

GUSTAV SCHWAB
Vice President
General Manager
Pipe Fabrication
Division

Sep. 14, 1978

United States Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Attention: Mr. Karl V. Seyfrit, Director

Subject: NRC Audit Findings
Docket No. 99900017/78-01

Gentlemen:

Thank you for your letter of September 1, 1978. We are pleased that you find our responses and corrective action for the various findings in your original audit are now satisfactory with the exception of one, namely, Item D.

Regarding Item D covering monitoring of manual welding, we have submitted our inquiry to the ASME Code Committee as we had proposed to obtain some guidance as to the acceptable frequency for monitoring welders. Enclosed is a copy of our letter of inquiry dated August 28, 1978. However, we do not expect an answer for several months.

In the meantime, we have ordered 20 meter boxes which we will attach to 20 manual welding machines. We propose to monitor welders, using these machines on essentially a daily basis to establish the fact that they are welding within the amperage of the applicable procedure used. After a one-month monitoring period, which we believe will demonstrate that our welders are welding within specified parameters, we intend to discontinue this intensive monitoring program and revert to our present program of monthly surveillance audits. Meter boxes installed will be left on the machines for use for surveillance by foremen and inspection personnel.

If during this intensive monitoring period any problem areas develop where welders are not welding within specified electrical parameters, suitable corrective action will be implemented.

Meter boxes are not off the shelf items and it will be the end of October before they will be available in our shops. Considering a one-month period for monitoring, we should know by the end of November how our welders are doing.

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United States Nuclear Regulatory Commission
Mr. Karl V. Seyfrit

In the meantime, we will continue to monitor 20 to 30 welders per month - half of which will be manual - until we can start the program as outlined above. We hope this meets with your approval.

Sincerely,

DRAVO CORPORATION
Pipe Fabrication Division

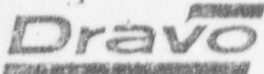


Gustav Schwab
Vice President and General Manager

GS:dr

Enclosure

cc: Mr. D. M. Hunnicutt



August 28, 1978

The American Society of Mechanical Engineers
United Engineering Center/345 E. 47th St.
New York, NY 10017

Attention: W. B. Hoyt

Subject: Control of Manual Welding

Gentlemen:

Below is an inquiry with some background information. Will you please refer the matter to the proper committee for an answer.

INQUIRY

What "measures" does the Code intend be established to assure compliance with NCA-4134.9, Summer 1977 (NA4451, 1974), for manual welding processes?

Must every weld, welder/operator and weld machine be checked or monitored? If so, what would be an acceptable frequency? If not, would a random audit with provision for increasing the frequency in case of noted deficiencies be acceptable?

DISCUSSION

Manual and semi-automatic welding may be performed with a constant current, drooping volt-amp curve, power source. The drooping characteristic of the volt-amp curve prohibits use of absolute voltage and amperage control settings. Welding voltage and amperage is determined by Ohms law relationship with arc length basically determining resistance. Section IX requires that amperage and voltage be specified on the Weld Procedure Specification as a non-essential variable. NCA-4134.9 states in part, "Measures shall be established to assure that processes, such as welding . . . are accomplished . . . using qualified procedures." This, then, raises the question of the inquiry. It is noteworthy that ASME, in response to an earlier inquiry, stated that calibrated volt and amp meters are not required for constant current welding machines.

Dravo is presently performing random audits on a monthly basis. We audit a minimum of twelve (12) welds a month. We do not attempt to include every welder/operator in the audit on a prescribed frequency. This program has been judged unacceptable by a team (not ASME) auditing our plant.

Very truly yours,

W. A. Molvie

W. A. Molvie
Quality Assurance Manager