



DEC 8 1977



MEMORANDUM FOR: Robert H. Engelken, Director, Region V

FROM: G. W. Reimuth, Assistant Director, Division of  
Reactor Construction Inspection, IE

SUBJECT: POSITION ON MOISTURE CONTROL OF LOW HYDROGEN COVERED  
ARC-WELDING ELECTRODES

Enclosed find NRR's evaluation and position concerning moisture controls of low hydrogen covered arc-welding electrodes at Palo Verde. Since the NRR position is based upon the AWS D1-1 standard, and the Arizona Public Service has committed to that standard for Palo Verde, he should comply with the requirements of this position within 15 days after they receive written notice of the position.

For all cases where the inspector is aware of completed work performed beyond the limit of this position he should determine if the finished welds and NDE records indicate the need for further action.

This position can be applied as an acceptable method for moisture control of low hydrogen covered arc-welding electrode at any nuclear plant and is currently being considered as potential material for a Regulatory Guide which would collectively address weld control in a broader sense.

*G. W. Reimuth*

G. W. Reimuth, Assistant Director  
Division of Reactor Construction  
Inspection, IE

Enclosure: As stated

cc w/enclosure:

N. C. Moseley, IE  
B.H.Grier, RI  
J. P. O'Reilly, RII  
J. G. Keppler, RIII  
E. M. Howard, RIV  
R. J. Pate, RV

cc w/o enclosure:

R. J. Mattson, DSS  
J. P. Knight, DSS  
W. B. Anderson, OSD  
G. Georgiev, DSS

201-492-7551

CONTACT: W. R. Rutherford, IE  
49-27551

## Eechtel National, Inc.

## Interoffice Memorandum

To B. L. Lox  
M. J. Mitchell

Subject Qualification of an Alternative  
Electrode Control Procedure -

Copies to R. C. Bertossa  
F. C. Breismaister  
W. R. Smith, Sr.

Date May 9, 1973

From B. D. Hackney (EDH-053-07)

Of R&E/M&QS

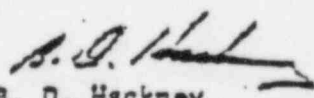
At 301 Mission/2nd Floor  
(768-7450)

One copy each of a report entitled, "Qualification of an Alternative Electrode Control Program for AWS D1.1," prepared by M&QS for the Palo Verde Project is enclosed for your information and use. The report has been submitted to and accepted by the NRC as a "Topical Report" thereby permitting generic use of the alternative electrode control practices and procedures described.

The Limerick, Grand Gulf, Midland and Hope Creek Projects have closely followed the testing program and have been informed of the favorable results. Other projects, however, may not be informed of the availability of alternative electrode control procedures and may wish to take advantage of the considerable savings that have been estimated to result.

Each project will need to determine the correct approach to implement the alternative procedure; however, it is unlikely a PSAR change will be necessary since AWS D1.1 permits the type alternate qualification performed. Implementation of the alternative procedure should apply to essentially all phases of welding and will permit the elimination of portable rod warmers for E7018, austenitic stainless steel and nickel base electrodes.

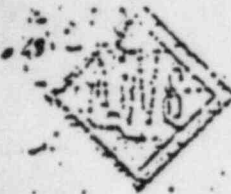
If M&QS can be of further assistance, including additional copies of the report, please contact F. C. Breismaister or the writer.

  
B. D. Hackney

BOH:haw

Enclosures

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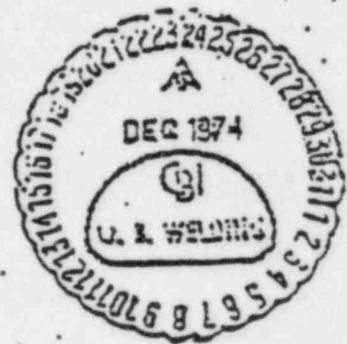


# AMERICAN WELDING SOCIETY

2501 NORTHWEST 7th STREET • MIAMI, FLORIDA 33125 • (205) 642-7090

511-5

December 19, 1974



Mr. L. J. Christensen  
Chicago Bridge & Iron Co.  
800 Jorie Blvd.  
Oak Brook, IL 60521

Re: Exposure Time Requirements of Low-Hydrogen Electrodes  
per 4.9.2, AWS Structural Welding Code, D1.1-72

Dear Mr. Christensen:

This letter is being written to you on behalf of Mr. R. F. Crick,  
Chairman of Subcommittee 5 of the Structural Welding Committee,  
in reply of your request to consider the subject matter.

After considering your request, the subcommittee has decided that  
the requirements of 4.9.2 are necessary to assure the production  
of acceptable welds in all environmental condition encountered in  
production. It is recognized that the moisture absorption of the  
low-hydrogen covering will vary over a wide range from locality to  
locality in North America. The Code, being a general document,  
must specify requirements which will produce acceptable welds under  
all circumstances and therefore the conservative approach must be  
taken in these matters.

It is recognized by the subcommittee that several suppliers of  
electrodes are supplying low-hydrogen electrodes with coverings  
of apparently superior resistance to moisture absorption. Since  
these electrodes are not covered at the present in the AWS Filler  
Metal Standards, the Code must relate to the standard low-hydrogen  
electrode.

It should be emphasized that the requirements of 4.9.2 do not pre-  
clude the manufacturer or contractor from demonstrating to the  
satisfaction of the Engineer, under the provisions of 5.2, that  
longer exposure times for low-hydrogen electrodes will not affect

Mr. L. J. Christensen

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the acceptability of proposed weldments. This would appear to be the approach to be taken where it is apparent that longer exposure times are warranted by the environmental conditions.

Sincerely yours,

*Moss V. Davis*

Moss V. Davis, Secretary

AWS Structural Welding Committee

MVD/ccg

cc: P. E. Masters  
J. T. Biskup  
F. H. Ray  
H. F. Crick

File: DL-30.1  
DLH-SCS