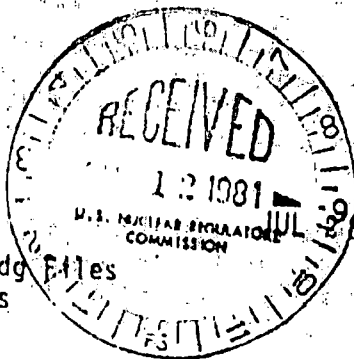


IE FILE COPY.



DISTRIBUTION

- IE Files
- IE Rdg Files
- EJGallagher Rdg Files
- RRRI Rdg Files
- REB Rdg Files

1981 SSINS NO. SSINS #9126

TERA
EXEMPT

MEMORANDUM FOR: E. G. Arndt, Mechanical/Structural Engineering Branch,
DET, RES

FROM: E. J. Gallagher, Reactor Engineering Branch, DRRRI, IE

SUBJECT: REINFORCING STEEL SPLICE SAMPLING

This is in response to your memo dated July 10, 1981 regarding the apparent inconsistency for sampling reinforcing steel splices. Specifically, Regulatory Guide 1.10 (Rev. 1, 1973) and ANSI N45.2.5-1974 requires separate test cycles to be established for mechanical splices based on position, bar size and for each splicing crew, whereas, Regulatory Guide 1.94 (1979) endorsing ANSI N45.2.5(1978) and ASME Section III, Division 2 (Section CC-4334.6), 1980 does not include the provision for separate test cycles... "for each splicing crew."

The ASME working group has indicated that implementation of sampling on a "crew basis" has been impractical because of an accounting problem due to lack of defining a "splicing crew" and lack of stability of crew makeup in terms of member and how long a crew remains intact.

Your memo requests recommendations by which the Regulatory Guide 1.10 requirement can be implemented. The following comments are offered:

1. Based on past inspection experience on reinforcing steel splicing at a number of construction sites, I had not observed an accounting problem with respect to the sampling requirements of Regulatory Guide 1.10 or ANSI N45.2.5-1974.
2. A "splicing crew" is usually comprised of a certified operator (cadvelder) and one or two iron worker helpers to assist in preparation for splicing (i.e., cleaning, lifting, etc.). The individual operator provides direct supervision of each step in the splicing process and is assigned a unique identification symbol which is applied to the completed splice for traceability during inspection and testing. The entire splicing crew need not be identified, only the qualified splice operator.

In line with the above, one solution would be to replace the phrase "...for each splicing crew" with "...for each certified splice operator." The operator would then be accountable for the splice and a history of the operator performance maintained through testing at the prescribed random frequency. This would eliminate any accounting problem and provide a simple task of tracking operator performance with respect to bar position and bar size.

8108180560 810728
IE SSINS
9126
CF

E. G. Arndt

2

JUL 28 1981

3. I recommend that the intended sample frequency include the operator variable since reinforcing steel splicing (cadwelding) is highly operator dependent and should include test samples for each operator in order to identify substandard operator performance.
4. Revision to Regulatory Guides 1.94 and 1.136 (which supersedes 1.10 and other regulatory guides) should restore the provision to sample on splice operator (crew) basis.

The above issue should be identified at the upcoming ACI-ASME committee meetings to be held September 24-25, 1981.

Eugene J. Gallagher, Sr. Civil Structural Engr.
Engineering Section
Reactor Engineering Branch, RRR1, IE

cc: R. Baer, IE
R. Woodruff, IE
R. Kessel, IE
J. Fair, IE
H. Wong, IE
R. Shewmak, IE
R. Lipinski, NRR

11:LS	11:LS	IE:REB:G
10:Gallagher (mkm)	RWoodruff	RLBaer
7/27/81	7/27/81	7/27/81