

2003 JAN 31 PM 2: 20

OFFICE OF THE SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Risk Reduction Ratio, Mean Return Period of Design Basis Earthquake (DBE) Ground Motions, and Target Performance Goal

Definitions:

R_R Risk Reduction Ratio

P_H Seismic Hazard Exceedance Probability
(also referred to as "MAPE," the Mean Annual Probability of Exceedance of the DBE ground motions; the inverse of MAPE [or of P_H] is the Mean Return Period, MRP)

P_F Target Seismic Performance Goal (annual probability of exceeding acceptable behavior limits)

$$R_R = P_H / P_F$$

(DOE-STD-1020-2002 at C-5)

For $P_F = 1 \times 10^{-4}$ (DOE-STD-1020, for PC-3):

MRP of DBE Ground Motions	P_H (MAPE) 1/MRP	P_F	R_R
10,000 yr	1×10^{-4}	1×10^{-4}	1
5,000 yr	2×10^{-4}	1×10^{-4}	2
3,333 yr	3×10^{-4}	1×10^{-4}	3
2,500 yr	4×10^{-4}	1×10^{-4}	4
2,000 yr	5×10^{-4}	1×10^{-4}	5

NUCLEAR REGULATORY COMMISSION

Docket No. _____

Older Est. No. 208

In the matter of _____

PCS

Staff

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Applicant

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DATE

060502

Witness

Arabas2

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