PA-LR

From: "Ford, Bryan" <BFord@entergy.com>
To: <arw1@nrc.gov>
Date: 10/03/2006 10:44:21 AM
Subject: Information from the Conference call on 9/26/06

Please see the attached file that contains population dose risk (PDR) reduction in unit of % for each SAMA and for RAIs 5e, 5f, 5g, and 5h.

<<PDR reduction.doc>>
With 3 significant figures, the values for CDF, PDR, and OECR SAMAs 6 (equivalent to 18, and 20), 48, and 52 are as follows:

Original Submittal			Re-analysis		
SAMA	CDF	PDR	OECR	CDF	PDR
6,18,20	6.41E-06	1.35E+01	4.59E+04	6.41E-06	1.46E+01
5.26E+04					
48	6.41E-06	1.35E+01	4.59E+04	6.41E-06	1.46E+01
5.26E+04					
52	6.40E-06	1.35E+01	4.59E+04	6.40E-06	1.46E+01
5.26E+04					
Base	6.41E-06	1.36E+01	4.59E+04	6.41E-06	1.46E+01
5.26E+04					

Small benefits could result from minor differences in CDF, PDF, or OECR. For example, slight difference in PDR for SAMA 6 and Base results in a benefit of $2153 and an upper bound benefit of $12,915 with a multiplier of 6 in the original submittal. However, there is no such difference for the reanalysis. Therefore, the estimated benefit for SAMA 6 is $0.

Also, the Reduction in Off-site Economic Cost Risk (OECR) reduction for SAMA 27 on Table RAI.6-1should be 15.02% (same as RAI 5e) rather than 1.71%.

CC: "Ellis, Douglas" <dellis1@entergy.com>, "Mogolesko, Fred" <fmogole@entergy.com>

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Subject:	Information from the Conference call on 9/26/06
Creation Date	10/03/2006 10:43:11 AM
From:	"Ford, Bryan" <BFord@entergy.com>
Created By:	BFord@entergy.com

Recipients

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ARW1 (Alicia Williamson)

entergy.com
fmogole CC (Fred Mogolesko)
dellis1 CC (Douglas Ellis)

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TEXT.htm	5180	
PDR reduction.doc	101888	
Mime.822	148990	

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Pre-Dec

Reduction in Population Dose Risk (PDR)

SAMA ID	SAMA Description	PDR Reduction (%)
1	Install an independent method of suppression pool cooling.	4.79%
2	Install a filtered containment vent to provide fission product scrubbing.	18.49%
3	Install a containment vent large enough to remove ATWS decay heat.	1.37%
4	Create a large concrete crucible with heat removal potential under the base mat to contain molten core debris.	48.97%
5	Create a water-cooled rubble bed on the pedestal.	48.97%
6	Provide modification for flooding the drywell head.	0.00%
7	Enhance fire protection system and standby gas treatment system hardware and procedures.	1.37%
8	Create a core melt source reduction system.	48.97%
9	Install a passive containment spray system.	4.79%
10	Strengthen primary and secondary containment.	26.03%
11	Increase the depth of the concrete basemat or use an alternative concrete material to ensure melt-through does not occur	0.68%
12	Provide a reactor vessel exterior cooling system	0.00%
13	Construct a building to be connected to primary/ secondary containment that is maintained at a vacuum	1.37%
14	Dedicated Suppression Pool Cooling	4.79%
15	Create a larger volume in containment.	26.03%
16	Increase containment pressure capability (sufficient pressure to withstand severe accidents).	26.03%
17	Install improved vacuum breakers (redundant valves in each line).	0.00%
18	Increase the temperature margin for seals.	0.00%
19	Install a filtered vent	18.49%
20	Provide a method of drywell head flooding.	0.00%
21	Use alternate method of reactor building spray.	1.37%
22	Provide a means of flooding the rubble bed.	22.60%

Reduction in Population Dose Risk (PDR)

SAMA ID	SAMA Description	PDR Reduction (%)
23	Install a reactor cavity flooding system.	48.97%
24	Add ribbing to the containment shell.	26.03%
25	Provide additional DC battery capacity.	2.74%
26	Use fuel cells instead of lead-acid batteries.	2.74%
27	Modification for Improving DC Bus Reliability	16.44%
28	Provide 16-hour SBO injection.	2.74%
29	Provide an alternate pump power source.	5.48%
30	AC Bus Cross-Ties	8.22%
31	Add a dedicated DC power supply.	16.44%
32	Install additional batteries or divisions.	16.44%
33	Install fuel cells.	2.74%
34	DC Cross-Ties	2.05%
35	Extended SBO provisions.	2.74%
36	Locate RHR inside containment.	0.00%
37	Increase frequency of valve leak testing.	0.68%
38	Improve MSIV design.	0.00%
39	Install an independent diesel for the CST makeup pumps.	0.00%
40	Provide an additional high pressure injection pump with independent diesel.	2.05%
41	Install independent AC high pressure injection system.	2.05%
42	Install a passive high pressure system.	2.05%
43	Improved high pressure systems	1.37%
44	Install an additional active high pressure system.	2.05%
45	Add a diverse injection system.	2.05%
46	Increase SRV reseat reliability.	0.68%
47	Install an ATWS sized vent.	1.37%

Reduction in Population Dose Risk (PDR)

SAMA ID	SAMA Description	PDR Reduction (%)
48	Diversify explosive valve operation.	0.00%
49	Increase the reliability of SRVs by adding signals to open them automatically.	0.68%
50	Improve SRV design.	3.42%
51	Provide self-cooled ECCS pump seals.	0.68%
52	Provide digital large break LOCA protection.	0.00%
53	Control containment venting within a narrow band of pressure	4.79%
54	Install a bypass switch to bypass the low reactor pressure interlocks of LPCI or core spray injection valves.	0.68%
55	Improve SSW System and RBCCW pump recovery.	6.85%
56	Provide redundant DC power supplies to DTV valves.	3.42%
57	Proceduralize the use of diesel fire pump hydroturbine in the event of EDG A failure or unavailability.	3.42%
58	Proceduralize the operator action to feed B1 loads via B3 when A5 is unavailable post-trip.	3.42%
59	Provide redundant path from fire protection pump discharge to LPCI loops A and B cross-tie.	17.12%
RAI 5e	Equivalent to SAMA 27	16.44%
RAI 5f	Firewater injection	4.11%
RAI 5g	Reduntant diesel firewater pump	8.22%
RAI 5h	Passive direct torus vent	14.38%