Docket - 50412 - - 93

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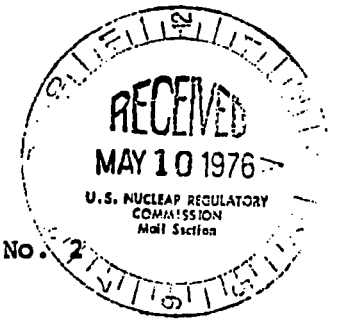
May 5, 1976



Director of Nuclear Reactor Regulation
Attention: Mr. D. B. Vassallo, Chief
LW Reactors Branch 5
United States Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Beaver Valley Power Station - Unit No. 2
Cadweld Inspection Criteria
Docket No. 50-412

Gentlemen:

This letter is in reply to your letter dated April 22, 1976 on the change to our Cadweld inspection procedure as stated in Amendment 17, Section 15.4.3.2, of the Beaver Valley Power Station Unit No. 2 Preliminary Safety Analysis Report.

Our intent in adopting the above change to our Cadweld inspection procedure, was to follow the guidelines stated in the Atomic Energy Commission Memo, "Summary of Meeting with Erico Products, Inc. on May 8, 1973," dated May 15, 1973 (attached). Item 8 of that Memo states, "It is intended that an inspector check the mechanical splice preparations prior to casting of the splice, but that it not be necessary for each mechanical splice to be so inspected. It is intended that the inspector would cover the work of more than one crew and that periodic preparation checks would be made. However, each completed mechanical splice should be visually inspected. The next revision of Regulatory Guide 1.10 will clarify this point."

In Amendment 17, Section 15.4.3.2, of the Beaver Valley Power Station Unit No. 2 Preliminary Safety Analysis Report, we stated that "Cadweld joints are visually inspected on a random basis for dryness and cleanliness prior to making the Cadweld splice. All completed joints are inspected for proper filling, such that filler metal is visible at both ends of the sleeve and at the tap hole in the center of the sleeve." We have incorporated this into our Cadweld inspection criteria in the following manner. We expect to have one Cadweld inspector cover the work of more than one Cadwelding crew. The inspector would not check each and every step of each splice preparation. The inspector will make random checks of the splice preparation

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for cleanliness and dryness. In preparing the splice the Cadweld operator would check each splice for cleanliness and dryness prior to firing. The inspector will inspect each completed splice. We feel that this inspection criteria does meet the guidelines stated in the above referenced Atomic Energy Commission Clarification Memo and as such meets the intent of Regulatory Guide 1.10 (Revision 1 dated January 2, 1973).

DUQUESNE LIGHT COMPANY

By E. J. Woolever
E. J. Woolever
Vice President

Attachment - OK

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

MAY 15 1973

MEMO TO ATTENDEES

SUMMARY OF MEETING WITH ERICO PRODUCTS, INC. ON MAY 8, 1973

A meeting was held in Bethesda on May 8, 1973, between representatives of Erico Products, Inc., Regulatory Standards, Licensing, and Regulatory Operations. A series of questions had been raised by Erico in a letter of April 25, 1973 regarding the interpretation and application of Regulatory Guide 1.10, Revision 1 of 1/2/73, "Mechanical (Cadweld) Splices in Reinforcing Bars of Category I Concrete Structures." The following responses were given to Erico by the representatives of RS, L, and RO. Responses are numbered to match the questions of the Erico letter, which is attached.

1. It is not necessary to qualify splices in all positions at the time of initial qualification -- only those positions which will actually be used at that time. (C.I.)*

2. It is acceptable to prepare the qualification splices for each of the splice positions using the largest bar size to be used in that position. (C.I.)

3. The qualification for each splice position can be postponed until that position becomes necessary for production. (C.I.)

4. It is necessary to requalify a splicer if the specific splice position has not been used for a period of 3 months or more even though his splices will pass visual inspection and his production samples pass the tensile test requirements. (C.I.)

5. Requalification of a splicer is not necessary if based on a single visual reject. Statistical sampling procedures permit a discard sample. However, consistent visual rejects by the inspector should be cause for requalification. (C.I.)

6. The same concept of a statistical discard sample is reflected in Section C.5. If 1 of 15 consecutive test samples fails, the sampling program can be started anew without requalifying the crew. If the failure rate exceeds 1 in 15, then the provisions of C.5. should be followed and the crew requalified. (C.5.)

7. The splicer should be requalified for all positions being used at that time. (C.1.)

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* Refers to paragraph in Regulatory Guide 1.10

8. It is intended that an inspector check the mechanical splice preparations prior to casting of the splice, but that it not be necessary for each mechanical splice to be so inspected. It is intended that the inspector would cover the work of more than one crew and that periodic preparation checks would be made. However, each completed mechanical splice should be visually inspected. The next revision of Regulatory Guide 1.10 will clarify this point. (C.2.)

9. Manufacturer's specifications are presumed to be incorporated as minimum requirements in the A/E specs. Supplementary requirements in excess of manufacturer's specs are a matter between the manufacturer and the A/E. Tolerances for the items enumerated in C.2. for inclusion in the specs are deferred by the AEC to the A/E or manufacturer's specs. (C.2.)

10. Deleted by Erico.

11. Shop-welded splices are not covered by this guide and therefore are a matter to be taken by on a case-by-case basis with Licensing. It is to be noted that the arc welding of the mechanical splice sleeves to structural steel shapes is not covered by this guide, but the installation of the reinforcing bar into the sleeve is covered.

    The next revision of Regulatory Guide 1.10 will carry an insert in the 3rd paragraph of Section 3 such as: "In testing such a connection, consideration should be given to the design requirements and limitations of the entire anchorage." (C.3.)

12. Splice locations should be indicated such that a record search can locate the splices and where the samples were taken, as well as whether it was a production or sister sample. The method of accomplishing this end is left to the applicant. Test results should also be available. (C.3.b.)

13. If they are available, referral to the proper detailed placing drawings would satisfy the splice location requirement. (C.3.b.)

14. This item will be taken up separately at a later date.

15. "Each 15 consecutive test samples" pertains to the total output of all splicers, for the practical reasons illustrated in questions 16 and 17. (C.5.a.)

16. To be handled in the most practical manner possible on a case-by-case basis with Licensing and Operations being advised of the steps taken.

17. Answered in 15.

A copy of the April 25, 1973 Erico letter is attached.

E. Gunter Arndt

E. Gunter Arndt
Engineering Standards Branch
Directorate of Regulatory Standards

Attachment:
Ltr. to G. Arndt from
J. Barry, dtd. 4/25/73.

cc:
R. Smith, Erico
J. Barry, Erico
A. Gluckmann, L
C. P. Tan, L
D. Whitesell, RO

END

DATE FILMED

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