicable ASME Code Requirements

The Code requires that the essential elements of control be addressed in the QA Manual. ASME Code Section III, NCA-4134.2(c).

Analysis and Conclusion

By this comment the Survey Team requested that the specific details of controlling work, which were in the Brown & Root implementing procedures, also be described in the QA Manual. As stated by R.J. Vurpillat in his affidavit at 5, the QA Manual was revised by Brown & Root to accomplish this. This is a further elaboration of Item A above and does not signify improper implementation of any QA functions performed by Brown & Root at Comanche Peak.

VII. IMPLEMENTATION OF BROWN & ROOT ASME
QA PROGRAM AT COMANCHE PEAK

For each of the following items, Sections VII A-I, it is an ASME Code requirement that the specific requirements of the QA Manual be verified by the Survey Team as to being adequately implemented. ASME Code Section III, NCA-8161. The ASME Comments provide the views of the Survey Team on implementation of the Brown & Root Quality Assurance Program.

A. ASME Comment

Document Control - The Manual requires that the File Custodians in each department maintain a log of design changes received from the Owner. The File Custodian is to mark the involved document to indicate that a design change had been received and then the document user checks the log to find the applicable design change(s).

The log being maintained by the QA Department File Custodian contained numerous mistakes and missing information. Three of three design packages, checked by the team, contained design changes not properly identified in the log.

Analysis and Conclusion

As stated in the affidavit of R.J. Vurpillat at 6, the File Custodians have each reviewed their design change logs to verify that the documents which were the subject of this comment are now all correctly updated. This verification of documents assures that all ASME Code requirements have been met in this regard. Therefore, the technical requirements of the ASME Code were satisfied.

Further, as stated in the affidavit of R.J. Vurpillat at 6-7, the Survey Team was describing a situation encountered with the QA Department File Custodian. This File Custodian was reviewing each completed document package to assure that all the editorial work, required signatures, and other specifics were properly documented prior to placing these document packages in storage files. For the three design packages that were reviewed by the Survey Team, the document review had not yet been accomplished although the records were in the File Custodian's hands. The problem was the timeliness in performing the review, not that the records were not being properly reviewed.

Also, the documents being reviewed were not working documents (i.e., not used for field work) but merely documents that were to be reviewed after construction and prior to final storage of records. The resolution of the problem was that the timeliness of the reviews was to be improved. This situation does not involve any violation of the technical requirements in the ASME Code.

B. ASME Comment

Instructions, Procedures, and Drawings - The Brown & Root Construction Procedure 6.9G, reviewed by the site QA Manager, was in direct conflict with the QA Manual and the Code (NA-5241) in that it stated that the ANI would sign a blank process sheet and then Brown & Root would add the ANI hold points. The AIA representative stated that this procedure was not honored by them and that they had requested the procedure be revised. The procedure had not been revised.

The purpose of the Site QA Manager's review is to assure that the procedure complies with the Code and the QA Manual.

Analysis and Conclusion

The Code requires that the Authorized Nuclear Inspector ("ANI") establish "hold points" on Code activities being performed. ASME Code Section III, NCA-4134.8(c), NCA-4134.9(b) and NCA-4134.10(c). As stated in the affidavit of R.J. Vurpillat at 8, the ANI on site used the procedure described above in order to establish "generic" hold points. As long

as these generic "hold points" were established by the ANI, the requirements of the Code were met.

The Survey Team felt that the ANI should not sign blank process sheets to establish hold points. Consequently, the method of establishing "hold points" was changed in the procedure and the Inspector established his own method of documenting hold points. See affidavit of R.J. Vurpillat at 8.

There was never a problem in implementation because the Inspector did establish the hold points he felt necessary. The problem was that the Brown & Root procedure did not accurately describe the "hold point" system actually used. The technical requirements of the Code were met both with regard to the Inspector and the establishment of hold points.

C. ASME Comment

Control of Purchased Materials, Items and Services

Vendor Control - Brown & Root procured material from a vendor that they had surveyed and qualified as a Material Supplier of bolting and plate materials. The material furnished had been formed into a saddle configuration by this vendor. The Brown & Root survey and qualification of this vendor did not address review of any operation relative to forming and the Brown & Root purchase order did not define the forming process or procedure.

Analysis and Conclusion

Brown & Root should have reviewed the procedure used by the plate material supplier prior to placing them on their Approved Vendors list. As stated in the affidavit of R.J. Vurpillat at 9, the correction of this item was carried out by subsequent review of the procedure, and it was subsequently verified that the procedure was properly used for the plate material which had been formed by the vendor. Further, the method of placing vendors on the Approved Vendors List was amended by Brown & Root to assure that procedures of this nature would be reviewed prior to approval of the vendor. Consequently, there was no violation of ASME Code technical requirements because the procedure was, in fact, properly qualified and demonstrated that the forming procedure used did not adversely affect the material.

D. ASME Comment

Control of Purchased Materials, Items
and Services

The same material addressed in [Item C] was observed in the production shop with work in process. This material had not been receipt inspected in noncompliance with the QA Manual and the material was not identified as required by the Brown & Root purchase order. Brown & Root had divided the material and transferred the material identification incorrectly. Brown & Root does not verify the transfer of material identification, and during the review of the manual stated that this verification was unnecessary.

Analysis and Conclusion

As described in the affidavit of R.J. Vurpillat at 10, the ASME Survey Team apparently did not fully understand this vendor's system of identifying heat numbers on material. Sometimes heat numbers and other identification of materials will be on two separate lines. Although the original material in question had its identification marking on two lines, when the identification was transferred to the cut material, the numbers were placed on one line. This caused confusion and gave the appearance that all of the heat number information was not being transferred. This method of identification and the subsequent reverification of all cut material, as described in the affidavit of R.J. Vurpillat at 10, demonstrates that all required material identification was properly transferred and that the requirements of the ASME Code were met.

E. ASME Comment

Control of Construction Processes

Process sheets were observed in production that had not been reviewed with the ANI for establishment of hold points in noncompliance with the B & R QA Manual and NA-5241 of the Code. The process sheets CC-068-002-S33R and AF-035-023-S33A are included in this finding although numerous such process sheets are in production. (See B above)

Analysis and Conclusion

As stated in the affidavit of R.J. Vurpillat, at 11-12, this matter arose because of differences of opinion between two ANIs regarding the review of process sheets to establish hold points. The first ANI on site did not wish to review all process sheets for pipe hangers. He felt that his inspection of the installation of the pipe hangers would satisfy his requirements for inspections. A subsequent ANI felt that it was necessary to establish hold points on the process sheets. Some hold points were bypassed because of the inconsistency between the two ANIs approaches. After the ASME Survey was completed, the ANI reviewed all the process sheets to establish new hold points in the manner which he felt was necessary to respond to the concerns of the Survey Team. All process sheets for installed hangers will be reviewed with the ANI to assure all Code requirements have been met. Because each ANI has inspected work as he felt necessary, the ASME Code requirements were satisfied.

F. ASME Comment

Control of Construction Processes

Welding Procedure Specification 11012 for welding with impact test requirements did not specify the travel speed but instead controlled the heat input by Volt/amp

range and maximum bead width for a given electrode diameter. The procedure qualification record 010AB127 for this WPS recorded a bead width greater than allowed by the WPS.

Analysis and Conclusion

The Survey Team was concerned that the procedure qualification record used did not address the higher heat input of the Welding Procedure Specification and therefore was not a qualification for the worst case conditions. As stated in the affidavit of R.J. Vurpillat at 12-13, the problem was resolved by subsequent additional procedure qualifications which tested all the worst case heat input conditions which might exist during welding. The test results of these new welding procedure qualifications meet the requirements of the Code. ASME Code Section III, NB-4331 and Section IX, QW-409.1(a) and (b). This removes any question regarding the acceptability and adequacy of welding with this procedure. Also, as stated in the affidavit of R.J. Vurpillat at 12-13, all other similar welding procedure qualification records were reviewed for adequacy. Thus, no further question exists as to compliance with ASME Code requirements. The welding qualification performed by Brown & Root subsequent to the survey assures that Code requirements have been satisfied.

G. ASME Comments

Nonconformity Control

Nonconformity Control Report (NCR) M-2592 reported that a spool piece had been welded into the system backwards. Brown & Root QA determined the disposition to be rework and not repair and thereby the disposition to cut the spool piece out and reweld it in the correct configuration was not reviewed by welding engineering, as would have been required by a repair designation. There appeared to be no consideration of the heat input effect on the material, etc. as would be expected with this type of nonconformance.

Analysis and Conclusion

The matter commented upon by the ASME Survey Team arose because the system used and described in the welding control procedures was not adequately described in the QA Manual. Therefore, there was confusion on the part of the Survey Team regarding the welding review by the Welding Engineer. As described in the affidavit of R.J. Vurpillat at 13-14, Brown & Root's determination that the Welding Engineer had, in fact, reviewed both those items to be repaired and those to be reworked, and that heat input effects on the material were considered by the Welding Engineer, demonstrates that applicable Code requirements were met. In addition, the material was carbon steel less than 5/8" thick which was not required to be impact tested, and therefore no heat input problem existed. ASME Code Section III, NB-2311(a)(1) and (4). Thus, Code requirements were met in this regard also.

H. ASME Comment

Identification and Control of Material and Items

Component Supports are procured as stamped items by the Owner. The Code Data Report does not list Code Case N-225. The Component Support is supplied to B & R with only the Code Data Report by the Owner. B & R then cuts the component support, removing the welds, and uses the material to fabricate other component supports. B & R does not have the Certificate of Compliance (C of C) for the material.

Analysis and Conclusion

As stated in the affidavit of R.J. Vurpillat at 15-16, the resolution of this item is that all documentation for material and component supports has been sent by the component support manufacturers to the site. An extensive review is being carried out to assure that all material documentation at the site is adequate and that material which does not meet the requirements of the Code will not be used. When the review is completed, any necessary remedial actions should be taken, and the requirements of the Code regarding material documentation will have been met.

I. ASME Comment

Authorized Nuclear Inspector Involvement -

The ANI hold points on process sheets have been bypassed on numerous occasions. The ANI logbook documents these conditions and the volume would indicate a significant breakdown of the program and interface between B & R and the Authorized Inspection Agency personnel (See B and D-1 above).

Analysis and Conclusion

The Authorized Nuclear Inspector's "hold points" should not be by-passed. However, if this should occur, the Inspector can still make the required inspections at a later point, place new hold points or require work to be reperformed in order to witness whatever inspection he feels is required. ASME Code Section III, NCA-4134.10(c). The Inspector is obliged to make sufficient inspections in order to assure himself that the item meets the requirements of the Code. ASME Code Section III, NCA-5290. By accepting the work, the Inspector has acknowledged that he is satisfied that Code requirements have been met. ASME Code Section III, NCA-5290.

Brown and Root has acknowledged this ASME comment and taken the necessary action to correct it. Documentation for all past "hold points" is in order and has been reconciled by Brown and Root and the Authorized Nuclear Inspector. Affidavit of R.J. Vurpillat at 16-17. As long as the Inspector is satisfied that Code requirements are met, there is no violation of the technical requirements of the Code.

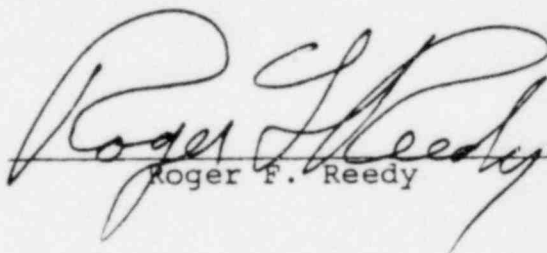
VIII. ASME RESURVEY OF BROWN
& ROOT ASME QA PROGRAM

As discussed in the affidavit of R.J. Vurpillat at 17, the ASME Survey Team performed a resurvey of the Brown & Root QA Program for ASME Code work on January 18-20, 1982. That resurvey resulted in a recommendation by the ASME Survey Team to the ASME Subcommittee on Nuclear Accreditation, that the B&R Certificates of Authorization be renewed. This recommendation was contingent upon the completion of three actions and verification of such completion by the Authorized Nuclear Inspection Supervisor.

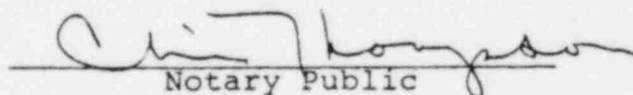
On February 8, 1982, the Authorized Inspection Agency ("AIA") for Brown & Root at Comanche Peak, Hartford Steam Boiler Inspection and Insurance Company, transmitted to the ASME verification that action for those three items had been verified as complete. Affidavit of R.J. Vurpillat at 17. These matters, together with their resolution as stated in the AIA letter, evidence satisfaction of the technical requirements of the ASME Code and pose no concern that work performed prior to or since their resolution does not meet Code standards.

IX. CONCLUSION

Based upon the foregoing, I conclude that Brown & Root has satisfactorily demonstrated, pursuant to the requirements of the ASME Code, that ASME Code work performed by it at the Comanche Peak site, which was the subject of the ASME Survey and Resurvey, satisfies all pertinent ASME Code requirements. All matters raised by the ASME Survey Team at both the October 1981 Survey and the January 1982 Resurvey were resolved by Brown & Root and appropriate reverification has been completed or is now being undertaken. Specifically, Brown & Root has demonstrated to the proper authorities implementation of an appropriate QA program for ASME Code work completed at Comanche Peak up to the present time. Accordingly, no serious safety issues were raised during the survey and recertification process, and the matters which were raised have been resolved satisfactorily.


Roger F. Reedy

Sworn to before me this 6th day of May 1982.


Notary Public

My commission expires 5-12-84

ROGER F. REEDYSTATEMENT OF EDUCATIONAL
AND PROFESSIONAL QUALIFICATIONS

CURRENT POSITION: President, R.F. REEDY, INC.
Partner, REEDY, HERBERT, GIBBONS &
ASSOCIATES

FORMAL EDUCATION: Bachelor Science, Civil Engineering,
Illinois Institute of Technology, June 1953

Postgraduate study, Structural Engineering
Illinois Institute of Technology
36 hours credit
September 1956 - June 1959

EXPERIENCE:

1981 - Present R.F. REEDY, INC., President
REEDY, HERBERT, GIBBONS & ASSOCIATES,
Partner - Advise client companies on QA,
design, fabrication, construction and
licensing.

1976 - 1981 NUTECH, Engineering Manager and Chief
Consultant - Code consultant to engineers
and clients. Served as Director of the
Quality Assurance Group and consulted with
clients in developing QA programs.

1956 - 1976 CHICAGO BRIDGE & IRON, Design Engineer,
Engineering Manager, and Senior Engineer.
Served as designer, staff engineer, project
engineer and design manager. Ultimately
served as senior engineer reporting to the
Vice President of Engineering. Duties
included design of pressure vessels and
consulting on quality assurance.

PROFESSIONAL
AFFILIATIONS:

ASME Boiler and Pressure Vessel Committee
Chairman, Section III (Nuclear Components)
Member - Executive Committee
Member - Main Committee
Subgroup on Containments (former Chairman)
Subgroup on Fabrication and Examination
(former member)
International Standards Institute
Chairman, Working Group on Containment
ASME Pressure Vessel and Piping Division -
Past Chairman

-2-

Professional
Affiliations:
(cont.)

Registered Professional Engineer in the
States of Illinois, Michigan, Wisconsin,
Indiana and California

Registered Structural Engineer in the
State of Illinois

Member - American Society of Civil
Engineers (ASCE)

Fellow - American Society of Mechanical
Engineers (ASME)

Member - National Society of Professional
Engineers (NSPE)

III-1-79-199

Interpretation: III-1-79-199

Subject: Section III, Division 1, Subsection NCA Owner's Activities

Date Issued: November 29, 1979

File: NI-79-248

Question (1): What requirements must be met for an Owner to furnish materials to his on-site sub-contractors?

Reply (1): In order to furnish materials to his on-site subcontractors, the Owner must have an N-Type Certificate of Authorization, or have a written program that conforms to NCA-3861(b) and NCA-3866.3 and this written program has been surveyed and accepted by ASME or the N-Type Certificate Holder [NCA-3820(b)] who uses the material.

Question (2): May an Owner furnish Code stamped items to his on-site subcontractor for installation?

Reply (2): The Owner may furnish Code stamped items to on-site subcontractors for installation at the Nuclear Power Plant site provided those on-site subcontractors are holders of the appropriate N-Type Certificate of Authorization.

Question (3): If any Owner retains and keeps on file in his facility all Code required documentation for the material and Code items described in (1) and (2) above, may he then advise subcontracted N-Type Certificate Holders that the documents are available to them and their Authorized Nuclear Inspectors for review if they wish to visit the Owner's facility?

Reply (3): When the Owner procures Code stamped items for installation at the Nuclear Power Plant site, the records required by NCA-4134.17(e) need not be maintained at the Nuclear Power Plant site as permitted by NCA-4134.17(d). However, the Authorized Nuclear Inspector performing inspection of the installation at the Nuclear Power Plant site shall have available to him the documentation required for him to perform the duties described in NCA-5220.

Question (4): May the Owner who furnishes materials to subcontracted N-Type Certificate Holders refuse to submit Certified Material Test Reports and Certificates of Conformance to the subcontracted N-Type Certificate Holder?

Reply (4): When authorized to furnish material, the Owner shall furnish all Code required documentation, including Certified Material Test Reports and Certificate of Conformance, as applicable, for the material that is furnished to the N-Type Certificate Holder receiving the material to permit the N-Type Certificate Holder to determine that the requirements of the Code have been met.

Question (5): Is it permissible for the Owner to put all documents relating to Code material and stamped items on microfiche and destroy original documents?

Reply (5): Yes. NCA-4134.17(b) states that records may be either the original or a reproduced legible copy. In addition, NCA-4134.17(c) provides requirements for the microfilming of radiographs.

Question (6): Is it permissible for the Owner to perform the activities of an N-Type Certificate Holder prior to having a written "inspection" agreement with an Authorized Inspection Agency?

Reply (6): An Owner is not permitted to perform any work which requires witnessing for verification by the Authorized Nuclear Inspector at the time it is performed without having an agreement with an

Authorized Inspection Agency. However, an Owner is permitted to perform those activities which, after being performed, are verifiable by an Authorized Nuclear Inspector subsequent to an agreement with an Authorized Inspection Agency. Those activities performed prior to having an agreement with an Authorized Inspection are performed at the risk of not being acceptable to the Authorized Nuclear Inspector.

Question (7): Is it permissible for the Owner to perform the activities of an N-Type Certificate Holder prior to an Authorized Inspector being assigned to witness or verify the Code activities?

Reply (7): An Owner is not permitted to perform any work which requires witnessing for verification by the Authorized Nuclear Inspector at the time it is performed. However, an Owner is permitted to perform those activities that are verifiable by the Authorized Nuclear Inspector subsequent to the Authorized Nuclear Inspector being assigned to the site. Those activities performed prior to the Authorized Nuclear Inspector being assigned to the site are performed at the risk of not being acceptable to the Authorized Nuclear Inspector.

Question (8): Is it permissible for the Owner to perform the activities of an N Certificate Holder, without a Quality Assurance Program meeting the NCA-4000 requirements?

Reply (8): No. The activities of an N Certificate Holder must be performed under a Quality Assurance Program meeting the requirements of the Code applicable to these activities.

Question (9): May an Owner perform the activities of an N-Type Certificate Holder prior to a review by ASME?

Reply (9): It is permissible for an Owner to perform the activities of an N-Type Certificate Holder prior to review by ASME for an N-Type Certificate of Authorization, provided these activities are performed in accordance with a written Quality Assurance Program (NCA-4000). Activities performed prior to acceptance of the Quality Assurance Program by ASME and the issuance of the N-Type Certificate of Authorization by ASME are performed at the risk of not being acceptable to the Authorized Nuclear Inspector.

ATTENTION

The foregoing interpretation has been further considered and the following corrected interpretation sent to the inquirer.

Correction Issued: January 11, 1980

Question (1): What requirements must be met for an Owner to furnish materials to his on-site subcontractors?

Reply (1): In order to furnish materials to his on-site subcontractors, the Owner must have an N-Type Certificate of Authorization, or have a written program that conforms to NCA-3861 (b) and NCA-3866.3 and this written program has been surveyed and accepted by ASME or the N-Type Certificate Holder [NCA-3820(b)] who uses the material.

Question (2): May an Owner furnish Code stamped items to his on-site subcontractor for installation?

Reply (2): The Owner may furnish Code stamped items to on-site subcontractors for installation at the Nuclear Power Plant site provided those on-site subcontractors are holders of the appropriate N-Type Certificate of Authorization.

III-1-79-199

Question (3): If any Owner retains and keeps on file in his facility all Code required documentation for the Code stamped items described in (2) above, may he then advise subcontracted N-Type Certificate Holders that the documents are available to them and their Authorized Nuclear Inspectors for review if they wish to visit the Owner's facility?

Reply (3): When the Owner procures Code stamped items for installation at the Nuclear Power Plant site, the records required by NCA-4134.17(e) need not be maintained at the Nuclear Power Plant site as permitted by NCA-4134.17(d); the required Data Reports shall be furnished to the subcontracted N-Type Certificate Holder. However, the Authorized Nuclear Inspector performing inspection of the installation at the Nuclear Power Plant site shall have available to him the documentation required for him to perform the duties described in NCA-5220.

Question (4): May the Owner who supplies materials to subcontracted N-Type Certificate Holders refuse to submit Certified Material Test Reports or Certificates of Compliance to the subcontracted N-Type Certificate Holder?

Reply (4): When authorized to supply material, the Owner shall furnish all Code required documentation, including Certified Material Test Reports or Certificates of Compliance, for the material that is supplied to the N-Type Certificate Holder receiving the material to permit the N-Type Certificate Holder to determine that the requirements of the Code have been met.

Question (5): Is it permissible for the Owner to put all documents relating to Code material and stamped items on microfiche and destroy original documents?

Reply (5): NCA-4134.17(b) permits records to be either the original or a reproduced legible copy. In addition, NCA-4134.17(c) provides requirements for the microfilming and retention of specifically designated radiographs.

Question (6): Is it permissible for the Owner to perform the activities of an N-Type Certificate Holder prior to having a written "inspection" agreement with an Authorized Inspection Agency?

Reply (6): An Owner is not permitted to perform any work which may require witnessing by the Authorized Nuclear Inspector at the time it is performed (NCA-5200) without having an agreement with an Authorized Inspection Agency. An Owner is not prohibited from performing those activities which, after being performed, are verifiable by an Authorized Nuclear Inspector subsequent to an agreement with an Authorized Inspection Agency; however, those activities performed prior to having an agreement with an Authorized Inspection Agency are performed at the risk of not being acceptable to the Authorized Nuclear Inspector.

Question (7): Is it permissible for the Owner to perform the activities of an N-Type Certificate Holder prior to an Authorized Nuclear Inspector being assigned to witness or verify the Code activities?

Reply (7): An Owner is not permitted to perform any work which may require witnessing by the Authorized Nuclear Inspector at the time it is performed (NCA-5200). An Owner is not prohibited from performing those activities that are verifiable by the Authorized Nuclear Inspector subsequent to his being assigned; however, those activities performed prior to the Authorized Nuclear Inspector being assigned to the site are performed at the risk of not being acceptable to the Authorized Nuclear Inspector.

Question (8): Is it permissible to perform the activities of an N Certificate Holder, without having a Quality Assurance Program meeting the NCA-4000 requirements?

Reply (8): The activities of an N Certificate Holder must be performed under a Quality Assurance Program meeting the requirements of the Code applicable to these activities. Activities performed prior to

III-1-79-199, III-1-79-200

acceptance of the Quality Assurance Program by ASME and the issuance of the N-Type Certificate of Authorization by ASME are performed at the risk of not being acceptable to the Authorized Nuclear Inspector.

Question (9): Is it permissible to perform the activities of an N-Type Certificate Holder prior to a survey by ASME?

Reply (9): An organization is not prohibited from performing the activities of an N-Type Certificate Holder prior to a survey by ASME for an N-Type Certificate of Authorization, provided these activities are performed in accordance with a written Quality Assurance Program (NCA-4000). Activities performed prior to acceptance of the Quality Assurance Program by ASME and the issuance of the N-Type Certificate of Authorization by ASME are performed at the risk of not being acceptable to the Authorized Nuclear Inspector.

ASME CODE SECTION IIINB-2300 FRACTURE TOUGHNESS
REQUIREMENTS FOR
MATERIALNB-2310 MATERIAL TO BE IMPACT
TESTEDNB-2311 Material for Which Impact Testing Is
Required

(a) Pressure retaining material and material welded thereto shall be impact tested in accordance with the requirements of this Subarticle, except that the material listed in (1) through (7) below is not to be impact tested as a requirement of this Subsection:

(1) material with a nominal section thickness of $\frac{5}{8}$ in. (16 mm) and less where the thicknesses shall be taken as defined in (a) through (e) below:

(a) for pumps, valves, and fittings, use the largest nominal pipe wall thickness of the connecting pipes;

(b) for vessels and tanks, use the nominal thickness of the shell or head, as applicable;

(c) for nozzles or parts welded to vessels, use the lesser of the vessel shell thickness to which the item is welded or the maximum radial thickness of the item exclusive of integral shell butt welding projections;

(d) for flat heads, tubesheets, or flanges, use the maximum shell thickness associated with the butt welding hub;

(e) for integral fittings used to attach process piping to the containment vessel or a containment vessel nozzle, use the larger nominal thickness of the pipe connections;

(2) bolting, including studs, nuts, and bolts, with a nominal size of 1 in. (25 mm) and less;

(3) bars with a nominal cross-sectional area of 1 sq in. (645 mm²) and less;

(4) all thicknesses of material for pipe, tube, fittings, pumps, and valves with a nominal pipe size 6 in. diameter and smaller;

(5) material for pumps, valves and fittings with all pipe connections of $\frac{5}{8}$ in. (16 mm) nominal wall thickness and less;

(6) austenitic stainless steels;

(7) nonferrous material.

(b) Drop weight tests are not required for the martensitic high alloy chromium (Series 4XX) steels and precipitation hardening steels listed in Appendix I. The other requirements of NB-2332 apply for these steels. For nominal wall thicknesses greater than $2\frac{1}{2}$ in. (64 mm), the required Charpy V-notch values shall be 40 mils (10.20 mm) lateral expansion.

NB-4330 GENERAL REQUIREMENTS FOR
WELDING PROCEDURE
QUALIFICATION TESTSNB-4331 Conformance to Section IX
Requirements

W81

All welding procedure qualification tests shall be in accordance with the requirements of Section IX as supplemented or modified by the requirements of this Article.

NCA-1140 USE OF CODE EDITIONS,
ADDENDA, AND CASES

(a)(1) Under the rules of this Section, the Owner⁶ or his designee⁷ shall establish the Code Edition and Addenda to be included in the Design Specifications. All items of a nuclear power plant may be constructed to a single Code Edition and Addenda, or each item may be constructed to individually specified Code Editions and Addenda.

(2) In no case shall the Code Edition and Addenda dates established in the Design Specifications

⁶See NCA-3210 for definition of Owner.

⁷As used throughout this Section the word designee refers to any organization that performs specified activities at the request of the Owner. The Owner retains the responsibility for the activity as performed by the designee.

be earlier than three years prior to the date that the nuclear power plant construction permit application is docketed.

(b) Code Editions and Addenda later than those established by (a) above may be used by mutual consent of the Owner or his designee and Certificate Holder.⁸ For Division 2 design and construction, the consent of the Designer shall also be obtained. Specific provisions within an Edition or Addenda later than those established in the Design Specifications may be used provided that all related requirements are met.

NCA-4134 N, NV, NPT, and NA Certificate Holders for Class 1, 2, 3, MC, CS, CB, and CC Construction

NCA-4134.1 Organization

(a) The authority and responsibility of those persons and organizations performing activities affecting quality shall be clearly established and documented. These activities include both the performing activities of attaining quality objectives and the quality assurance functions.

(b) The quality assurance functions within the Quality Assurance Program are those of assuring that an appropriate Quality Assurance Program is established and effectively implemented, and verifying, such as checking, auditing, or inspecting, that activities affecting quality have been correctly performed. Persons and organizations performing quality assurance functions shall have sufficient authority and organizational freedom to:

- (1) identify quality problems;
- (2) initiate, recommend, or provide solutions;
- (3) verify implementations of solutions;
- (4) and limit or control further processing, delivery, or installation of a nonconforming item or unsatisfactory condition until proper dispositioning has occurred.

Such persons and organizations performing quality assurance functions shall report to a management level so that this required authority and organizational freedom, including sufficient independence from cost and schedule considerations, are provided. Because of the many variables involved, such as the number of personnel, the type of activity being performed, and the location or locations where activities are performed, the organizational structure for executing the Quality Assurance Program may take various forms provided that the persons and organizations assigned

the quality assurance functions have this required authority and organizational freedom. Irrespective of the organizational structure, the individual(s) assigned the responsibility for assuring effective execution of any portion of the Quality Assurance Program at any location where activities subject to this Section are being performed shall have direct access to such levels of management as may be necessary to perform this function.

NCA-4134.2 Quality Assurance Program

(a) A Holder of a Certificate of Authorization shall have a Quality Assurance Program for the control of the quality of specific items which he designs and constructs, or for the other work which he performs. The Program shall define the organizational structure within which the Quality Assurance Program is implemented and shall clearly delineate the responsibilities, levels of authorities, and lines of communication for the various individuals, groups, and subcontractors involved. The Quality Assurance Manual shall include a statement of policy and authority indicating management support. The Quality Assurance Program shall be documented by written policies, procedures, and instructions and shall be based on consideration of the design and construction aspects of the scope of work. The quality of all items and services, whether constructed, manufactured, or performed at the Certificate Holder's facilities or obtained from an outside supplier, shall be controlled at all points necessary to assure conformance with the requirements of this Section and the Certificate Holder's Quality Assurance Manual. The Program shall provide for the accomplishment of activities affecting quality under suitably controlled conditions. Controlled conditions include the use of appropriate equipment, suitable environmental conditions for accomplishing the activity, and assurance that prerequisites for the activity have been satisfied. The Program shall take into account the need for special controls, processes, test equipment, tools, and skills to attain the required quality and need for verification of quality by examination, inspection, and test. The Program shall provide for ready detection of nonconforming material and items and for timely and positive corrective actions. Management shall regularly review the status and adequacy of the Program. The specific responsibilities of the quality assurance organization of the Certificate Holder shall include the review of written procedures and monitoring of all activities concerned with the Quality Assurance Program as covered in this Article.

(b) The Program shall provide for indoctrination and training of personnel performing activities

affecting quality as necessary to assure that suitable proficiency is achieved and maintained. It shall be the responsibility of the Certificate Holder to assure that all personnel performing quality functions within the scope of this Section, including personnel of subcontracted services, are qualified as specified in this Section. The assignment of qualified personnel shall be at the discretion of the Certificate Holder.

(c) The Program shall be documented in detail in a Quality Assurance Manual. The Program need not be in the same format or sequential arrangement as the requirements in this Article, as long as all applicable requirements of this Article have been covered. The Manual shall have been accepted by the Society prior to the issuance of a Certificate of Authorization. A copy, including all changes that are made, shall be made available to the Inspector. The Manual shall be the Inspector's guide for monitoring the Certificate Holder's continued compliance with the accepted Quality Assurance Program. The Certificate Holder shall make available to the Inspector such drawings and process sheets as are necessary to make the Quality Assurance Program intelligible.

(d) The Certificate Holder shall be responsible for advising its Authorized Inspection Agency of any significant changes which are proposed to be made to the Quality Assurance Manual, and shall have acceptance of the Authorized Inspection Agency's Inspection Specialists before putting such changes into effect. The Certificate Holder shall be responsible for promptly notifying the Inspector of such accepted changes, including evidence of acceptance by the Authorized Inspection Agency, and for simultaneously reconciling copies of the Quality Assurance Manual.

NCA-4134.5 Instructions, Procedures, and Drawings. Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative and qualitative criteria for determining that important activities have been satisfactorily accomplished. Copies of these procedures shall be readily available for use by design and construction personnel and for use by the Inspector.

NCA-4134.8 Identification and Control of Material and Items

(a) Measures shall be established for identification and control of material and items, including partially fabricated assemblies. These measures shall assure that identification is maintained either on the material or item or on records traceable to the material or item throughout construction. These measures shall be designed to prevent the use of incorrect or defective items, and those which have not received the required examinations, tests, or inspections.

(b) Permanent or temporary unit identification marks shall be applied using methods and materials which are legible and not detrimental to the item involved. Such identification shall be located in areas that will not interfere with the function or quality aspects of the item. Welding and brazing materials for all classes of construction shall be controlled.

(c) All characteristics required to be reported by the material specifications and by this Section shall appear on checklists and each such characteristic shall be examined by accepted procedures as required and the results recorded. Characteristics included on Certified Material Test Reports or Certificates of Compliance need not be duplicated in the checklists. Checklists shall provide for a record that the Certified Material Test Reports and Certificates of Compliance have been received, reviewed, and found acceptable. When the results of the examination or test procedure conducted by the Certificate Holder are necessary to show compliance with material specification or other requirements, the checklists shall show the required range of values. The checklists shall include spaces for inclusion of document number and revision to which examination or tests were made, for a signature, initials, or stamp and date of the examination performed by the Certificate Holder's representative, and for an Inspector's signature, initials, or stamp and date for those activities which he witnesses.

NCA-4134.9 Control of Construction Processes

(a) The Certificate Holder shall operate under a controlled system such as process sheets, shop procedures, checklists, travelers, or equivalent procedures. Measures shall be established to assure that processes, such as welding, heat treating, and concrete placement, are controlled in accordance with the rules of this Section and are accomplished by qualified personnel using qualified procedures.

(b) Process sheets, checklists, shop procedures, travelers or equivalent documentation shall be prepared, including the document numbers and revisions to which the process conforms, with space provided for reporting results of completion of specific operations at checkpoints of fabrication, manufacture, or installation. These documents shall include spaces for the signature, initials, or stamp of the representative of the Certificate Holder and date, and for the signature, initials or stamp of the Inspector, and date for those activities which he witnesses.

(c) The Program shall provide for the accomplishment of activities affecting quality under suitably controlled conditions. Controlled conditions include the use of appropriate equipment, suitable environmental conditions for accomplishing the activity, and assurance that prerequisites for the given activity have been satisfied.

NCA-4134.10 Examinations, Tests, and Inspections

(a) In-process and final examinations and tests shall be established to assure conformance with specifications, drawings, instructions, and procedures which incorporate or reference the requirements and acceptance limits contained in applicable design documents. Examination activities to verify the quality of work shall be performed by persons other than those who performed the activity being examined. Such persons shall not report directly to the immediate supervisors who are responsible for the work being inspected.

(b) Process sheets, travelers, or checklists shall be prepared, including the document numbers and revision to which the examination or test is to be performed, with space provided for recording results of examinations and tests. The documents shall include space for a signature, initials, or stamp and date that the activity was performed by the Certificate Holder's representative and for the Inspector's signature, initials, or stamp and date for those activities which he witnesses. The examination checklist for construction of items shall be filled in and completed by the Certificate Holder who applies the appropriate Code symbol stamp to the item.

(c) Mandatory hold points at which witnessing is required by the Certificate Holder's representative or the Inspector shall be indicated in the controlling documents (NCA-4134.9). Work shall not proceed beyond mandatory hold points without the consent of the Certificate Holder's representative or the Inspector, as appropriate.

NCA-5290 CERTIFICATION OF DATA REPORTS AND CONSTRUCTION REPORTS

(a) The appropriate Data Reports prepared by the Certificate Holder shall be certified by the Inspector only after they have been certified by a responsible representative of the Certificate Holder and after he has satisfied himself that all requirements of this

Section have been met and that each Data Report certified is a correct record. For Division 2 items, certification by the Designer is also required prior to certification by the Inspector.

(b) The Inspector shall review and separately certify that the information contained in the Construction Report for Division 2 construction is valid and corresponds to the requirements of Division 2 and that the Designer's review and certification of the Construction Report has taken account of all requirements of this Section.

(c) The N-3 Data Report Form (NCA-3220) shall be certified by the Inspector only after:

(1) it has been certified by the Owner;

(2) the Inspector has reviewed the N-3 Form and verified that the Data Reports referenced on the N-3 Form are on file and that such Data Reports verify Code compliance of all components, parts, appurtenances, component supports, and core support structures incorporated into the nuclear power system or that portion of the system covered by the N-3 Form;

(3) the Inspector has verified that required documents for overpressure protection exist and are properly filed for that portion of the system covered by the N-3 Form.

NCA-S160 SURVEY OF APPLICANT

NCA-S161 Applicant for a Certificate of
Authorization

(a) Applicants for a new or renewed Certificate of Authorization for Class 1, 2, 3, CS, CB, CC, or MC construction require a survey of their shop or field facilities. The purpose of the survey is to evaluate the applicant's Quality Assurance Manual and the implementation of the Quality Assurance Program.

(b) Authorization to apply a Code Symbol Stamp to an item will be granted only after a survey by the Society has satisfactorily demonstrated the adequacy of the Quality Assurance Program.

(c) The extent of the survey will be determined by the Society based on a review of the applicant's intended work scope. The acceptance by the Society of the Quality Assurance Program shall not be interpreted to mean endorsement of technical capability to perform design work such as system design or stress analysis. Such capability is implied for the specific component involved by the certification of Design Reports (NCA-3350, NCA-3555) by a Registered Professional Engineer.

ASME CODE SECTION IX

QW-409 Electrical Characteristics

QW-409.1 A change in the type of current or polarity, or an increase in heat input, or an increase in volume of weld metal deposited per unit length of weld, over that qualified. The increase may be measured by either of the following:

(a) Heat input (J/in.)

$$= \frac{\text{Voltage} \times \text{Amperage} \times 60}{\text{Travel Speed (in./min)}}$$

(b) Volume of Weld Metal = An increase in bead size, or a decrease in length of weld bead per unit length of electrode or, alternatively, a decrease in travel speed.

The requirement for measuring the heat input or volume of deposited weld metal does not apply when the WPS is qualified with a grain refining austenitizing heat treatment after welding.