

**Staff Responses to Public Comments on Draft Regulatory Guide DG-1223,
 “Control of Electrosag Weld Properties” dated June 2009
 (Proposed Revision 1 of Regulatory Guide 1.34 dated December 1972)**

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Public Comments		NRC Response
NEI-1	<p>The notices requested comments on all of these draft regulatory guides by August 31, 2009. NEI and EPRI are collecting and consolidating industry comments on these draft guides, but it has become apparent that it will not be possible to complete a comprehensive review of all of these documents in the time available, The information contained in these draft guides is important to the industry's work on primary system materials and it is important to carefully evaluate the changes proposed. NEI is therefore requesting a 30-day extension of the public comment period on these draft guides until October 1, 2009, to allow adequate time to complete and document our review.</p>	<p>Extension to October 1, 2009 granted per NRC 7590-01-P dated August 11, 2009 (ML092230530).</p>

Public Comments		NRC Response
W-1	<p>This DG and the existing RG do not specifically say that the electroslag welding being addressed applies to joining, not cladding. While some of the information in this RG implies that it could only apply to joining (as understood by a welding or materials engineer), this point may not be clearly understood by all. It is suggested that the second sentence under Procedure Qualification be changed and another sentence be inserted, as follows: "Review of the requirements of the procedure qualification stated in Section IX indicates that the supplementary requirements are desirable to provide assurance of adequate weld metal properties when the electroslag welding process is used for joining. The qualification of electroslag welding process for purposes of cladding is not addressed."</p>	<p>The second sentence under "Procedure Qualifications" of Section B of RG 1.34 is changed as follows:</p> <p>"Review of the requirements of the procedure qualification stated in Section IX indicates that supplementary requirements are desirable to provide assurance of adequate weld metal properties when the electroslag welding process is used for joining. The qualification of electroslag welding process for purposes of cladding is not addressed."</p>
W-2	<p>Regulatory Position 4 appears to have an error. It indicates that production welds need to comply with the variables specified on the "procedure qualification". The procedure qualification does not specify process variables for production welding but records what was used during the test. The limits for production process variables are listed on the "welding procedure". The last two words should change "procedure qualification" to "Welding procedure."</p>	<p>The staff disagrees with the commenter. Production welds need to comply with the variables used in the procedure qualification because using welding variables outside the variable values used for qualification may result in a deep pool of molten weld metal, and therefore cracks may develop because of the weaker centerline bond dentrites. It is the intent that each weld configuration will require its own procedure qualification.</p>

Public Comments		NRC Response
W-3	Regulatory Position 5 specifies: "If properties obtained from tests identified in Regulatory Positions 3 and 4 above are not acceptable..." However, Regulatory Position 4 does not have any tests, thus no properties would be obtained.	Position 5 of Section C of RG 1.34 is changed as follows: "If properties obtained from tests or limits or there is a specific reason to question the welder's ability to make production welds that meet the approved procedure as identified in Regulatory Positions 3 and 4 above are not acceptable, then..."
W-4	Regulatory Position 5 says that if the properties obtained during testing are not acceptable "... additional procedure qualifications should be performed in accordance with Regulatory Position 1 above." This does not permit remedy of the production weld from which the tests were obtained. Options to rectify the production weld should be allowed, such as re-heat treatment (in the case of failed CVN tests); obviously, re-heat treatment will not change the angle of solidification. The DG does not list options applicable to welds that do not meet the macro-etch requirements. Since the concern stated in the Procedure qualification section is that "...cracks may develop because of the weaker centerline bond between dendrites", then performing additional NDT capable of detecting these cracks, additional CVN tests, or other possible remedies should be prescribed.	The staff disagrees with the commenter. The quality of production welds is ensured by following the recommendations described in Position 4 and verified by the testing described in Position 3. Therefore, if the test results are unacceptable or the process variables have not been controlled properly, then the production weld is unacceptable.