Enclosure 1. Response to Review Questions for RG 4.21

(1) What are the known technical or regulatory issues with the current version of the RG?

No regulatory or technical issues were identified in the periodic five year review of RG 4.21 done in June 2013.

Proposed changes came in petitions for rulemaking submitted by TA Associates (ML121280451 & ML12270A318) submitted Mar 26th and Aug 15th, 2012. The petitioner proposed changes to Part 50, Part 20, and three RGs including RG 4.21. The central theme of the petitions was to upgrade requirements for upgraded and new technology in radionuclde monitoring instrumentation in nuclear power plants. The petitions were denied in June 22, 2012 (ML121280539) and January 15, 2013 (ML12268A125) because the petitioner did not propose a general solution to a problem in the regulations.

Regarding RG 4.21 the petitioner proposed changes in multiple places for the use of automatic real-time continuous alarming radiation monitoring systems. Although the suggestion has merit, RG 4.21 already permits the use of these methods. However, the Discussion section of the guide clearly indicates that a risk-informed approach should be used so the use of automatic real-time continuous alarming radiation monitoring systems is not warranted in every situation, particularly when it comes to small facilities that use little or no volumes of fluids. The guide does stress early leak detection but indicates it needs to be considered in a risk-informed manner.

There is also a non-technical editorial issue because of changes in the template used for RGs. The template changes are not significant enough to warrant revising the RG at this time especially considering that NEI 08-08 provides a Standard Format and Content guide to match RG 4.21. A major revision of RG 4.21 may necessitate revision to NEI 08-08. This is not considered beneficial at this time.

(2) What is the impact on internal and external stakeholders of not updating the RG for the known issues, in terms of licensing and inspection activities?

Because there are no significant technical or regulatory issues, there is no impact in not revising the guide in terms of licensing and inspection activities. The Office of New Reactors (NRO) is the office most likely to be affected by changes in the guide, and they indicated by e-mail to the Regulatory Guide Development Branch, Res, that the guide does not need revision at this time. They found that industry is able to implement it successfully with the new power plant applications.

(3) What is an estimation of the level of effort needed to address identified issues in terms of FTE and contract dollars?

Revision of the RG will take 0.1 FTE of NRC staff time. No contract dollars are needed.

(4) Based on the answers to the questions above, what is the proposed staff action for this RG?

Declare RG 4.21 “Acceptable As Is.”

(5) If a RG should be revised, provide a conceptual plan and timeframe to accomplish this.

Both NRO and NEI confirmed that the RG is acceptable as is. As noted above, industry has been able to implement it successfully with the new power plant applications, and NRO found it to be a useful guide for those applications.