From: Richard Dudley, NRR
To: gth G. Hubbard, NRR
Date: Thu, Apr 27, 2000 1:38 PM
Subject: Fwd: VB: Draft Final Technical Study SFP Risks at Decom NPPs

Your insight on this issue was right on. Here is the first SKI email with questions that somehow I did not receive.

Dick Dudley
415-1116; rfd

CC: mtm2, Stuart Richards

9/174

From: <Richard.Olsson@ski.se>
To: OWFN_DO.owf4_po(RFD)
Date: Thu, Apr 27, 2000 5:21 AM
Subject: VB: Draft Final Technical Study SFP Risks at Decom NPPs

Dear mr Dudley,

Please find below our first email. Concerning time aspects we appreciate if it is possible to have a response within 2 weeks if possible. However this is not critical.

Can You also say something about the high lights of the public comments and a few words about next step for the draft document ? Best regards

Richard Olsson

> -----Ursprungligt meddelande-----
> Från: Olsson, Richard > Skickat: den 5 april 2000 13:20
> Till: 'RFD@nrc.gov'
> Kopia: Sandervåg, Oddbjörn; Viktorsson, Christer
> Ämne: Draft Final Technical Study SFP Risks at Decom NPPs
> > Dear Mr Dudley,
> > First of all we would like to express our sincere appreciation of the
> extensive draft study. It will be used as basis for our national study on
> emergency planning for decommissioning NPPs. We are currently working
> intensively in order to have a report ready by the end of April and the
> NRC draft report has really been a valuable contribution to our work.
> > Moreover we are very grateful for Your kind response to our fax of
> February 25th, where we propose a liaison with the small group working
> with this in Sweden. > > In Sweden a group of SKI consultants has scrutinized Your report, from the
> emergency preparedness point of view, and confirmed SKIs initially very
> positive impressions of the quality and usefulness of Your draft report.
> > We had a meeting with the consultant group yesterday and listed our brief
> and informal comments to Your report. In attached list we have a few
> questions and furthermore some references listed.
> > We would be very grateful if You could oblige us with a response to the
> questions and if it would be possible to obtain the references listed
> (preferably by email, considering the time pressure we have).
> > Your co-operation on this issue would be highly appreciated.
> > > Best regards
> > Richard Olsson
> Co-ordinator Emergency Preparedness
> SKI
> > <<Questions_comments to NRC.doc>> > >

CC: GATED:nrcsmtp("mats@eskonsult.se")

ML

ES-konsult
ENERGI OCH SÄKERHET AB

Memorandum

Date
2000-04-05

Page
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Issued by
Mats Sjöberg/ Ferenc Müller

Reviewed by

Approved by

Client

Project

Subject

To

Copy

Questions/Comments on the NRC "Draft final technical study of spent fuel accidents risk at decommissioning nuclear power plants", 7590-01-P.

Dear Mr Dudley,

We have studied your report with great interest. It covers exactly the issues we are dealing with.

Below we have some thoughts that came to our minds during the reading and would appreciate if you can comment on the numbered ones:

The main report is well structured and the conclusions seem to be well grounded.

SPLB 1. IDC #3, also include means of communication?

SPLB/SPSB 2. IDC #4, is there a new Technical Specification (for shut down plants) in place. In that case are the emergency diesels at the plant still operable? Or is this a higher expectation (than during operation of the plant) to provide electricity and water supply.

SRXB/Joe 3. Licensing limits of Zr-fire.
Very conservative to use 570°C as a licensing limit (gap-release temperature)

SRXB/Joe 4. Fire Propagation and radioactivity releases
We think that it is probable that the Zr-fire, which starts in a fuel element with the highest burnup rate stays within that fuel element. It is very hard to conceive that this fire can propagate to the whole SFP, which also includes fuel from several years old fuel cycles.

Limits on fire propagation will directly limit the possible radioactivity releases and fatalities e.t.c.

SPSB/Glenn

5. An US earthquake response spectra 10^{-5}/year (0.5g) is considered as a 10^{-7} in Sweden. Does this justify exemption from further consideration, due to low yearly frequency for Zr-fire? The SFP at the Swedish plant is calculated with an earthquake 0.1g, see response spectra Figure 1, and found to comply with the Swedish standard design standard (Boverkets Konstruktionsregler 94, BKR94.

SPLB/PLPM 6. Have you considered the "second" worst event at plants? (Second to SFP accidents) For example waste handling. At Barsebäck NPP a fire in the bitumen storage is found to be second worst case, although with limited off-site consequence.

SPSB/RES 7. Is a gap release considered to give moderate off-site consequences at the time when Zr-fire is no longer a threat?

DLPM 8. What does "reducing unnecessary regulating burden" mean in practice when it comes to emergency planning ? What kind of reductions are foreseen:

- Man-power on-site and off-site?
- Emergency equipment?
- Communication means?
- Alarm means, notification of personnel and the public?
- Emergency preparedness, plans, KI, EPZ radius ?

PLPM 9. We also would appreciate if you could send us an electronic copy via E-mail of the following documents from the references:

Sailor, et al., "Severe Accidents in Spent Fuel Pools in Support of Generic Issue 82", NUREG/CR-4982.

"A Safety and Regulatory Assessment of Generic BWR and PWR Permanently Shutdown Nuclear Power Plants," NUREG/CR-6451, dated August 1997.

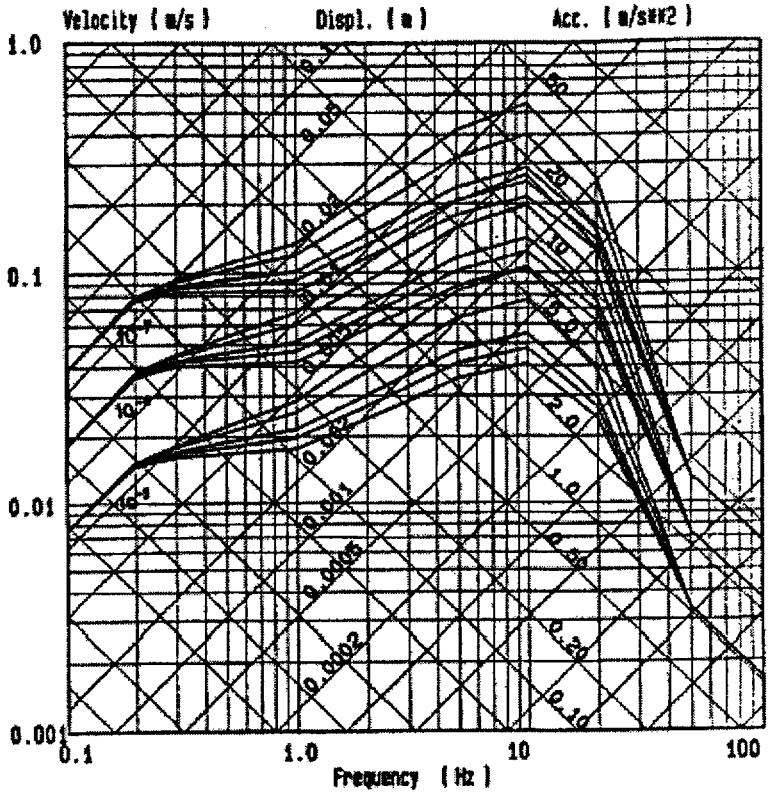

FIGURE 1: Envelope Ground Response Spectra for a (principal) horizontal GM direction, relating to exceedance frequencies 10^{-5}, 10^{-6} and 10^{-7} annual events per site and damping ratios 0.005, 0.02, 0.05, 0.07 and 0.10.