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September 25, 1974

Docket No. 50-346  
CPPR-80

*Rate Data*  
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U.S. Atomic Energy Commission  
Directorate of Regulatory Operations  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Attention: Mr. James G. Keppler  
Regional Director

Gentlemen:

The Report of Construction Inspection concerning activities at the Davis-Besse Nuclear Power Station involving the painting of the containment vessel interior painting transmitted by your letter of August 21, 1974, has been reviewed and our statements concerning the apparent violations of AEC requirements cited in the report are contained in the enclosure to this letter.

As detailed in this enclosure, the work associated with the painting of the containment vessel interior had not been considered by us to be an activity which was subject to the stringent quality assurance requirements of 10 CFR Part 50, Appendix B. This position was reevaluated following receipt of AEC Regulatory Guide 1.54 during the time this work was in progress and the work remaining has been made subject to these quality assurance requirements.

The apparent violations cited by the AEC-DRO Inspection Report resulting from the July 17 and 18, 1974 inspection were against conditions not in effect during the time when the work was performed. Toledo Edison never considered it practical, much less mandatory, to attempt retrofitting the applicable 10 CFR Part 50, Appendix B, 18-point quality assurance criteria on the completed portion of the containment vessel interior painting.

Regardless of this fact, the existing work was done under a program and in a manner which did afford a high degree of assurance that the required quality of the coating system has been established.

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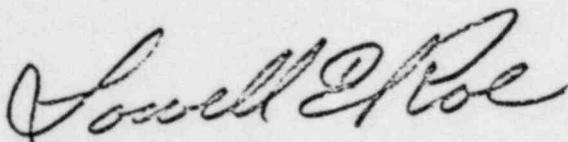
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In regard to the general concerns expressed in your letter about our system for auditing facility construction activities, we have a system of planned and systematic audits of contractor activities at the Davis-Besse site which has been in effect since activities commenced. Bechtel acting as our quality assurance implementing agent has the prime audit responsibility for audit of site activities of contractors' work and programs. Toledo Edison quality assurance monitors the Bechtel activities and, in addition, conducts independent audits of contractors and participates in selected Bechtel audits. We feel that this program fully meets the requirements of 10 CFR Part 50, Appendix B, and our established Quality Assurance Program for the design and construction of the Davis-Besse Station.

If you have any questions concerning our reply or desire further discussion on this matter, we will be glad to meet with you at your convenience.

Yours very truly,



Lowell E. Roe  
Vice President  
Facilities Development

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Enclosure

September 25, 1974

The Toledo Edison Company  
Statement Concerning  
Report of Construction Inspection  
Davis-Besse Nuclear Power Station  
By

U.S. Atomic Energy Commission  
Directorate of Regulatory Operations, Region III  
July 17 and 18, 1974

GENERAL

The containment vessel sections were shop fabricated and erected in the field in accordance with the technical specifications which originally called for shop cleaning and prime painting of the fabricated sections. It was the intent of this specification that a finish coat would be field-applied over the shop-applied primer coat after cleaning and application of spot primer coat to the field weld areas.

Upon completion of the field erection of the containment vessel, test applications of priming and finish coat applications were conducted to determine the adequacy of the completed coating system following the original specification procedure. It was determined that the shop-applied primer coat was not suitable to permit finish coat field-application with full assurance that a satisfactory coating system would be obtained. This was due to: the inability to assure white metal blending or feathering of field weld areas into the shop priming with power brushing or sanding procedures; similar surface preparation to white metal in areas that had scaffolding attachments or scratches due to field erection; and the extensive crayon markings on the shop primer from field erection marking and radiograph index marking. This general condition was present over most of the vertical sides but was not as extensive in the dome area.

It was decided that the best method to ensure the highest quality coating system was to remove all shop-applied prime coat material on the containment vessel by grit blasting, field re-prime and finish coat. The grit blasting method utilized vacuum boxes with steel shot over small areas at a time to control dust within the containment area and permit field prime application within a short time of grit blasting surface preparation.

The dome section above the crane girder was completed, utilizing the original specification method of preparation of field weld areas, spot priming and finish coat application.

The work involved with the field grit blasting, priming and finish coat application of the vertical sides of the containment vessel to the top of the crane girder and the field cleaning and priming of weld areas and application of finish coat to the dome area was carried out through the period of May 17, 1973 to November 14, 1973. The only coating work remaining on the containment vessel interior involves the area of the construction opening when it is closed up and attachment areas for penetration.

It was recognized by Toledo Edison and Bechtel that the containment vessel coating system should be of the highest quality but that it was not considered to be a system critical to safety and subject to the strictest quality assurance requirements of 10 CFR Part 50, Appendix B. This position was reevaluated after issuance of Regulatory Guide 1.54 in June, 1973, and work associated with the containment vessel coating was formally placed on the listing of work subject to the strict quality assurance requirements of 10 CFR Part 50, Appendix B, in December, 1973, for the work remaining. No work on the containment vessel coating has been performed since this quality assurance requirement was imposed. The apparent violations cited by the AEC-DRO Inspection Report resulting from the July 17 and 18, 1974 inspection, were against conditions not in effect during the time when the work was performed. Toledo Edison never considered it practical, much less mandatory, to attempt retrofitting the applicable 10 CFR Part 50, Appendix B, 18-point quality assurance criteria on the completed portion of the containment vessel interior painting.

Regardless of this fact, the existing work was done under a program and in a manner which did afford a high degree of assurance that the required quality of the coating system has been established.

The following are Toledo Edison's comments and statements on the items contained in the Report of Construction Inspection:

#### SUMMARY OF FINDINGS

##### A.1. Criterion I

The Bagwell Coatings, Inc. (Bagwell) organization at the Davis-Besse site does provide for a QA/QC engineer to be responsible for all quality matters and to be on the same level and report to the same Project Manager as does the production superintendent. Both of these individuals report to the Project Manager for Bagwell, who is located on the site. It has been determined by Toledo Edison that this organization for Bagwell is appropriate for the type of contract under which they are performing work and that the QA/QC engineer does have sufficient authority and organizational freedom to perform his quality-related functions. However, to further strengthen his organizational freedom, we are requesting that Bagwell incorporate a direct line of communication between the QA/QC engineer in the field and their corporate office in Baton Rouge, Louisiana. This will be done prior to any additional work on the containment vessel coating and prior to December 1, 1974.

##### A.2. Criterion II

The formal quality assurance program submitted by Bagwell for the conduct of their work on quality related items at the Davis-Besse site was issued in April, 1974, and was approved by Bechtel and accepted by the Toledo Edison quality assurance manager in May, 1974.

A.2. Criterion II (continued)

No work has been done by Bagwell on items subject to their quality assurance program subsequent to these dates.

An informal audit of Bagwell was performed by Toledo Edison quality assurance on June 28, 1973, prior to the time the containment vessel coating work was subject to formal quality assurance requirements. A second audit by Toledo Edison quality assurance was performed in May of 1974 after acceptance of the Bagwell quality assurance program.

Followup action was initiated on items identified in this Toledo Edison audit and Bagwell response has been received by Toledo Edison. Additional audits, both by Bechtel acting as Toledo Edison's quality assurance implementation agent and by Toledo Edison quality assurance, will be conducted prior to the performance of any work subject to the Bagwell quality assurance program.

A.3. Criterion V

A thorough review of the procedures relating to the application of the containment vessel coating has been conducted and it has been determined that there are acceptable procedures for this work and that these procedures were in effect during the time of work. These procedures are contained in the Bechtel-prepared and Toledo Edison approved Specification 7749-A-24, Revision 4. The procedures covered in this specification are for:

1. Surface application.
2. Storage, mixing and preparation of paint and related materials.
3. Application of paint.

Specification 7749-A-24 also imposes, by reference, specific procedures from the Steel Structures Painting Council Manual, Volumes 1 and 2, covering surface preparation and application procedures. Specification 7749-A-24 also imposes, by reference, applicable manufacturer's instructions. The order of precedence for the use of these procedures is also given under Section 3.2 of Specification 7749-A-24.

A.4. Criterion VI

It has been the practice of Bagwell to prepare the file inspection forms (BC-4) from rough, work copies which then are subsequently discarded. This practice was to provide file copies that are legible and easily read. In only one instance has it been found that a file BC-4 form had been signed or initialed by an individual other than the originator.

A.4. Criterion VI (continued)

A change in practice is being initiated for the preparation and maintenance of these forms which will be covered by a formal Bagwell instruction. This instruction will provide that the original forms used in the field will be maintained in the handwritten form.

In regard to the BC-0 forms for weather information, our review has confirmed that in some cases, information was incomplete. On the dates cited, however, there was no painting performed on the containment vessel interior. The Bagwell quality assurance manual is being revised to require recording of weather data on these BC-0 forms only on days when painting is being performed.

A Bagwell procedure for control of documents is being prepared and will be enforced prior to any work subject to the Bagwell quality assurance program.

A.5. Criterion VII

Bagwell was unable to provide proof of existence of samples required under Section 12.2 of Specification A-24, Revision 4, during the AEC Audit. However, samples had been prepared and forwarded to the Construction Manager as required. Bechtel's Field Engineer witnessed the Construction Manager examine and approve the painted samples. It has been confirmed that Ameron performed the sample preparation on paints supplied by Ameron through review of correspondence in the Bagwell file. Bagwell performed the sample preparation on paints purchased from Carboline. Bagwell had not documented the transmittal of the samples to the Construction Manager. Written instructions are being issued to transmit these samples in the future. An acknowledged Bagwell receipt form will be requested for these samples in the future.

All paint used for the containment vessel coating had Manufacture's Product Identity Cert. from the paint supplier for each batch received. There was not the verbatim statement required by paragraph 13.4 of Specification 7749-A-24. The paint supplier will not give a certification that the formulation and manufacturing is "precisely identical" to that furnished originally to Bechtel Corporation. This specification requirement is being changed to require certification that the formulation and manufacturing is "reasonably identical" and Bagwell is attempting to obtain such certification for paint that has been furnished and used.

It is not the intent or requirement of Specification 7749-A-24 that a formulation check of the paint received be made. Bagwell, however, did have infrared spectographic analysis and comparison of selected paint batches performed by an independent Protective Coating Consultant (Kenneth Tator Associates) together with design condition testing of test panels with containment vessel coating systems.

A.5. Criterion VII (continued)

ANSI Standard N-101.5-1969 was a proposed specification under which Bechtel Corporation had received original formulation and manufacturing information from paint suppliers. This designation does not now apply. The Bagwell Project Manager did not have a copy of ANSI N-101.5-1969 at the time of the AEC Audit. Bagwell Project Manager had attempted to obtain copies of N-101.5-1969 and was advised by ANSI that copies were not available. The ANSI letter reply to the Bagwell request was dated April 28, 1972, and stated that N-101.5-1969 had been assigned ANSI N-101.2-1972. This ANSI letter further advised that N-101.2-1972 was in printing and ANSI would quote when it was available. C. H. Ridgdell subsequently received a copy of N-101.2-1972, which has a Bagwell site office receipt date stamp of November 28, 1973. Toledo Edison quality assurance had obtained a copy of ANSI N-101.2-1972 from Bagwell prior to the AEC Audit.

A.6. Criterion XII

Surface thermometers which had been used prior to the AEC site inspection have been removed from use. Thermometers, serialized and certified to standards traceable to NBS standards, have been purchased and are available for use. In addition, Bagwell procedures are being prepared describing the type of instruments to be placed under the calibration program and stating the frequency for recalibration for each group/type of instrument.

The surface thermometers which had been in use, and have been subsequently removed from use, have been given an accuracy check. Those thermometers used for the containment vessel coating applications were found to have the necessary accuracy.

A.7. Criterion XV

The incorrect use of nonconformance report (NCR) tags to control the use of material in storage has been discontinued. Written instructions restricting the use of these NCR tags are being prepared and will be issued by Bagwell.

A.8. Criterion XVI

Bagwell had issued several Nonconformance Reports, two of which were issued prior to beginning application of the containment vessel coating of paint and were referenced by the AEC report. The NCR Nos. 8172-1-QC and 8172-2-QC were reviewed by the AEC. The AEC report stated "it could not be determined from review of the NCR's whether any of the recommended corrective action had been properly completed."

The two AEC-referenced NCR's were completed in accord with the Bagwell approved QC procedures. In addition, it was verified that the corrective

A.8. Criterion XVI (continued)

action had been properly completed. The recommended corrective action and the corrective action taken was listed on each NCR form with the date. The form was acknowledged by the Bagwell QC Engineer's signature in accord with the form requirements.

The NCR form, in the approved Bagwell QC Procedures did not provide for or require a signature under the "Corrective Action Taken" space. The date of the "Corrective Action Taken" was filled in on each of the two NCR's as required, both dates were October 6, 1972. The corrective action recommended, "return of out-of-specification material to the vendor," was verified as having been properly completed for both NCR's. This was further verified by review of the Bay Transportation Company shipping ticket dated October 6, 1972, consigning the return shipment of the materials on the NCR's to the paint vendor. Bagwell procedures are being revised and established to expedite resolution of nonconformances and to require a signature verifying that corrective action has been taken.

A.9. Criterion XVII

Toledo Edison's review has confirmed the AEC findings that the original handwritten Bagwell BC-4 inspection forms had been destroyed, however only after the information had been transferred from the original handwritten forms to the typed forms. The Bagwell Project Manager stated that this transfer of handwritten information to the typed forms was done to render the information more legible and convenient for review and use. Only after this transfer of information were the original copies destroyed. The Bagwell Project Manager stated that the transfer of handwritten information on the typed copies of BC-4 forms had been a practice since the inception of the Bagwell operations at the Davis-Besse Station. This practice has been discontinued by Bagwell since the AEC audit and the original BC-4 forms are being maintained with all data in the handwritten form. Bagwell will issue a procedure for the completion of these forms and for maintaining these original forms.

The Toledo Edison review confirmed the AEC finding that the information was not being recorded in all cases on the weather information BC-0 forms. The Bagwell QA manual is being revised to require recording of weather data on the BC-0 form only on days when painting is being performed by Bagwell.

A complete and detailed review of records and documentation of inspections for all work involved with the coating application to the containment vessel interior is being conducted. It appears that this review will show adequate documentation called for under the program in effect when this work was done. It will not, however,

A.9. Criterion XVII (continued)

be possible to retrofit this documentation to the level now required under the quality assurance requirements that are now imposed for the remainder of the work.

A.10. Criterion XVIII

Refer to comments under Item A.2.