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Subject: Comments on draft Regulatory Guide DG-1108, "Combining Modal Responses and Spatial Components in Seismic Response Analysis"

As written, Regulatory Guide 1.92, proposed Revision 2, endorses the 100-40-40 percent combination rule of the American Society of Civil Engineers (ASCE 4-86, Ref. 3 to DG-1108) relative to the effects caused by three spatial earthquake components. As discussed in DG-1108, this alternate method, and the three equations given in ASCE 4-86, allows directional-indicating mathematical signs to be maintained that would normally be lost via the SRSS method. However, the method of combination given in DG-1108 (Section 2.1) and provided in Equation 17 does not appear to match the methodology of ASCE 4-86. Only one possible combination is provided per Equation 17, and absolute values appear to be used for all spatial components that would result in loss of the directional-indicating mathematical signs.

It is recommended that Section 2.1 of DG-1108 be revised to agree with the text description of the Draft Regulatory Guide and ASCE 4-86.

Please address any questions to Rick Rice at (573) 676-8495.

Thank you for the opportunity to provide these comments.

Very truly yours,

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