

Seismic Qualification Utility Group

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Rules and Procedures Branch
Division of Rules and Records
Office Administration and Resource Management
US Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: USNRC Regulatory Guide 1.100, Seismic Qualification of
Electrical and Mechanical Equipment for Nuclear Power Plants

Gentlemen:

This is in response to your letter of August 14, 1987 which forwarded Revision 2 of the subject regulatory guide for industry comment. As requested, our comments are directed primarily to the use of earthquake experience data for seismic qualification of equipment.

As you may be aware, the Seismic Qualification Utility Group (SQUG), a group of 38 utilities representing over 60 operating nuclear plants, has actively pursued the documentation and use of earthquake experience as a practical and cost effective means of verifying the seismic ruggedness of equipment since 1982. As a result of this effort, and with the assistance of the USNRC and the Senior Seismic Review and Advisory Panel, methodology and acceptance criteria for the use of earthquake experience data have been developed and accepted as the preferred method for resolution of Unresolved Safety Issue A-46. The methodology and acceptance criteria are in accordance with NRC Generic Letter 87-02 and its attachments, and are presented in the SQUG Generic Implementation Procedure (GIP). The Generic Implementation Procedure is under review and trial use and will be the subject of an NRC Safety Evaluation Report. It is with this background that we have reviewed your proposed Regulatory Guide 1.100, Revision 2.

Our position with regard to seismic qualification of equipment is that the proper use of earthquake experience data to verify seismic ruggedness of equipment covered by the data base is cost effective and fully equivalent (in many cases superior) to the classical seismic qualification methods defined in detail in IEEE 344-1987. Further, while the experience data approach has been added as an acceptable qualification method in the IEEE 344-1987 standard, its coverage is brief and necessarily general, and will be difficult to apply. These limitations are acknowledged in the Foreword of IEEE 344-1987.

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Therefore, we question the advisability of using IEEE 344-1987 as the interim basis for use of earthquake experience data for equipment qualification. Instead, consideration should be given to referencing the SQUG Generic Implementation Procedure, as the interim guidance for use of experience data for equipment qualification.

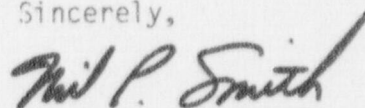
The use of the SQUG Generic Implementation Procedure as the guidance for use of seismic experience data would also resolve the following problem areas in the proposed regulatory guide:

1. Mechanical Equipment - As presently written, Regulatory Guide 1.100 adds mechanical equipment to the scope of IEEE 344-1987, a document written by electrical engineers for electrical equipment. We do not believe this is appropriate. Alternatively, the Generic Implementation Procedure properly covers both electrical and mechanical equipment.
2. Similarity - The similarity issue, as described in IEEE 344-1987, is complex and appears to incorporate an approach similar to that used in environmental qualification. The SQUG experience indicates that an approach which addresses similarity on a component by component basis is not the best approach. Instead, it indicates that similarity is best addressed by a diverse data base as is done in the Generic Implementation Procedure. The Generic Implementation Procedure provides more practical and more definitive guidance in this area than does the proposed IEEE 344-1987.

In addition to the above, we note that Regulatory Guide 1.100 is intended to apply to piping and equipment supports, restraints and hangers. We do not believe the methods of IEEE 344-1987 are appropriate for these static, structural devices. We consider these are best covered by current rules in the applicable ASME, ANSI and AISC Codes. We therefore recommend deleting equipment and piping supports from the scope of Reg Guide 1.100.

We will be pleased to discuss these comments in more detail at your convenience.

Sincerely,



Neil P. Smith
Chairman
Seismic Qualification Utility Group