

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 50-412/84-18
Docket No. 50-412
License No. CPPR-105 Priority -- Category B

Licensee: Duquesne Light Company
Robinson Plaza Building No. 2
Suite #210, PA Route 60
Pittsburgh, Pennsylvania

Facility Name: Beaver Valley Power Station, Unit 2

Inspection At: Shippingport, Pennsylvania

Inspection Conducted: November 20, 1984 - January 2, 1985

Inspectors: G. A. Walton Jan. 9, 1985
G. A. Walton, Senior Resident Inspector date
L. J. Priwidy Jan. 9, 1985
L. J. Priwidy, Resident Inspector date
Approved by: L. E. Tripp 1/18/85
L. E. Tripp, Chief, Reactor Projects Section date
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Inspection Summary: Inspection No. 50-412/84-18 on November 20, 1984 - January 2, 1985

Areas Inspected: Routine, unannounced inspection by two resident inspectors (307 hours) of activities pertaining to previously identified unresolved items, in-place storage of reactor coolant system components, fuel pool heat exchangers and batteries, installation of rigid sway strut pipe supports, review of several Information Notices and daily site tours.

Results: The status of the Maintenance Program for plant equipment after being installed is weak and needs to be upgraded. Inplace storage of certain reactor coolant system piping and valves was not adhered to as required by specification. This is a noncompliance. In addition, several new unresolved items were identified pertaining to inplace storage of reactor vessel upper internals, fuel pool heat exchangers and batteries. This further identified the weakness in the Maintenance Program for inplace storage.

No significant safety issues were identified in other areas inspected.

DETAILS

I. Persons Attending Exit Interview

Duquesne Light Company

L. Arch, Site Engineer, Engineering
J. Bajuszik, Director, Construction Engineering
C. Davis, Director, Quality Assurance
C. Ewing, Manager, Quality Assurance
H. Good, Senior Weld Specialist, Quality Control
E. Horvath, Electrical, Engineering
C. Majumdar, Assistant Director, Quality Control
D. Rohm, Assistant Director, Quality Control
J. Stabb, Compliance Engineer, Engineering

Stone and Webster Engineering Corporation

A. McIntyre, Superintendent, Engineering
J. Novak, Superintendent, Construction
R. Wittschen, Licensing Engineer, Engineering

2. Construction Site Walk-Through Inspections

Daily tours of the construction site were made to observe work activities in progress, completed work, and plant status of the construction site. The presence of Quality Control inspectors and quality records were observed. Except as identified as items 84-18-01, 84-18-02, 84-18-03, 84-18-05, 84-18-06, and 84-18-07, all areas observed were found acceptable.

3. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance, 82-14-02, Nondestructive Examination of Electrical Penetrations.

This item, discussed in Inspection Reports 50-412/82-14, 83-13 and 84-03, identified an omission by the licensee to specify code required volumetric examinations of electrical containment penetration welds. The licensee has now completed the inspection and repairs of all affected electrical penetrations. The following is a breakdown of the results:

- Seventy-eight welds required examinations.
- Sixty-nine welds were rejected and repaired to meet the acceptance standards specified in the ASME, B&PV Code.
- Specification 2BVS-931 has been revised to require ultrasonic plus magnetic particle examinations of all closure butt welds of the electrical penetration assemblies.
- The acceptance standards are as stated in Class MC, 1971 Winter, 1972 Addenda of ASME Section Code.

The inspector reviewed the associated documentation for the examinations, repairs and re-examinations for compliance with the FSAR, Regulatory Guide 1.19, ASME B&PV Code Section III, and Specification 2BVS-931.

The inspector found all areas reviewed acceptable and this item is considered closed.

(Closed) Noncompliance, 83-15-01, Electrical Tray Support Location

This noncompliance identified that supports were being installed to base-plates without proper calculations to support the installation of the as-installed conditions.

The licensee identified that fifty-four supports shown on Drawing Details DH, KH, KN, A, DT and DU required reinspection, because, as identified by the NRC, the drawing contained misleading information and the supports might be installed different than the existing calculations supported.

The licensee has completed the reinspection with the following results obtained:

- Detail DH - Twenty-seven supports reinspected. All twenty-seven supports require recalculations to justify the as-installed condition. One support required rework to be acceptable.
- Detail DU - Two supports reinspected. Both required recalculations to justify the as-installed condition.
- Detail DT - One support reinspected and required rework to be acceptable.
- Detail KH - Twenty-two supports reinspected. All twenty-two supports required recalculation to justify the as-installed condition.

- Detail KN - One support reinspected and required recalculation to justify the as-installed condition.
- Detail A - One support reinspected and found acceptable. Recalculation was not required.

The inspector reviewed the documentation associated with this item and determined that corrective actions were taken. In addition, the inspector verified that the affected drawings were modified such that clear installation instructions now exist. This item is closed.

(Closed) Unresolved Item, 84-07-04, Vendor Supplied Material (Lone Star Screw Company)

A Region IV inspection conducted January 16-20, 1984, of Lone Star Screw Company identified a discrepancy of bolting material for tempering and stress relieving when material is fabricated to certain editions and addendums of the ASME Code.

The bolting supplied to Beaver Valley, Unit 2, under 2BV-57848, Items 33 through 36 and 38, was originally certified by Lone Star Screw Company as meeting ASME Section II, Part A, SA-193, Grade B7, 1977 edition with no addenda and ASME Section III, Subsection NC, Class 2, 1980, edition up to and including the Winter 1981, addenda. Due to the stress relief temperature used for this material being more than 100 F below the tempering temperature, the material did not meet the requirements of the SA-193 material specification, Winter 1981, addenda. Therefore, compliance with ASME Section III, Winter 1981, rules requiring that the rules of ASME Section II, Winter 1981, also be met was not completed. Lone Star Screw Company notified Stone & Webster Engineering Corporation (SWEC) in their letter dated April 13, 1984, of this discrepancy and offered to recertify the material to the 1974 edition of the code under which it would be acceptable. Since the field bolting applications required certification to the 1971, Winter 1972, or later editions, to comply with the FSAR, the licensee determined this would be acceptable.

Lone Star Screw Company has since relinquished their ASME MM and MS certificates. This has precluded them from recertifying the material. However, they were surveyed by SWEC on August 14 through 17, 1984, which will classify them as a SWEC-qualified NCA 3800 material manufacturer (SW/MM) and, as such, allows them to perform material manufacturer's responsibilities for ASME material including material certification or recertification. The revised documentation has been received and N&D 7588 was dispositioned in that manner.

The inspector reviewed the disposition of this item, including reviews of applicable ASME Code and Addenda and determined that the material is acceptable as certified. This item is closed.

(Closed) Unresolved Item, 84-16-01, Storage Requirements for Permanent Plant Equipment - Reactor Coolant Pump Motors, HVAC Fans, and Reactor Coolant System Piping. This item has been upgraded to an item of noncompliance and identified as 84-18-01.

(Closed) Unresolved Item, 84-08-01, Thread Extension of Bolts on Cable Tray Splice Plates.

NRC Inspection Report 50-412/84-08 documented the fact that hardware used to fasten cable tray sections and splice plates varied in length. In some cases, cable trays were fastened with hardware in which the threaded bolt was not long enough to provide full thread engagement of the nut. Accordingly, the licensee agreed to perform an analysis to determine the adequacy of hardware used in situations where full thread engagement has not been achieved. This analysis has been completed with the following results:

- a. In most instances, the sections of cable tray are connected with a single splice plate. However, in those instances where a straight tray section joins a tray riser section, Specification 2BVS-931 calls for a splice plate on both the inside and outside surfaces of the side of the tray. The length of the bolt indicated on the manufacturer's drawing for this hardware configuration will generally not result in thread projection beyond the face of the mating nut when it is installed uptight as required by the specification. The structural adequacy of this configuration was confirmed by an engineering evaluation (Calc. No. 12241-NS(B)-166) which determined that 75 percent thread engagement between the nut and bolt is sufficient to develop full tensile capacity of the bolt. This evaluation also included a review of the connection details on the manufacturer's drawing and determined that a joint made uptight using vendor supplied hardware, as required by the specification and verified by Site Quality Control Inspection Plan 8.3.4, would engage greater than 75 percent of the threads.
- b. On October 18, 1984, an engineering visual observation noted that in none of the observed cases was there less than 75 percent thread engagement.
- c. Further engineering review has determined that adequate thread engagement would be achieved in all other cable tray splice plate applications provided the connections are uptight using the approved vendor supplied material.

The inspector had no further questions on this matter; this item is closed.

(Closed), CDR (84-00-09) Auxiliary Feedwater Pump Impeller Wear Ring Material

On September 24, 1984, the licensee notified the NRC Region I Office of a significant deficiency concerning AISI 440A spuncast material selected for use for the auxiliary feedwater pump impeller wear rings. Similar wear rings had been supplied for these pumps at the Palo Verde Nuclear Generating Station and they had failed. Subsequent testing showed that wear rings fabricated from AISI 420 wrought material are more reliable than rings fabricated from the AISI 440A spuncast material discussed above. Accordingly, the licensee decided to replace the auxiliary feedwater pump impeller wear rings, throttle sleeves and bushings with AISI 420 wrought material and notified the NRC, Region I Office, pursuant to the requirements of 10 CFR 50.55(e).

Stone and Webster issued Engineering Field Action Request (EFAR) No. 257 to accomplish the wear ring replacement. The inspector reviewed EFAR No. 257 and the associated inspection report. The rotating elements from the three auxiliary feedwater pumps were removed under the supervision of the Bingham-Willamette service engineer and shipped to the vendor's plant where the wear ring replacement was performed. The rotating elements from all the pumps have been received from the vendor with the new AISI 420 wear rings. The inspector found all items satisfactory and will follow the reinstallation of the pump rotating elements into their applicable pumps. This item is closed.

(Open) Unresolved Item (83-02-01) Electrical Cable Tray-to-Tray Connections

This unresolved item concerned the tolerance requirements for the splice plate holes and type of material used for the splice plate. This update addresses the use of a commercial grade ASTM-A569 stock material for splice plate material. The inspector questioned the use of this material because it was not supplied with chemistry requirements or minimum yields. The licensee is taking the following actions.

Sargent Electric Company's installation drawing M-D-58 is being revised to require ASTM A-606, Type 4 (50,000 min. yield) material to be used in lieu of the ASTM A-569 material. All existing connections using the A-569 material will be removed and replaced with the A-606, Type 4 material.

This item remains open until all the splice plates in question (ASTM A-569) are replaced by plates fabricated from ASTM A-606, Type 4 material. In addition, Inspection Report 50-412/83-02 and 84-02 have further questions regarding this item which must be resolved.

(Open) SDR (83-00-01), Westinghouse Gate Valves

Westinghouse identified a significant deficiency in Westinghouse supplied gate valve position indication instrumentation which could result in an indication that the valve is "closed" prior to the valve disc fully stopping flow. Westinghouse has completed a review and determined that the following system could have unacceptable consequences if the gate valve failed to isolate as required.

- Hot leg safety injection (high and low pressure)
- Alternate cold leg (high pressure) injection
- Cold leg injection (low head)

Westinghouse has determined that six valves would require corrections and will modify the position indications wiring to use a torque switch input in place of the current limit switch. This item will remain open pending verification that modifications have been completed and testing is found satisfactory.

(Open) SDR, 84-00-07, Voltage Regulators Supplied by Power Conversion Products, Inc.

The licensee has completed a 100 percent reinspection of the voltage regulators supplied by Power Conversion Products, Inc. This inspection is part of a 100 percent inspection and repair program of all Class 1E electrical equipment which the licensee committed to the NRC to perform.

The licensee has determined that specific instances of poor workmanship were found and will be repaired. The licensee has also completed an evaluation of each specific instance and determined that none of the poor wiring workmanship items noted would cause any loss of its intended function. The rework of the workmanship items identified are planned for completion by June 30, 1985.

This item remains open pending a review of the completed rework.

(Open) Unresolved Item (84-07-03) Cardinal Industrial Products Fastener Material.

A Region IV vendor inspection, conducted on October 11 - 14, and November 14 - 18, 1983, identified numerous concerns regarding compliance with the ASME Code for fastener material supplied by Cardinal Industrial Products Corporation.

To resolve these concerns, Stone and Webster Engineering Corporation (SWEC) Procurement Quality Assurance Division performed an audit at the Cardinal Industries facility in Las Vegas, Nevada, from July 9 to July 13, 1984. There were three purchase orders directly placed by SWEC with Cardinal regarding the use of potentially unacceptable fasteners. As a result of the SWEC audit, the Purchase Order 2BV-59135 was found acceptable. The other two purchase orders were cancelled with Cardinal.

SWEC has not yet determined that the above concerns are resolved with SWEC's prime vendors, such as the mechanical and electrical contractors, who are indirect sources of this potentially unacceptable fastener material to the BVPS-2 site. SWEC expects to be advised of this matter from their prime vendors in February or March, 1985. This item will continue to be unresolved pending receipt and disposition of this information (84-07-03).

(Open) Unresolved Item (84-16-04), Repair of Main Steam Isolation Valves

Schneider Power Corporation in conjunction with Stone and Webster Engineering has developed weld procedure No. SPVB-448, General Weld Procedure for Overlay Modification to Main Steam Isolation Valves. In parallel, Site Quality Control has developed an in-process inspection check list which will be used to monitor and inspect the repairs made. Personnel from Power Cutting, Inc., who performed similar repairs at Nine Mile Point, Unit 2, arrived on site to assist all concerned parties in this major repair. Actual work is still expected to begin in January, 1985.

The inspector will continue to monitor and report this item in future inspections (Unresolved Item 84-16-04).

4. Storage Requirements for Reactor Coolant System Piping and Valves

Inspection Report 50-412/84-16 identified an unresolved item (84-16-01) regarding storage requirements for HVAC fans and reactor coolant system piping. During this inspection, the inspector found additional reactor coolant system piping that was being improperly stored. Therefore, this item is being upgraded to an item of noncompliance. The previous identified unresolved item, 84-16-01 is closed. This is a Violation (84-18-01).

Pertaining to reactor coolant system (RCS) piping and valves, the inspector reviewed the licensee's compliance with Specification No. 2BVS-981 titled "Storage and Maintenance during the Construction Phase." Storage Maintenance Requirement Section 2SMR-1F(5) of 2BVS-981 requires that Level "C" storage classification be maintained for reactor coolant system piping and valves before and after installation. Items classified to Level C are those that require protection from exposure to the environment and airborne contaminants.

The inspector observed initially on November 30, 1984, that certain RCS items associated with the "B" loop piping, were not being maintained in accordance with their Level "C" storage requirements. These items are part of a RCS bypass line and they are shown on isometric (ISO) drawing 107007. Item (1) on ISO 107007 is designated as a 3-inch valve which is furnished by Westinghouse. This is a gate valve which normally has its bonnet bolted to the valve body flange. However, due to a nearby interference, the valve bonnet was removed on December 17, 1983, as authorized by an appropriate equipment removal tag. When the valve bonnet was removed, the opening in the body flange had been taped to seal the valve opening. However, the inspector found that the tape was now no longer sealing the opening. It was evident that this unsealed condition has been present for some time since there was dirt, material chips and spots of rust in the valve body internals. Also, another instance of an unsealed reactor coolant system item was found by the inspector nearby. Several feet away from the aforementioned gate valve is a 3-inch orifice flange which is designated as item (5) on ISO 107007. Two of the four pressure tap openings in this flange were not sealed.

On December 12, 1984, the inspector advised licensee management of the above described conditions. Failure to store reactor coolant system piping and valves as required by Specification No. 2BVS-981 is a Violation of 10 CFR 50, Appendix B, Criterion V, (84-18-01). With regard to the general subject of storage and maintenance deficiencies, the inspector did note that this issue was a topic of concern in the November, 1984, meeting of the Senior Management Corrective Action Panel and Stone and Webster was requested to re-emphasize to contractors the need for strict compliance to site storage and maintenance practices.

5. Interference of HVAC Duct with Operation of Motor Operated Valve

During a site tour, the inspector noted that manual operation of valve 2-SIS-MOV-863A, was restricted due to handwheel obstruction with an HVAC duct. The valve is installed in line 2-SIS-008-5-2 and shown on Isometric Drawing 108104-3A and located in the Safeguards Building, Elevation 732.

After further review, the inspector found disposition had been made. Nonconformance and Disposition (N&D) Report Number 6856A was dispositioned on November 21, 1984. The N&D was generated on October 3, 1983 and described the line off location at the point it connects to line 2-SIS-010-7-2. It does not discuss interference with the HVAC, possibly because the HVAC duct may not have been installed at that time. From the inspector's review, it did not appear that disposition of N&D 6856A would correct the interference problem.

After discussions were held with S&W Engineering, they advised that the connecting line 2-SIS-010-7-2 was also off location and had to be moved before line 2-SIS-008-5-2 would fit properly and eliminate the HVAC interference. The inspector performed further reviews and found this to be true. However, before this line can be moved, other dispositions would be required, for example, support restraints are installed and would have to be moved before piping could be moved.

The inspector is concerned about the disposition of N&D 6856A in two areas. First, disposition did not occur until more than a year later and conditions probably changed such that the overall problem was not apparent when the disposition was made. Second, the disposition of line 2-SIS-010-7-2 should have been made before releasing N&D 6856A for rework. The inspector emphasized that the formation of the Integrated Construction Support Group should eliminate these apparent problems by getting involved before the N&D is released to construction. This item is unresolved pending review of the corrective actions taken on this item (84-18-02).

6. Installation of Rigid Sway Strut Pipe Support

The inspector selected pipe support number 2 CCP-PSST 381 A, located in the Auxiliary Building for inspection to determine compliance with applicable installation requirements. This support is installed as a restraint for Component Cooling Water Piping 2-CCP-020-433-3. The inspector performed visual inspections and physical measurements using the detailed drawing Number 12241-BZ-72A-125-0E. This drawing indicates that a Rigid Sway Strut, Figure 350, Size 40, manufactured by Power Piping, be installed. The inspector also obtained the Power Piping Catalog which details the dimensions, clearances and movements for a Figure 350 Rigid Sway Strut.

The inspector found all dimensions acceptable except where the clevis connects to the beam bracket. As specified in the catalog, the clevis is connected to the beam bracket with spherical bearings and with clearance between the two parts sufficient to permit a minimum of five degrees of misalignment on each side of the axis.

The inspector found this movement was restricted because the clevis plate behind the rotational pin was in direct contact with the beam bracket and restricted the 10 degree movement.

After this condition was identified by the inspector, Stone and Webster Engineering observed the installed condition and agreed it did not appear to meet the catalog requirements. They advised an EFAR (Engineering Field Action Request) would be issued to disassemble the support and perform measurements to determine if any dimensions were incorrect.

This item is unresolved pending resolution of concerns for this sway strut and possible generic problems affecting other supports (84-18-03).

7. Review of IE Information Notices 83-84 and 84-29

The inspector reviewed IE Information Notice No. 83-84 "Cracked and Broken Piston Rods in Brown Boveri Electric (BBE) Type 5HK Breakers" and No. 84-29 "General Electric Magna-Blast Circuit Breaker Problems" to ascertain the licensee's actions for determining applicability to BVPS, Unit 2 and where applicable, disposition to assure proper resolution is made.

IE Information Notice 83-84 identifies Beaver Valley, Unit 2, as recipients of BBE 5HK circuit breakers for use in Class 1E applications. In addition, Stone and Webster Engineering advised that circuit breakers supplied to Beaver Valley, Unit 2, were manufactured prior to 1980, which the IE Information Notices identifies as the time period that circuit breakers were affected. However, in lieu of inspection and replacement where necessary, before the facility goes operational, Stone and Webster advised Duquesne Light Company that they are responsible for inspecting for cracked or broken piston rods at normal maintenance intervals. Duquesne Light Company had not accepted the Stone and Webster response or taken any further actions.

After further discussions with Duquesne Light Engineering, they advise they are requesting Stone and Webster Engineering to issue an EFAR (Engineering Field Action Report) to require disassembly and inspection of all questionable pistons while the plant is still being constructed. DLC Engineering also advised they would establish a commitment date for completing the inspections. This item is unresolved pending the licensee's completion of an inspection program and subsequent review by the inspector. (84-18-04).

Stone and Webster Engineering has advised, by letter dated June 11, 1984, that IE Information Notice No. 84-29 "General Electric Magna-Blast Circuit Breaker Problems" does not apply to Beaver Valley, Unit 2, because all such breakers have been supplied by Brown Boveri Electrical Corporation. Duquesne Light Company approved this position by letter dated August 10, 1984. The inspector found that Stone and Webster Engineering and Duquesne Light Company had performed adequate action on this IE Information Notice and the review of this item was found acceptable.

8. Storage of Fuel Pool Heat Exchangers

The inspector reviewed the storage controls for the 2FNC-E21A and E21B Fuel Pool Heat Exchangers to ascertain compliance with ANSI, N45.2.2, Stone and Webster Storage Specification 2BVS-981, and Joseph Oat Corporation storage instructions titled "Receipt, Handling and Storage Instructions for Pressure Vessels."

The heat exchangers were fabricated approximately ten years ago and have been in storage since September 15, 1976 (8 plus years). The secondary side (component cooling water) is made up of Type 304 stainless steel tubes, carbon steel baffle plates, and a carbon steel shell.

When received on site in 1976, the heat exchangers were stored with dessicant bags installed. They were inspected monthly and the dessicant was replaced when required, generally monthly. These storage controls were in accordance with the manufacturer's instructions (Joseph Oat Corporation) which specifies the following; "If the vessel is to be stored for a period of more than 30 days, a dessicant maintenance program should be initiated for equipment with carbon steel internals. Chloride-free dessicant in bags and humidity indicator cards must be obtained."

It appears the heat exchangers were moved into location in 1978 in preparation for installation and piping connections. The Equipment Storage History Card (ESHC) indicated the dessicant was not changed after December 20, 1977. However, attribute 705 was performed until April 8, 1980. At that time, attribute 725 requirements replaced attribute 705. Attribute 705 required checking the dessicant. Attribute 725 required opening drain lines and checking for water (condensation).

An interoffice correspondence from Schneider Power dated August 12, 1982, states "These heat exchangers have been piped up to the system. The dessicant bags were removed and disposed of by construction craft personnel . . .". On October 4, 1982, a speed letter was issued to Stone and Webster Maintenance, which stated "When performing maintenance on Fuel Pool Heat Exchangers (Mark No. 2FNC-E21B) attribute Number 725, approximately 2 cups of water was drained from the shell. Per 2BVS-981, Engineering is to be informed of any water accumulation."

On October 4, 1982, through a Request For Information (RI 2100SW) Engineering answered the finding by stating there are no special requirements to be taken and with the lowering of the ambient temperature at this time of the year, this is considered normal. These instructions were placed in the ESHC folder and apparently established new acceptance standards. This established that water on the internal surfaces is expected and acceptable.

On December 12, 1984, the inspector requested the drain line plugs be removed from both heat exchangers. The valves were opened and approximately 1/2 cup of water drained from the secondary side. The ESHC shows that attribute 725 was performed on November 5, 1984, with no findings reported.

On December 21, 1984, the inspector and representatives from Stone & Webster Engineering, Schneider Power, and Duquesne Light performed a boroscope examination of the tubes and baffle plate/s to try and determine if any corrosion damage had occurred to the tubes or baffle plate. Although the results were inconclusive, the inspector did note local areas of rust discoloration present on some of the stainless steel tubes. Also, deposits of rust were evident on the baffle plates. It was not possible to determine whether any tube "denting" was occurring at the baffle plates.

At the request of the inspector, Duquesne Light Quality Control analyzed the water which the inspector had removed from the heat exchangers. Specifically, the inspector requested an analysis for total chlorides and flourides. The analysis showed 9.56 ppm of chlorides and 1.4 ppm of flourides. Fresh water usually contains less than 100 ppm chlorides and less than 5 ppm of flourides. The contents of the water appeared acceptable.

This item is unresolved pending resolution of the following concerns:

- (a) Has any damage occurred during long term storage with water present at carbon steel surfaces?
- (b) Have other heat exchangers been stored in this matter and if so, has any damage occurred?
- (c) Are the storage requirements in 2BVS-981 adequate now that the piping is connected and hydrostatic tests are occurring?

On January 4, 1985, the inspector was informed by Stone & Webster Engineering that a corrosion specialist would be on site soon to look at the heat exchangers. This item is Unresolved (84-18-05).

9. Temperature Control of Batteries

The inspector audited the battery room and batteries to ascertain whether adequate temperature controls were being implemented.

The inspector found the 125V batteries have been turned over to Duquesne Light Startup as a completed installation. However, the battery room ventilation was considered in temporary operation and still the responsibility of the construction organization. In reviewing maintenance records, the inspector noted the minimum-maximum temperature acceptance limits specified are inconsistent with other specified criteria. For example, battery room 2-1 specifies acceptance limits of 40 F minimum - 140 F maximum. The FSAR, Page 8.3-44 states; "The battery room ventilation system maintains the ambient temperature at or below 104 F during the summer and a minimum of 55 F in the winter ...".

Specification 2BVS981 specifies a range of 60 F - 90 F. The manufacturer's catalog recommends that the battery temperature not exceed 90 F for more than 30 days.

The inspector reviewed several MIN-MAX Temperature Logs and found temperature checks are made daily and the Min-Max temperature was always found between 60 F and 75 F. Therefore, the inspector found the past storage conditions acceptable. However, the 40 F - 140 F acceptance range specified on the temperature logs appear inconsistent with other specified acceptable ranges for good control of batteries while on charge or float conditions. This item is Unresolved pending resolution of this discrepancy (84-18-06).

10. Cleanliness Controls of Upper Internals

The inspector performed a visual inspection of the reactor pressure vessel upper internals. The internals are located in the refueling cavity. The area is designated a Zone II clean area. The area around and above the internals contained plastic covering to prevent foreign material from entering the internals. Access control for personnel and equipment was established and enforced.

The inspector performed visual inspections on several internal surfaces of the tube guides and the following was observed. Tube guide 111-48 contained a steel chip on the first internal ledge, approximately 2 feet from the top. 111-34 contained a plastic cap on the second ledge and 111-35 and 111-36 contained foreign material in the area of the first ledge.

Westinghouse could not explain the intrusion of the cited objects. They advised that no machining or drilling had occurred in the area. They did advise that the upper internals would be high pressure cleaned & boroscope inspected as part of the final cleaning operation which had not yet taken place.

This item is Unresolved pending further inspections to assure adequate cleanliness controls are provided and final inspections and cleaning are sufficient to assure all foreign material is removed (84-18-07).

11. Integrated Construction Support Group (ICSG)

Stone & Webster Engineering Corporation (SWEC) formed this new work group in November, 1984. The ICSG consists of 50 - 60 engineering personnel from SWEC and their prime contractors all under the direction of a SWEC Assistant Superintendent of Engineering. All of these personnel operate from an office within the plant located at the top level of the Auxiliary Building. The function of the ICSG is to perform an active role in all areas of engineering involvement and thereby aid in timely resolution of problems impacting construction. The inspector will be monitoring this group's activities as it becomes involved in problem resolution.

12. Re-routing of Electric Cable to meet Separation Criteria

During a walk-thru inspection in the cable tunnel, the inspector noted safety related cable (red identification) installed in non-safety related cable raceway. The raceway was identified as 2TC934N and the cable was identified as RED, Channel I. The licensee provided evidence that the cable and cable trays were being reworked to meet the separation criteria specified in Regulatory Guide 1.75.

An Engineering Field Action Report (EFAR), Number 5015 was being implemented. This EFAR required raceway 2TX130R (Red) be renumbered to 2TC970N (neutral) and all installed "red" cables are to be reinstalled in the barriered "red" cable tray 2TX130R (Red). After rerouting the red cable, tray 2TC934N would be used to install non-safety related cable.

The inspector found adequate controls were being implemented. This item is acceptable and no violations were identified.

13. Reactor Vessel Upper Internals

The inspector observed the movement of the reactor vessel upper internals from the stored position to its normal position in the reactor vessel. Several days later, the upper internals were removed from the reactor vessel and returned to the stored position. These movements were performed to obtain a trial fit of the upper internals in the reactor vessel. During the operations conducted, the inspector noted the following:

1. Personnel conducting the lifts did so in controlled increments to safely move the upper internals to their final position.
2. The polar crane was utilized with a load cell to monitor the force accommodated by the lifting equipment.
3. Care was exercised by personnel to avoid damage to the reactor vessel and to the upper internals and to assure placement within tolerances as specified.

The inspector found these operations acceptable.

14. Derating of ASME Code Valves

Region IV Vendor Inspections identified problems with valves supplied by Atwood and Morrill Company to nuclear power stations, including Beaver Valley, Unit 2.

In accordance with Nonconformance and Disposition Report Number 7422, eighteen valves were received on site from Atwood and Morrill without all the required nondestructive examinations being performed. In accordance with the provisions of ASME Section III, Subsection NC, Paragraph NC-2571(C) the nondestructive examinations can be deleted if the valves are downrated by applying an 0.70 quality factor for pressure rating.

The licensee has downgraded all 18 valves from a 2500 Lbs. rating to 1500 Lbs.

The inspector reviewed the documentation associated with this downgrading and found this item acceptable.

15. Exit Interview

A meeting was held with the licensee's representatives, indicated in Paragraph 1, on January 2, 1985, to discuss the inspection scope and findings.