March 22, 2006

MEMORANDUM TO: Luis A. Reyes
Executive Director for Operations

FROM: Annette L. Vietti-Cook, Secretary **/RA/**

SUBJECT: STAFF REQUIREMENTS - SECY-06-0007 - STAFF PLAN TO MAKE A RISK-INFORMED AND PERFORMANCE-BASED REVISION TO 10 CFR PART 50

The Commission has approved the staff's recommendation to issue an Advanced Notice of Proposed Rulemaking (ANPR) on approaches for making technical requirements for power reactors risk-informed, performance-based, and technology neutral, subject to the comments below and edits provided below. The Commission has approved the staff's recommendation to supplement the ANPR with new information, as needed. The staff should provide advance notice to the Commission offices of any significant changes to the ANPR. The staff should place the latest working draft of the technology neutral framework on the RuleForum website no later than the date of publication of the ANPR.

The staff should complete the ANPR stage by December 2006 and provide its recommendation on whether and, if so, how to proceed with rulemaking by May 2007 having considered ACRS views. At the end of the ANPR stage, the staff should provide, with its recommendation, a detailed summary of any differing stakeholder views to ensure that the Commission has the benefit of these views when deliberating on the recommendation. The staff's recommendations may need to consider a broader range of options than just whether to proceed to rulemaking. The staff's recommendation should include a proposed schedule to complete the effort.

The staff should include an appropriate list of questions in the section on the technology neutral framework prior to publication of the ANPR. Stakeholder input should be sought in areas such as whether this effort is premature; the definition of a "unified safety concept"; whether NRC should be focusing on developing technology-specific frameworks for non-light water (LWR) reactors; and what priority should be given for various non-LWR technologies.

To facilitate stakeholder participation, the staff should hold public meetings and workshops starting soon after the ANPR is issued. In addition, the staff should keep stakeholders informed of progress throughout the public comment period.

The staff should inform the Commission on the additional resources needed to accelerate the schedule to meet the December 2006 expiration date for the ANPR.

Changes to the *Federal Register* Notice

1. Page 2, paragraph 1, revise line 4 to read ‘ ... regulations to make them ~~be~~ risk-informed and ....’

2. Page 3, paragraph 2, revise line 1 to read ‘ ... December 29, 2006 ~~31, 2007~~.’

3. Page 5, insert the following at the beginning of the Background section:

   The NRC is considering developing a comprehensive set of risk-informed, performance-based, and technology neutral requirements for licensing nuclear power reactors. These requirements would be included in NRC regulations as a new 10 CFR Part 53 and could be used as an alternative to the existing requirements in 10 CFR Part 50.

4. Page 5, paragraph 2, revise lines 1 and 2 to read ‘ ... NRC staff to ~~: (1)~~ develop an ANPR to facilitate early stakeholder participation in this effort. The Commission also directed the NRC staff to: (1) ~~(2)~~ incorporate in the ANPR a formal program plan for ~~a~~ risk-informing 10 CFR ....’ Revise line 3 to read ‘ ... efforts, (2) ~~and (3)~~ integrate ....’ Revise lines 4 and 5 to read ‘ ... ~~(ADAMS Accession Numbers ML051290351 and ML052570437). The Commission also directed the staff~~ and (3) include the ....’ Revise line 6 to read ‘ ... Accession Numbers ML051290351, ML052570437, and ML052640492).’

5. Page 5, last paragraph, revise line 4 to read ‘ ... development of a technology- ....’

6. Page 6, 1st full paragraph, delete the last 2 sentences (However, the NRC ... Part 50.)

7. Page 7, paragraph 1, revise line 2 to read ‘ ... -based alternative ~~revision~~ to 10 ....’ Revise line 3 to read ‘ ... designs. ~~To accomplish this goal, s~~ Safety, security ....’ Revise line 4 to read ‘ ... integrated into this effort to provide one ....’ Revise line 7 to read ‘ ... -based alternative ~~revision~~ to 10 ....’ Revise line 9 to read ‘ ... importance to public health and safety, (2) provide NRC with a ~~the~~ framework that uses ~~to use~~ risk ....’ Revise line 10 to read ‘ ... manner ~~to take action in reactor regulatory matters~~, (3) ....’ Revise lines 11 and 12 to read ‘ ... operation ~~, which can result in burden reduction without compromising~~ while maintaining or enhancing safety ....’

8. Page 7, last paragraph, revise lines 1 and 2 to read ‘ ... approach ~~to develop a risk-informed and performance-based revision to 10 CFR Part 50~~ is to create ....’

9. Page 8, 1st full paragraph, revise line 4 to read ‘ ... in SECY-05-0006 ....’

10. Page 8, 2nd full paragraph, revise line 1 to read ‘ ... technical basis is being developed ~~and completed~~, it is ....’ Delete the last sentence (Consequently, the time ... is complete.)

11. Page 8, last paragraph, revise line 1 to read ‘ ... and issue the ~~actual~~ regulations for Part 53. If upon completion of the technical basis the Commission directs the NRC staff to proceed to rulemaking, t~~T~~he ....’ Revise lines 2 and 3 to read ‘ ... NRC staff will follow its normal rule development process ~~upon completion of the technical basis.~~ The

~~Commission will direct the~~ NRC staff will ~~to~~ develop proposed ....' Revise line 4 to read ' ... on web, public workshopd), and provide ~~send~~ a proposed rule ....' Revise line 5 to read ' ... for consideration ~~if rulemaking is undertaken~~.'

12. Page 9, paragraph A., revise line 1 to read ' ... on the proposed plan ....'

13. Page 9, paragraph A.1., revise line 1 to read ' ... -based alternative ~~revision~~ to 10 ....' Revise line 2 to read ' ...reasonable? ~~That is, i~~Is there a ....' Revise lines 3 and 4 to read ' ... -based regulatory framework for nuclear power reactors ~~10 CFR Part 50~~? If yes, please describe the better approach ~~what is a better and different way~~.

14. Page 9, paragraph A.2., revise line 1 to read ' ... articulated above in the proposed plan section, understandable ....' Revise line 2 to read ' ... so, please describe the additional objectives and explain the reasons for including them ~~why and what are they~~?'

15. Page 10, paragraph 3., revise line 1 to read 'Would ~~Does~~ the approach described above in the proposed plan section accomplish the objectives? If not, why not and what changes to the approach would allow for accomplishing the objectives?'

16. Page 10, paragraph 4., add the following to the end: If not, why not? If so, please discuss the main reasons for doing so.

17. Page 10, paragraph 5., add the following at the end of line 2: Please discuss the reasons for your answer.

18. Page 10, paragraph 7., revise lines 1 through 5 to read 'The NRC encourages active stakeholder participation through ~~If industry wishes to participate in the~~ development of ~~an alternative process, the NRC envisions the process could involve the following:~~ proposed supporting documents, ~~and~~ standards, and guidance ~~could be developed by industry, and provided in writing to NRC staff for consideration~~. In such a process, the ~~The~~ proposed documents, standards, and guidance would be submitted to and reviewed by ....' Delete the sentence in lines 5 through 9 (To the extent ... the subject.) Revise lines 9 and 10 to read '~~What~~ Is there any interest by stakeholders to develop proposed supporting documents, standards, or guidance? If so, please identify your organization and the specific documents, ~~and~~ standards, or guidance you are interested in taking ~~would industry be willing to take~~ the lead ....'

19. Page 11, paragraph B., revise line 1 to read ' ... security, and ....' Revise line 7 to read ' ... and effective (intrinsic) security posture ....'

20. Page 11, paragraph 8., revise line 1 to read ' ... alternative regulatory framework ~~licensing basis~~, how ....'

21. Page 11, paragraph 10., revise lines 1 and 2 to read ' ... security be ~~better~~ integrated so as to allow an easier and more thorough understanding of the effects that changes in one area would have on ~~not adversely affect~~ the other and to ensure that changes with unacceptable impacts are not implemented. How ....'

22. Page 12, after line 2 from the top, insert a new paragraph number 11. which reads as follows: Should security requirements be risk-informed? Why or why not? If so, what

specific security requirements or analysis types would most benefit from the use of PRA and how? Renumber the original paragraph 11. to be paragraph 12.

23. Page 12, paragraph 11., replace the text as follows: Should emergency preparedness requirements be risk-informed? Why or why not? How should emergency preparedness requirements be modified to be better integrated with safety and security?

24. Page 12, paragraph C., revise line 2 through 4 to read ' ... options for establishing a regulatory standard that would be applied during licensing to ~~specifying a minimum level of safety from the standpoint of risk which would implement the Commission's expectation of~~ enhanced safety for new plants consistent with ~~(as expressed in~~ the Commission's policy statement for Regulation of Advanced Nuclear Power Plants~~)~~.' Revise line 8 to read ' ... risk objectives for the acceptable level of safety, and ....'

25. Page 12, last paragraph, revise lines 1 and 2 to read '~~With regard to specifying the minimum level of safety from the standpoint of risk, s~~Subsidiary risk objectives could also be developed to implement the Commission's expectation regarding enhanced safety for new plants. Such ....'

26. Page 13, revise line 1 from the top to read 'provide high ~~top~~ level goals to assist in establishing plant system and equipment ~~hardware~~ ....'

27. Page 13, revise line 8 from the top to read ' ... offsite such that no ~~suuficient to cause one or more~~ early fatalities occur (i.e., from acute radiation doses).'

28. Page 13, renumber paragraphs as necessary to conform to changes throughout the document.

29. Page 13, paragraph 12., add the following to the end: If so, please discuss the alternative options and their benefits.

30. Page 13, paragraph 13., revise to read '~~Are subsidiary risk objectives useful, and~~ Should the staff pursue developing subsidiary risk objectives? Why or why not? Are ~~are~~ there other uses of ~~the~~ subsidiary risk objectives that are not specified above? If so, what are they?'

31. Page 13, paragraph 14., delete the 2nd question up through ' ... QHO, i.e.,' and move the remainder of the question to a new numbered paragraph starting with 'S~~s~~hould the latent ...?' In line 4, after the question mark, move the last 2 questions to a new numbered paragraph. Revise the last line to read 'What are they and what would ...?'

32. Page 14, paragraph 16., revise line 3 to read ' ... criteria and why ~~its basis~~?'

33. Page 14, paragraph 17., revise line 1 to read ' ... analysis (i.e., one that includes calculation of offsite health and economic effects) still be needed ....'

34. Page 14, paragraph D., revise line 1 to read ' ... licensing, potential applicants ~~some licensees~~ have indicated ~~their~~ interest ....' Revise line 2 to read ' ... at new and existing sites. In addition, potential applicants have indicated interest in locating ~~or~~ multiple (or modular) reactor units at new and existing sites. The ....' Revise line 5 to read ' ... site

only from new reactors (i.e., the integrated risk would not consider existing reactors), and (3) quantification of integrated site risk ~~(~~ for all reactors (new and existing) at that site~~)~~.' Revise lines 7 and 8 to read ' ... integrated risk should be restricted to the same level that would be applied to a single reactor. ~~From the new plants should meet the level of safety that the NRC has proposed for new plants.~~ If this ~~new~~ approach ....' Revise the last line to read ' ... integrated risk ~~of these new~~ ....'

35. Page 15, revise line 1 from the top to read ' ... ~~plants should not~~ would not be allowed to exceed the ....'

36. Page 15, paragraph 18., add the following to the end: If so, what are they?

37. Page 15, paragraph 19., revise line 1 to read ' ... considered? Why or why not? ~~and if so, should the~~ ....' Move the next question after the 2nd question mark in line 1 to a new numbered paragraph and revise it to read 'If integrated risk should be considered, should the risk meet a minimum ...? Why or why not?' Delete the remainder of this item (If not, why not? Or should ... yes, why?)

38. Page 15, paragraph E., revise line 3 to read ' ... issues related to requiring ~~of requiring new plants to meet a minimum level of~~ enhanced ....' In lines 5 and 6, delete the semicolon after "2005".

39. Page 16, delete paragraph 20.

40. Page 16, paragraph 21., revise line 1 to read '~~How s~~Should the views raised in the ACRS letter and by various ....' Add the following to the end: Why or why not?

41. Page 16, paragraph F., revise line 1 to read ' ... Commission has directed ~~asked~~ the staff ....'

42. Page 16, after paragraph 22., insert a new numbered paragraph which reads: Should the containment functional performance standards be design and technology specific? Why or why not?

43. Page 17, delete the questions in lines 2 and 3 from the top (Should the ... so, how?)

44. Page 17, delete paragraph 25.

45. Page 17, paragraph 26., revise line 2 to read ' ... approaches and ~~to~~ defense ....'

46. Page 17, paragraph 27., revise line 1 to read ' ... should the "rare" events in the range 10^{-4} to 10^{-7} per year be considered ....' Revise line 2 to read ' ... events less than ~~below~~ 10^{-7} per year in frequency be ....' Delete the last question (Should postulated ... criteria?)

47. Page 18, delete paragraph 28.

48. Page 18, delete the last paragraph (The latest working draft ... comment.) Replace it with the following: The NRC is seeking stakeholder views of the following aspects: [The staff should include specific questions on this area.]

49. Page 19, paragraph H., revise line 7 to read ' ... the SRM on ~~to~~ SECY-03-0047, ...'

50. Page 19, paragraph 29., Revise lines 1 through 3 to read ' ... development of a better description of ~~policy statement or~~ defense-in-depth ~~for incorporation into the Commission's Policy Statement on PRA as described above,~~ be of any benefit to current operating plants, near-term designs, or future designs? Why or why not? If so, please discuss any specific benefits.

51. Page 19, delete paragraph 30. and replace it with the following: If the NRC undertakes developing a better description of defense-in-depth, would it be more effective and efficient to incorporate it into the Commission's Policy Statement on PRA or should it be provided in a separate policy statement? Why?

52. Page 20, delete paragraph 31.

53. Page 20, paragraph 32., revise lines 2 and 3 to read ' ... basis. Should ~~If~~ RG 1.174 ~~were to~~ be revised to include a better description of defense-in-depth? Why or why not? If so, would a change to RG 1.174 be sufficient instead of a policy statement? Why or why not? Move the remainder of this item to a new numbered paragraph and revise as follows: '~~h~~How should defense-in-depth be addressed for new plants ~~where defense-in-depth is being incorporated into the design~~?'

54. Page 20, paragraph 33., delete the 1st question (For both ... statement?) Revise lines 2 through 5 to read '~~Is it reasonable to link~~ Should development of a better description of ~~policy statement on~~ defense-in-depth (whether as a new policy statement, ~~or~~ a revision to the PRA policy statement, or as an update to RG 1.174) be completed on the same schedule as ~~to the development of~~ Part 53? Why or ....?' Delete the last question in lines 5 and 6 (That is, if ... statement?)

55. Page 21, revise line 1 from the top to read ' ... provides the following options ~~alternatives to the SFC~~: (1) maintain ....'

56. Page 21, paragraph 34., revise line 1 to read ' ... proposed options ~~alternatives~~ reasonable? If ...?'

57. Page 21, insert a new numbered paragraph after paragraph 34. which reads: Are there other options for risk-informing the SFC? If so, please discuss these options.

58. Page 21, paragraph 35., revise lines 1 through 3 to read 'Which option ~~alternative~~, if any should be considered?' Move the remainder of this item to a new numbered paragraph and revise as follows: '~~That is, s~~Should ~~any~~ changes to the SFC in 10 CFR Part 50 be pursued separate from or as a part of the effort to create ~~or should it be considered in the context of creating~~ a new Part 53? Why or why not?'

59. Page 21, paragraph J., delete the 1st sentence (Currently, 10 CFR ... requirements.)

60. Page 22, 1st full paragraph, delete the last sentence (In the longer term, the ... requirements.)

61. Page 22, paragraph 36., revise line 1 to read ‘ ... NRC ~~only~~ continue with ....’ Revise lines 2 and 3 to read ‘ ... Part 50, or should the NRC ~~only~~ undertake ....’ After the question mark in line 3, insert “Why?” Move the last 2 questions to a new numbered paragraph revised to read ‘If the NRC were to undertake new risk-informed rulemakings, w~~W~~ich regulations would be the most beneficial to revise? What would be the anticipated safety benefits?’

62. Page 22, paragraph 37., revise line 2 to read ‘ ... but whose ~~their~~ associated ...?’ Revise the last line to read ‘ ... having revised and why?’

63. Page 23, paragraph 38., revise line 1 to read ‘ ... regulations and/or associated ...?’ Revise line 2 to read ‘ ... when should the NRC ~~does it make sense to~~ initiate ...?’

cc: Chairman Diaz
Commissioner McGaffigan
Commissioner Merrifield
Commissioner Jaczko
Commissioner Lyons
OGC
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