

Mendiola, Doris

From: Greenhill, John [John.Greenhill@dhs.gov]
Sent: Wednesday, March 31, 2010 6:23 PM
To: Gettys@nrc.gov; Doyle, Daniel
Cc: Eccleston, Charles
Subject: Re- licensing of Columbia Generating Station

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RULES AND DIRECTIVES
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USNRC

Dear Sirs,

I submitted the following question to the environmental scoping meeting on 11//2009 of the Salem and Hope Creek nuclear relicensing and feel it is also applies Columbia Generating Station.

The TMI Generic Environmental Impact Statement for License (NUREG-1437 Supplement 37) table 5-2 shows the following

Table 5-2. TMI-1 Internal Events Core Damage Frequency

Initiating Event	CDF (Per Year)	% Contribution to CDF
Loss of Offsite Power	7.73×10^{-6}	32.6
Transients	5.80×10^{-6}	24.5
Small and Very Small LOCA	4.66×10^{-6}	19.7
Loss of Nuclear Service River Water	3.67×10^{-6}	15.5
Steam Generator Tube Rupture	9.93×10^{-7}	4.2
Internal Floods	4.50×10^{-7}	1.9
Large and Medium LOCA	2.06×10^{-7}	< 1
ISLOCA	1.80×10^{-7}	< 1
Total CDF (internal events)	2.37×10^{-5}	100

The probability of a super solar storm of the 1859 or 1921 size is about 1/100 years or 1%/year. This size storm could lead to a continental wide, long term (many months) outage of the bulk power grid because of damage to all the U.S. step-up EHV transformers. This damaged would be similar to the damage that occurred at Salem New Jersey in 1989 during a fairly mild solar storm. With such an outage, the emergency generators (that drive the cooling pumps) fuel supply could run out and may not be replaced because all the commercial fuel suppliers would be out of fuel as well due to the failure of the electrical pumps. Without fuel for the cooling pumps, the core damage frequency (CDF) appears to be several orders larger that the CDF given in the table 5-2. Perhaps s solar storm initiating event should be included in all the final EIS documents...

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SONSI Review Complete
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Add = D. Doyle (DI)