

Staff Responses to Public Comments on Draft Regulatory Guide DG-4013
(Proposed Revision 2 of Regulatory Guide 4.1)

Public Comments					NRC Response	
ID#	Origin	pp	Sec.	Comment	Resolution/Suggestion	Fin
1	NEI	All	All	<p>A comprehensive revision of regulations and regulatory guidance to consistently use current radiation protection science would be more productive.</p> <p>Radiation protection overall would be better served if the NRC were to revise all of the regulations and regulatory guidance concurrently to reflect the current radiation protection standard.</p>	<p>The staff agrees that the use of several ICRP dose models should be addressed, and this is being evaluated by the NRC (see SECY-08-0197). However, only a very little of RG 4.1 is impacted by such modeling changes. Therefore, it is appropriate to issue the revision to RG 4.1 without waiting for the ICRP related changes to Part 20 that will take several years to develop and implement.</p>	9
2	NEI	All	All	<p>Extensive Change in Scope and Lack of a Meaningful Backfit Analysis</p> <p>The NRC's Liquid Radioactive Release Lessons Learned Task Force Final Report (Sept. 1, 2006) section 3.2 discusses extensively the existing regulations that require control of radioactive effluents, on-site surveys and monitoring for radiation protection, and the role of the radiological environmental monitoring program (REMP) to evaluate the potential impacts of the facility on the environment and public exposure. This NRC taskforce concluded: <i>"Although there have been a number of industry events where radioactive liquid was released to the environment in an unplanned and unmonitored fashion, based on the data available, the task force did not identify any instances where the health of the public was impacted."</i></p>	<p>The staff agrees that DG-4013 originally contained an excessive amount of information on (1) on-site monitoring for members of the public, (2) decommissioning and remediation, and (3) reporting direct radiation using dosimetry typically controlled by the radiological protection program. The document was revised, and almost all references to these items were removed. Two items, related to REMP, were retained as listed below.</p> <p>(1) NUREG-1301/1302 include groundwater and drinking water monitoring if the water is likely to be affected.</p> <p>(2) If an on-site leak or spill occurs, it could affect the REMP (via NUREG-1301/1302, Control 3.12.2, Land Use Census, Actions "a" and "b").</p>	2

				Draft revision to RG 4.1 (section 2) greatly expands the scope of current guidance for the REMP into control of radioactive material, control of radioactive effluents, remediation, record-keeping for decommissioning, site characterization, and notification of the NRC, among other things. The proposal for an extensive on-site monitoring program, including that for ground water, does not consider whether there is a credible exposure pathway to the public, and, as such, is not risk-informed. No justification or backfit analysis is provided for this significant expansion beyond the scope of environmental monitoring.	RG 4.1 contains guidance on these 2 items as they relate to the REMP. A backfit analysis is not required for regulatory guides since they provide guidance and are not regulations. The staff agrees that there have been no instances where the health of the public was impacted.	
3	NEI	A	2	Introduction – Although the major sections are listed, a more formal and extensive Table of Contents would be useful.	The NRC agrees with this comment. A table of contents was provided in the initial draft and that table will be expanded.	64 24
4	NEI	All 7	All 2.3.2	[This RG provides] duplicative and potentially conflicting guidance on radiation protection programs for workers and on-site members of the public – monitoring, contamination control, and remediation. The draft RG 4.1 imposes duplicative requirements for on-site monitoring to protect the 10 CFR 20 “member of the public”; on-site monitoring is already being performed under existing radiation protection programs. The requirements for licensees to perform surveys and monitoring under 10 CFR 20.1501 to demonstrate that the on-site “member of the public” does not exceed the 100 mrem/year limit ensure adequate protection; duplication of effort under an expanded REMP will not result in additional protection for those individuals. Similarly, remediation to control contamination is	The staff agrees that DG-4013 originally contained an excessive amount of information on (1) on-site monitoring for members of the public, (2) decommissioning and remediation, and (3) reporting direct radiation using dosimetry typically controlled by the radiological protection program. The document was revised, and almost all references to these items were removed. Two items, related to REMP, were retained as listed below. (1) NUREG-1301/1302 include groundwater and drinking water monitoring if the water is likely to be affected. (2) If an on-site leak or spill occurs, it could affect the REMP (via NUREG-1301/1302, Control 3.12.2, Land Use Census, Actions	12 87

				<p>already performed under existing radiation protection programs. This revision to RG 4.1 inappropriately proposes that the REMP program serve as the basis for decision making on remediation. Licensees are required under 10 CFR 20 to control radioactive material; RG 8.8 provides additional regulatory guidance on control of contamination. The radiological protection program, not the environmental monitoring program, is the appropriate programs to control radioactive material. This includes the mechanisms for the licensee to identify and plan any remediation activities that are necessary.</p> <p>If the NRC intends to provide additional guidance on demonstration of compliance with 20.1301 for onsite members of the public, such guidance should be in a new Section 1 Regulatory Guide (RG). Section 4 of the Regulatory Guides is related to "Environmental" guidelines. Further, if the NRC insists on proceeding as proposed, the NRC should, as a minimum, allow the licensee to reference the existing programs and controls to demonstrate satisfaction of the new, expanded requirements in RG 4.1 to avoid duplication of effort</p>	<p>"a" and "b").</p> <p>RG 4.1 contains guidance on these 2 items as they relate to the REMP.</p>	
5	NEI	All 7	All 2.3.1	<p>The NRC's Liquid Radioactive Release Lessons Learned Task Force Final Report (Sept. 1, 2006) ... concluded:</p> <p><i>"Although there have been a number of industry events where radioactive liquid was released to the environment in an unplanned and unmonitored fashion, based on the data available, the task force did not identify any instances where the health of the public was impacted."</i></p>	<p>The staff agrees DG-4013 contained too much emphasis on on-site ground water monitoring. The document was revised, and almost all references to ground water monitoring were removed. Two items, related to REMP, were retained as listed below.</p> <p>(1) NUREG-1301/1302 include groundwater and drinking water monitoring if the water is likely to be affected.</p>	

				Draft revision to RG 4.1 (section 2) greatly expands the scope of current guidance for the REMP into control of radioactive material, control of radioactive effluents, remediation, record keeping for decommissioning, site characterization, and notification of the NRC, among other things. The proposal for an extensive on-site monitoring program, including that for ground water, does not consider whether there is a credible exposure pathway to the public, and, as such, is not risk-informed. No justification or backfit analysis is provided for this significant expansion beyond the scope of environmental monitoring.	(2) If an on-site leak or spill occurs, it could affect the REMP (via NUREG-1301/1302, Control 3.12.2, Land Use Census, Actions "a" and "b"). RG 4.1 contains guidance on these 2 items as they relate to the REMP. See also the response to NEI question #9.	
6	NEI	5 7 8	B.2.5 C.2 C.2.3.3	10 CFR 20 Subpart E establishes the criteria for license termination (decommissioning). Regulatory guidance on decommissioning surveys already exists in NUREG-1757. In addition, typically after an event such as a leak or spill, surveys are performed (1) to ensure control of contamination and worker protection under the 10 CFR 20 radiation protection program and (2) to obtain information for decommissioning planning purposes in accordance with 10 CFR 50.75(g). The expanded scope for REMP is redundant and will require significant resources to obtain information that will have very limited usefulness at decommissioning.	The staff agrees that decommissioning should not be an objective for the REMP, and as a result, B.2.5 was deleted and the references to decommissioning (as part of the REMP objectives) were deleted from C.2. Additionally, the entire section C.2.3.3 was deleted.	
7	NEI	All	All	Many of the items added to RG 4.1 are duplicative of existing, more detailed guidance in NUREG-1301 and 1302. A more appropriate action would be to update and improve NUREG 1301/1302 and delete RG 4.1 as being redundant. See other comments	The staff agrees in part with the comment regarding some duplication. Where possible, duplication will be avoided; however, some duplication may be necessary to establish the correct context and to ensure consistency between guidance documents.	

8	NEI	5	2	<p>10 CFR 72 requires an Environmental Monitoring program for dry fuel storage facilities. These facilities are often co-located at the nuclear power plant site. For such co-located facilities, the licensee typically takes credit for the existing nuclear power plant REMP to meet the requirements of 10 CFR 72. Augmentation of the existing program, such as new direct dose TLD locations at the site boundary in proximity to the dry fuel storage facility, may be implemented. The RG should be revised to recognize the 10 CFR 72 requirements and specify how the 10 CFR 50 licensed program can be used.</p>	<p>The staff agrees with this comment and has included information regarding REMPs other than those associated with, and required by, a 10 CFR Part 50 license.</p>	
9	NEI	6	2.3	<p>[There is] no regulatory requirement for onsite environmental program and groundwater monitoring.</p> <p>The NRC "Liquid Radioactive Release Lessons Learned Taskforce Final Report" concludes that no regulatory requirement exist for the monitoring of groundwater onsite exists {"... there are no specific regulatory requirements for licensees to conduct routine on-site environmental surveys and monitoring for potential abnormal spills and leaks of radioactive liquids" page 19 LRLLTF report}.</p>	<p>The staff agrees no routine on-site environmental monitoring is required for potential leaks. However, surveys (e.g., on-site groundwater monitoring) may be required once a leak or spill (of radioactive material) is detected. This is addressed in RG 1.21 from the perspective of measuring, evaluating, and reporting effluents.</p> <p>The LLTF statement refers to monitoring for "potential" leaks. Once leaks are known to exist, the monitoring requirements of 10 CFR 20.1501 specifies "licensees shall make...surveys...that may be necessary...and...reasonable...to evaluate...the magnitude... concentrations... and the potential radiological hazards."</p> <p>Licensees should assess the hazard (or impact) from spills and leaks. Part of this assessment includes the impact on the REMP. For RG 4.1, an on-site leak or spill may affect the REMP (e.g., sample media, receptor, or receptor location) as outlined in</p>	

					NUREG-1301/1302 Control 3.12.2 regarding the Land Use Census. RG 4.1 contains guidance in this regard. See also the response to NEI question #5.	
10	NEI	4	2.4	<p>[There is] Unjustified Emphasis on Ground Water Monitoring and [the] Expanded Scope [is] not Risk-Justified.</p> <p>The emphasis on on-site groundwater monitoring for inadvertent subsurface contamination from leaks and spills is unjustified given that the NRC's Liquid Effluent Releases Task Force Lessons Learned Final Report issued September 1, 2006 stated, "The most significant conclusion of the task force regarded public health impacts. Although there have been a number of industry events where radioactive liquid was released to the environment in an unplanned and unmonitored fashion, based on the data available, the task force did not identify any instances where the health of the public was impacted."</p>	See the NRCs response to NEI comment #5 and #9 above.	
11	NEI	All	All	<p>[There is] Duplication and potential conflict of [with other] Regulatory Guidance. The NRC has now generated several guidance documents on the same subject of groundwater monitoring that are duplicative and are likely to have the unintended consequence of resulting in conflicting guidance. These include Regulatory Guide 4.21, Regulatory draft Regulatory Guide 4.1 and the Draft Guidance to Implement Survey and Monitoring Requirements Pursuant to Proposed Rule Text in 10 CFR 20.1406(c) and 10 CFR 20.1501(a) that supports the Decommissioning Planning Rulemaking. All of the proposed guidance documents should be</p>	The staff agrees the NRC has issued, or has plans to issue, regulatory guides on a number of aspects related to ground water, but each regulatory guide provides guidance for different purposes. For example, Regulatory Guide 4.21 was issued to provide guidance to new license applicants to minimize contamination. Similarly, RG 4.22 will be issued to provide guidance to existing licensees on minimizing contamination and ensuring sufficient decommissioning funding. RG 4.1 (scheduled to be issued 2009) addresses environmental monitoring, including ground water with respect to	

				<p>withdrawn and, if risk-justified, a single guidance document provided. These all claim to be implementing the same regulatory requirements but with different guidance. To say the least, the multiple regulatory guidance documents create a high likelihood for conflict and confusing licensees.</p>	<p>environmental programs at operating reactor sites. RG 1.21 (scheduled to be issued in 2009) provides staff guidance on sampling, monitoring, evaluating and reporting ground water results in the annual report. Each document has a different scope and ground water monitoring is only a small, but integral, portion of the entire document. The NRC considers guidance in each of these documents to be important in each of the respective areas.</p>	
12	NEI	5 5	2(6) 2	<p>[There is] Inappropriate Constraint on Regulations through Regulatory Guidance.</p> <p>As part of the site license, plants are allowed to release activity to the environment through permitted releases. In fact, Regulatory Guide 1.109 even assumes some level of buildup in the environment from such releases. Given that ODCM-permitted releases are assessed as well below ALARA objectives established in 10 CFR 50, the proposed expansion of REMP to decommissioning is not risk-justified.</p> <p>Statements in this draft RG and in other draft revisions to other RGs to the effect that remediation is warranted or would be required at decommissioning to meet unrestricted release of the site and screening DCGLs in NUREG 1757 effectively foreclose the existing option under 10 CFR 20 Subpart E for restricted release of the facility. It is inappropriate for RGs to be used to change or modify existing regulations</p>	<p>The staff agrees that some of the wording in section 2(6) was unclear and as such could be misapplied to decommissioning. The unclear wording was removed, and the intent was clarified (so it relates to the objectives of the REMP).</p>	
13	NEI	7	2.3.1	<p>Section 2.3.1 needs to clearly state the applicability of the on-site environmental monitoring program for the existing as well as new plants.</p>	<p>The staff agrees that the applicability should be clearly specified. A section on applicability was added to section "A" of the document.</p>	1

14	NEI	6	2.3	Section 2.3 should be removed in its entirety or, as a minimum, significantly edited to only cover monitoring of ground water if a credible exposure pathway exists at the site. It should not discuss remediation or leaks and spills unless the result in inadvertent contamination of the environment.	The staff agrees Section 2.3 should be reduced. Verbiage was added regarding monitoring ground water and drinking water is there is a suspected impact (as outlined in NUREG-1301/1302 for REMP's).	
15	NEI	6	2.1	The draft RG does not distinguish between release pathways and exposure pathways and hence makes confusing statements such as the need to evaluate the existence of "other exposure pathways". An incident or spill, or a plant redesign may result in a new release pathway or direct dose pathway, and could impact the critical locations, but it will not create a different type of exposure pathway. Changes in release pathways could result in changes in the locations sampled or analyses performed.	The staff agrees that verbiage should be clear and unambiguous. All instances of "exposure" and "release" were checked to ensure proper usage. The concepts of release point, dispersion pathway, exposure pathway and route of exposure have been refined and clarified.	10 20 63 66
		5	C.1	The term "new exposure pathway" in the 3rd sentence is misleading. For example, if a new cow farm results in a higher dose, it is not a new pathway if the cow's milk pathway previously existed, but it is a new critical location. Additionally, the annual census results are not the only potential reason for updating the program. Changes in station design, such as relocating a solid radioactive waste storage facility, during the preoperational phase may also dictate the need for a REMP program revision such as a new TLD location. Recommended the sentence read: "The preoperational program should be updated when new pathways or critical locations are identified."	The staff agrees with the comment, and has incorporated the comment into the document.	
16	NEI	6	C.2.1	Are all the primary pathways listed required? All of the exposure pathways will be not applicable	The staff agrees with this comment. Additional guidance has been added	26

				at many sites. If they are required, how does a site take exemption to these pathways? [Include additional guidance in RG 4.1 to address the questions above.]	regarding these exposure pathways.	38 70 72 73
17	NEI	6 6 10 19	2.1 2.1.c.iii 2.4.c Glossary	The principal exposure pathways listed in C.2.1 for waterborne radioactivity are not properly characterized – surface and subsurface water and sediment are not in themselves exposure pathways. Revise the listing to c.i. drinking water; c.ii irrigation of foodstuffs; c.iii immersion (recreational) Subsurface water is listed as principle exposure pathway without listing a definition for subsurface water. Ground water is defined; subsurface is not. “as applicable” should be added to the end of this sentence since each item does not necessarily represent an exposure pathway at all plants. See comment below on definition of “Drinking Water”	The staff agrees with this comment. Some information has been removed and other guidance has been added regarding these exposure pathways (and routes of exposure).	
18	NEI	6 6 10	2.1 2.2 2.4	At what distance do these sampling requirements apply? In Section 2.1 there is an example that says “no milk animals in proximity.” Where is proximity defined? For milk, NUREG-1301/2 states to sample at 3 locations within 5 km, and if none exist that close, sample between 5 and 8 km if the projected dose exceeds 1 mrem. It is likely that no site’s projected dose beyond 5 km exceeds 1 mrem. As mentioned earlier, it would be better to only have one set of guidance (e.g. NUREG-1301/2) on this and other information in this RG.	The staff agrees with this comment and the use of “proximity” in RG 4.1 has been eliminated. To eliminate duplication in regulatory documents, RG 4.1 refers to NUREG-1301/1302 for information specifying the distance over which the land use census should be conducted.	27
19	NEI	6	2.1	Specific guidance is needed. In Section C.2.1,	The staff agrees with this comment. As far	

				<p>under food products, the parenthetical phrase “(if used as a local, common food product)” is only included next to “invertebrates.” Must all other listed food products be sampled if they exist, even if not used as a food product? Should this section also include the statement that only those exposure pathways need to be monitored if the pathway is considered significant</p>	<p>as compliance with NRC regulations is concerned, monitoring is only required if an evaluation of the exposure pathway indicates (1) the sample media (associated with the applicable route of exposure) exists, and (2) there is sufficient sample media (associated with the applicable route of exposure) to satisfy the usage factors in RG 1.109. Licensees may choose to monitor any exposure pathway, regardless of the significance of the exposure pathway, if the licensee chooses to do so (e.g., for continuity in the REMP, or for local interest).</p>	
20	NEI	6	2.1	<p>Does “meat” in Section C.2.1 mean just commercial meat production facilities? If not, why is hunting listed in C.2.2.c as an additional pathway (if of local interest). If meat is not just commercial, but also includes individual use, hunting could be a baseline meat pathway? Are any of the listed food product pathways considered as principal exposure pathways only if commercial facilities exist?</p>	<p>The formulas in RG 1.109 include a usage factor (e.g., kg/year) and the importance of a food product is based on the usage factor. For example, a garden census (if conducted) is only required to include gardens over 50 square meters because it takes a garden of that size to satisfy the usage factor. Consumption of meat would not be significantly different. If an individual consumed locally raised meat, and there was sufficient local meat to satisfy the usage factor (whether from a local commercial packing house or from hunting), a licensee with such knowledge should evaluate the exposure pathway to determine if it is significant.</p> <p>Conversely, sampling commercial meat production may not be representative of local conditions (depending on the fraction of locally grown meat animals included in the final product). Sampling of locally raised meat or meat from hunting may be, in some</p>	28 73

					<p>cases, more useful than sampling meat from a commercial packing facility.</p> <p>The licensee's land use census is responsible for identifying that combination of food sources (i.e., sample media), receptors, and receptor locations that together comprise the important exposure pathways.</p>	
21	NEI	6	2.1.e	<p>There is no difference between C.2.1.e and Section C.2.2? Suggest deleting C.2.1.e.</p>	<p>The staff agrees with this comment. Both of these sections were revised significantly.</p>	
22	NEI	7	2.3.1.e	<p>Section C.2.3.1 (if this section is not deleted) – Does the list of Program Considerations in section C.2.3.1.b mean these items must be included in the Annual Radiological Environmental Operating Report?</p> <p>Activity released under the effluent control program is reported in the Annual Radiological Effluent Report. These requirements are more appropriate for DG-1186 (or another Section 1 RG</p>	<p>The staff agrees that the on-site monitoring program in DG-4013 was too prescriptive and all encompassing; covering some topics that were beyond the objectives of a REMP. The majority of Section C.2.3.1 was deleted and the remainder was significantly revised and reorganized.</p>	
23	NEI	7	2.3.1.h	<p>RIS 2008-03 clarified that previously discharged radioactive materials in gaseous or liquid effluents that are returned from the environment to an operating nuclear power facility are no longer required to be controlled as licensed material. Under the existing effluent control program, potential dose impacts to the public are already evaluated and reported to the NRC. [RIS 2008-03] should also be added to the references.</p> <p>The list of on-site samples to be considered in 2.3.1 is not justified. This includes the "re-capture" of airborne effluents in equipment/HVAC condensation or through rain-out, or by re-use of the receiving water body for liquid effluents does</p>	<p>The staff agrees that the RIS should be included in the bibliography. Section 2.3.1.h was deleted. The staff agrees with the conclusions of RIS 2008-03 that effluents returned to the on-site environs are no longer treated as licensed material provided the conditions of the RIS are satisfied (e.g., the effluents were properly released, properly reported, etc...).</p> <p>The staff agrees that rain-out of properly discharged effluents is an example of recapture as identified in RIS 2008-03. The list of on-site samples mentioned in this comment has been deleted.</p>	

				not represent an exposure pathway from licensed material.		
24	NEI	8	2.3.3	Ground water characterization is already required as part of site characterization and is included in the UFSAR. The draft imposes duplicative requirements, including an evaluation of plant systems and components that is well outside the scope for an environmental monitoring program.	The staff agrees that the on-site monitoring program in DG-4013 was too prescriptive and all encompassing. The majority of Section C.2.3 was deleted and the remainder was significantly revised and reorganized.	
25	NEI	9	2.3	The notification of the public is described in detail in NEI 07-07 "INDUSTRY GROUND WATER PROTECTION INITIATIVE – FINAL GUIDANCE DOCUMENT issued August 31, 2007." There is no regulatory basis for the inclusion of such a requirement by the staff in this regulatory guide. We believe this to be good practice and would continue to do so as a part of the GPI. This guidance should be removed from the regulatory guide.	The staff agrees that the on-site monitoring program in DG-4013 was too prescriptive and all encompassing. The majority of Section C.2.3 was deleted and the remainder was significantly revised and reorganized. Notifications are no longer described in DG-4013.	
26	NEI	9	2.3.3	The proposal that reporting "other ground water sample results" that are not part of REMP should be in the AREOR unnecessarily conflicts with NEI 07-07 Objective 2.2 acceptance criterion b that requires non-REMP samples be included in the ARERR. Delete the last sentence of the paragraph that begins at the end of page.	The staff agrees to change the reporting guidance.	
27	NEI	10	2.4.b	In discussion of monitoring downwind sectors with highest annual average deposition does not specify the number of sectors. Should refer to NUREG 1301 or 1302.	The staff agrees with this comment.	
28	NEI	10	2.4.c	Add "...if applicable" at the end of the sentence. Many sites do not have drinking water pathways, but this item requires reporting them.	The staff agrees that the REMP does not need to contain routine drinking water samples for sites that do not have drinking water. The document was changed.	

29	NEI	10	2.5.b	Does this requirement mean that plants now have to analyze for Sr-90 and other hard-to-detect nuclides in REMP samples and pathways, even if such nuclides are not detected in effluents?	Sampling is outlined in NUREG-1301/1302. The wording was clarified regarding which samples are required.	
30	NEI	11	2.6	<p>The use of a tritium LLD of 300 picocuries/liter does not appear to be technically justified. This low LLD would place an additional burden on licensees without any commensurate benefit in public health and safety.</p> <p>What are the ramifications if a licensee does not meet the level of 300? Does the licensee have to report not achieving the LLD, even though it's not required?</p> <p>Citing early detection as the basis for this change is without merit since the samples being referred to are off-site. Properly placed sentinel wells positioned near potential leaks on site as discussed in NEI 07-07 provide better indicators.</p>	The staff agrees to remove the 300 pCi/l enhanced detection capability.	
31	NEI	11	2.7	Changes to the REMP are currently allowed if they do not reduce the overall effectiveness of the program. Due to the subjective nature of the language, a licensee could demonstrate through historical monitoring results and Regulatory Guide 1.109 calculations that there is no potential for detecting activity in that exposure pathway. However, other individuals could view the pathway as being important just because it once had been in the REMP.	The staff agrees and additional clarification was provided.	
32	NEI	11	2.7	There needs to be a clearer definition of a sample deviation and contingent actions when dealing with equipment failures of continuous / composite samplers (i.e. air, surface water, drinking water).	The staff agrees and additional clarification was provided.	

33	NEI	12	2.8	<p>There are a number of inconsistencies between the RG 4.1 requirements for a Land Use Census and those found in NUREG-1301. For example, NUREG-1301/1302 states that in lieu of performing a garden census, broadleaf vegetation may be sampled at the site boundary. The current draft does not allow for that option; instead it requires the licensee determine drinking water supplies and feeding characteristics. The inconsistencies between this draft and existing programs or regulatory guidance to control radioactive effluents needs to be resolved.</p>	<p>The staff agrees eliminate the unnecessary duplication and include a reference to NUREG-1301/1302.</p>
34	NEI	13	2.10	<p>The second sentence refers to "...direct radiation levels..." Recommend "measured radiation levels..."</p>	<p>The staff agrees with this comment. Comment incorporated.</p>
35	NEI	13	2.10	<p>Table 1 should be removed from RG 4.1. This duplicates the table already in the NUREG-1301/1302. There are also the following problems:</p> <ul style="list-style-type: none"> • Differs from the table in NUREG-1301/1302 • Footnote (a) for tritium in water is missing • The values for milk appear to be those for broadleaf vegetation • The column for broadleaf vegetation is empty <p>If this table is included in RG 4.1, either duplicate the table from NUREG-1301/1302 exactly, or reference the NUREG itself.</p> <p>Another case of inconsistencies with the NUREG. For example, NUREG 1301 and 1302 more clearly state that Table 1 reporting criteria only apply if the activity is plant related. Such a caveat is missing from the draft RG.</p>	<p>The staff agrees with this comment. The table was removed.</p>

36	NEI	13	2.10	Table 2 should be placed after page 16, where the table is first discussed. This table should include all nuclides for which there is a required LLD in NUREG-1301/1302 or, preferably, it should reference NUREG-1301/1302 for the complete list.	The staff agrees with this comment. The table was removed and the text references NUREG-1301/1302.	
37	NEI	16	2.12	Recommend that "...a map of all sampling locations..." be revised to state "...a map of all indicator sampling locations..." While control locations need to be listed, it is not always necessary to show these locations on the map.	The staff agrees with this comment.	
38	NEI	16	2.11	This is really only applicable if REMP results are readily detectable in the majority of samples collected. It is difficult, and meaningless, to compare non-detectable (<MDC) analytical results to predicted concentrations that are also below the target LLD. If the predicted concentrations are much less than achieved LLD, one cannot validate modeling assumptions with most REMP data, which are also <LLD. This argument also applies for ground water monitoring, in which the projected concentration would be below the LLD.	The staff considers some evaluation of the relationship between quantities of radioactive material released in effluents and the resultant radiation doses to individuals from pathways of exposure is an important part of the REMP. If the program indicates effluents are not detectable in the environment, and no radioactive materials are detected as part of the REMP, this comparison validates the effluent data. The staff agrees that it is not necessary to trend results that are not detectable and that such comparisons may be summarized in the text of the report if needed. The staff has clarified that trending results over time may be limited to those cases where plant related nuclides are detected in the environmental samples or where plant-related direct radiation is readily observed (e.g., where radiation levels are increasing around ISFSIs due to loading spent fuel). The document was changed accordingly.	
39	NEI	16	2.12	Per some Technical Specifications, the annual report is submitted to the NRC Document Control	The staff agrees with this comment and additional clarification was provided.	

				Desk, with a copy to the Regional Administrator. Some plants must submit by May 1 per the TS. Delete the details on actual submittal dates and defer to clear TS requirements.		
40	NEI	16	2.12	This section refers back to Table 2. Is the format presented in Table 2 required, or only an example of a suggested format? If it is only an example, and not a requirement, then this needs to be stated as such.	The staff agrees with this comment. Table 2 has been deleted	
41	NEI	19	Glossary	Terms in the glossary need to be consistent with existing regulations, regulatory guidance, and proposed revisions to regulatory guidance (including draft Regulatory Guide 1.21 and Regulatory Guide 4.21). For example: a priori; abnormal release; effluent discharge; impacted areas; lower limit of detection; monitoring; restricted area; significant exposure pathway; significant residual radioactivity; site environs; sub surface water, unrestricted area. See below for additional details	The definitions for a priori; abnormal release; effluent discharge; impacted areas; lower limit of detection; monitoring; restricted area; significant exposure pathway; significant residual radioactivity; site environs, and unrestricted area were revised. Other definitions were checked for consistency.	
42	NEI	19	Glossary	“Drinking water” – for the purposes of REMP compliance, drinking water is not the same as potable water as implied in the definition. To be considered drinking water, the water supply must be physically used to supply public drinking water, and not just considered satisfactory for human consumption.	The staff agrees that the definition of drinking water could be improved. The staff agrees that EPA jurisdiction regarding safe drinking water does not apply to individual wells (i.e., less than 25 persons or 15 service connections). However, although EPA regulations may not apply to individual wells, this does not eliminate NRCs jurisdiction with respect to REMPs at commercial nuclear reactors. The staff concludes the REMP should address the exposure to an individual member of the public as outlined in RG 1.109. This includes all significant exposure pathways (and associated mechanisms of exposure),	

					including drinking water if that route of exposure is present at a site. It would be inconsistent to estimate exposure to the maximum exposed individual for all routes of exposure except drinking water from private wells.	
43	NEI	20	Glossary	“Realistic exposure” is not appropriately included in environmental monitoring requirements. If the NRC proceeds as currently proposed, SECY-03-0069 should be added to the list of references.	The staff agrees with this comment. SECY-03-0069 was added to the bibliography.	
44	NEI	20	Glossary	“Significant Exposure Pathway”: Clarify if the use of “total public dose” applies to the maximum exposed individual, realistic exposed individual, or population dose.	The staff agrees with this comment. The use of the terms “significant exposure pathway” and “total public dose” were removed from the document.	
45	NEI	20	Glossary	“Significant Residual Radioactivity”: This definition states “...would later require remediation during decommissioning”. As discussed earlier, this effectively precludes restricted releases as currently allowed under 10 CFR 20 Subpart E.	The staff agrees to delete the definition of “Significant Residual Radioactivity.”	
46	NEI	21	Glossary	“Unlicensed material” Add reference to RIS 2008-03 for last sentence. Consider including the last sentence in this definition in the definition for “Effluent Discharge”	The staff agrees to add the RIS to the bibliography.	
47	NEI	22	B.1	Add RG 1.109 to references and to B.1 since NUREG 1301/1302 rely heavily on this document and it contains the usage factors. Suggest adding RIS-2008-03 to the list of references. If the NRC proceeds to inappropriately expand the REMP to include decommissioning surveys and screening criteria, NUREG-1757 should be referenced with regards to “significant residual	The staff agrees to include references to RG 1.109 and include RIS 2008-03 in the bibliography. Information on decommissioning surveys and screening criteria were eliminated.	

				radioactivity”.	
48	NEI	24	Ref 19	ANS/ANSI 2.17 is unpublished and therefore it is inappropriate to reference it.	The staff has deleted most of the information related to on-site monitoring of ground water, and the reference to ANSI 2.17 was deleted in the process.
49	NEI	3	B.1	Clear statements of applicability should be provided including the application to existing plants as well as new plants. Current licensees should be given the option to continue using the current version of R. G. 4.1, as referenced by licensing documents.	This is a duplicate of NEI comment #13 above. The staff agrees that the applicability should be clearly specified. A paragraph on applicability was added to the document.
1	STARS	6	2.3	<p>This addition effectively expands the scope of the codified radiological environmental Monitoring Program (REMP). Abnormal releases are already required to be evaluated. There are no requirements to backfit the REMP to include on “on-site environmental monitoring program.”</p> <p>There are many new groundwater discussions and evaluations. Some aspects of the NEI groundwater protection initiative (GPI) are evident. The NRC is inspecting to NEI GPI criteria and including it in the DG-4013 revision, but the requirements have not been codified. It is unclear what the consequences are of not meeting the “intent” of the changes.</p>	<p>The staff agrees DG-4013 contained too much emphasis on on-site ground water monitoring. The document was revised, and almost all references to ground water monitoring were removed. Two items, related to REMP, were retained as listed below.</p> <p>(1) NUREG-1301/1302 include groundwater and drinking water monitoring if the water is likely to be affected.</p> <p>(2) If an on-site leak or spill occurs, it could affect the REMP (via NUREG-1301/1302, Control 3.12.2, Land Use Census, Actions “a” and “b”).</p> <p>RG 4.1 contains guidance on these 2 items as they relate to the REMP.</p> <p>See also the response to NEI question #5 and #9.</p>
2	STARS	11	2.6	<p>“Analytical Detection Capabilities”</p> <p>The revised LLD of 300 pCi/l is recommended for tritium in ground water. This is considered as “not a regulatory requirement” (if other than 300</p>	The staff has removed all reference to the 300 pCi/l enhanced detection capability from the draft guide.

				pCi/l is selected as the “enhanced detection capability,” a written evaluation is required, using objective methodology (e.g., MARLAP). The use of such a value has no basis with regard to dose potential or decommissioning. If a ground water sample identifies that tritium is present at a concentration below 2000 pCi/l (10% of the EPA drinking water limit), there is inference that some interdiction would be necessary.		
1	PPL	5	2	Certain parts of section C.2 seem to be outside the intent or scope of a REMP. Specifically, see section 2.3.1 which lists program elements such as “TLD locations for monitoring work areas where members of the public routinely have access in a controlled area.”	The staff agrees that the on-site monitoring program in DG-4013 was too prescriptive and all encompassing. The majority of Section C.2.3 was deleted and the remainder was significantly revised and reorganized. The program elements referenced in this comment were removed from DG-4013.	
2	PPL	7 8	2.3.2 2.3.3	Most if not all licensees of operating power reactors have revised programs to comply with the NEI GPI. The NRC, NEI and ANI will be performing inspection of each site’s response to the implementation of the NEI GPI. This negates the need for all or portions of section 2.3.2 and 2.3.3.	The staff agrees that the on-site monitoring program in DG-4013 was too prescriptive and all encompassing. The majority of Section C.2.3 was deleted and the remainder was significantly revised and reorganized. The program elements referenced in this comment were removed from DG-4013.	
3	PPL	11	2.6	The second paragraph includes a “recommended” LLD for tritium in groundwater of 300 pCi/l. There is discussion of the reasoning or intention for the value but a basis for the 300 pCi/l is not provided or referenced.	The staff has removed all reference to the 300 pCi/l enhanced detection capability from the draft guide.	
4	PPL	12	2.8.a	This section seems more applicable to RG 1.21 (radioactive effluent monitoring and control) and not environmental monitoring.	The staff agrees some portions are applicable to both RG 1.21 and RG 4.1. The specific wording in DG-4013 was revised.	
5	PPL	13	2.10	The first sentence below Table 1 on page 13	The staff agrees and the Table was	

				should have an “a” proceeding it if it is intended to describe the basis for tritium reporting level in water.	removed.	
6	PPL	13	2.10	The last paragraph, first sentence: Table 2 should be Table 1.	The staff agrees and the reference to the Table was corrected.	
G1	DOM	All	All	<p>The draft RG incorporates additional regulatory requirements and programs. The term Radiological Environmental Monitoring Program (REMP) has been consistently applied to the RETS/ODCM program intended to help demonstrate compliance with the Technical Specification effluent release rate limits (based primarily on 10 CFR 50 Appendix I) and the limits of 40 CFR 190 (which combine the offsite effluent dose consequences with the offsite direct dose consequences). As such, the REMP has been the offsite monitoring program defined in the RETS/ODCM. The existing RG was limited to guidance on such a program.</p> <p>The draft RG tries to incorporate the following programs under the umbrella of the REMP:</p> <p>(a) Surveillance programs used to demonstrate that onsite “members of the public” meet the 100 mrem/year limit of 10 CFR 20. These programs are typically performed as Health Physics procedures or analyses and are not a part of the REMP. They could involve the use of onsite area TLD’s, but may also be limited to other controls such as design calculations and stored inventory control, or periodic surveys with portable instruments. If the NRC intends to provide additional guidance on demonstration of compliance with 20.1301 for onsite members of the public, such guidance should be in a new Section 1 Regulatory Guide (RG). Section 4 of</p>	<p>The staff agrees that in general, the REMP program has been, and continues to be, an offsite environmental monitoring program. However, there are some aspects of the REMP programs that may be contained on-site as specified in NUREG-1301/1302.</p> <p>The staff agrees that the on-site monitoring program in DG-4013 was too prescriptive and all encompassing. The majority of Section C.2.3 (i.e., on-site monitoring) was deleted and the remainder was significantly revised and reorganized. The RG has been revised to delete references to “on-site” environmental monitoring program and verbiage related to decommissioning was removed.</p> <p>The staff agrees that some of this information did not belong in RG 4.1 and some information (e.g., Part 100 and Part 50.75(g)) was relocated to RG 1.21 as suggested in the public comment.</p> <p>The staff considers this revision to RG 4.1 is necessary to incorporate operating experience and lessons learned in the 35 years since publication of Revision 1 of this RG.</p> <p>See also the NRC response to NEI comment #11.</p>	

			<p>the Regulatory Guides is related to “Environmental” guidelines.</p> <p>(b) Surveys performed based on the requirements of 10 CFR 50.75(g). These surveys are performed, typically following an event such as a spill, to ensure sufficient radiological information is available to effectively and safely decommission a site. These onsite surveys are not part of the REMP, as the draft guide implies in the first paragraph of Section C.2. If the NRC intends to provide additional guidance on onsite surveys following spills or other events for 10 CFR 50.75(g) compliance, then such guidance should be removed from RG 4.1, expanded to provide some useful guidance, and incorporated as a new Section 1 RG.</p> <p>(c) New monitoring programs have been employed as part of the new voluntary ground water monitoring program. These programs were established more for political reasons than for any technical basis of controlling dose to the public. They serve more of a leak detection function than a public dose consequence, although in many cases they also serve to address potential decommissioning issues. If implementation of these new ground water monitoring programs resulted in discovery at a specific site of a new dose pathway to the public, then surveillances for that dose pathway should be added to the official RETS/REMP programs. If the NRC intends to provide additional guidance on groundwater monitoring programs, then such guidance should be removed from RG 4.1 and incorporated as a new Section 1 RG. In reality, there is already more guidance on this ground water monitoring program than it deserves based</p>	
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				<p>on the recognition that it will never result in a significant public dose consequence.</p> <p>Are the above ties to 10CFR 100, 10 CFR 50.75(g) and ground water monitoring appropriate or should this guidance be located somewhere else? Assuming an agreement that this RG should only address REMP, and based on the observation that NUREG-1301 and 1302 provide more detailed guidelines than this RG on a REMP program, a more appropriate action would be to update and improve NUREG 1301/1302 and delete RG 4.1 as being redundant and hence unnecessary. It is not clear why some of the details in the NUREG were carried over into the draft RG (e.g., reporting levels) and other details (e.g., sampling and analysis schedule) were not. Such a carryover provides unnecessary duplication and leads to interpretation issues when there is not an exact duplication. Furthermore, it leads to potential issues in any future revisions. Examples are provided below where there are inconsistencies between NUREG-1301/2 and this draft RG.</p>		
G2	DOM	All	All	<p>10 CFR 72 requires an Environmental Monitoring program for dry fuel storage facilities. These facilities are often co-located at the nuclear power plant site. For such co-located facilities, the licensee typically takes credit for the existing nuclear power plant REMP to meet the requirements of 10 CFR 72. Augmentation of the existing program, such as new direct dose TLD locations at the site boundary in proximity to the dry fuel storage facility, may be implemented. The RG should be revised to recognize the 10 CFR 72 requirements and specify how the 10</p>	<p>The staff agrees with the comment. RG 4.1 has been revised to recognize that licensees can, at their option, co-locate surveillance equipment (e.g., TLDs) to fulfill both Part 50 and Part 72 functions.</p>	

				CFR 50 licensed program can be used. Various ramifications should be addressed. For example, if TLD locations are added, should they be installed two years prior to the first dry fuel loading to be consistent with preoperational program guidelines?	Although the suggestion to provide guidance stating that TLD locations should be added 2 years prior to dry fuel storage is a good suggestion, this specific guidance was not incorporated into the RG 4.1.	
G3	DOM	All	All	The draft RG does not recognize the difference between release pathways and exposure pathways and hence makes confusing statements such as the need to evaluate the existence of “other” exposure pathways. An incident or spill, or a plant redesign may result in a new release pathway or direct dose pathway, and could impact the critical locations, but it will not create a different type of exposure pathway. Hence, it is not just new exposure pathways that could require a change to the program, but changes in release pathways could result in changes in the locations sampled or analyses performed.	The staff agrees with the comment. The RG has been revised to specifically identify exposure pathways of inhalation, ingestion, and direct radiation. The regulatory guide then provides a definition of a “route of exposure” to the exposure pathway. Sample media are then identified for the routes of exposure. See revised regulatory guide for more information.	
1	DOM	2	A	Introduction – Although the major sections are listed, a more formal and extensive Table of Contents would be useful.	The staff agrees with the comment, and a Table of Contents has been provided.	
2	DOM	5	C	Section C – 1st paragraph – 2nd sentence – In addition to providing supporting evidence on the performance of effluent control systems, the information also provides supporting evidence on the adequacy of controls for direct dose impact, such as shielding or inventory control. As discussed above (see General Comments), NUREG 1301 provides more descriptive information on why there is a REMP. For example, Section 6.8.4.g. of NUREG 1301 states: “The program shall provide ... verification of the accuracy of the effluent monitoring	The staff agrees with this comment. Section C contained background information and this section was reorganized and reworded. Some of the basic information was moved to section “B” as background information.	

				program and modeling of environmental exposure pathways.” Similar wording to this or that listed in 10 CFR 50 Appendix 1, Section B.2 would seem appropriate in this paragraph.	
3	DOM	5	1	Section C1 – 3rd sentence – This sentence states, “The preoperational program should be updated when new exposure pathways are identified and characterized during the annual land-use census.” The term “new exposure pathway” is misleading. For example, if a new cow farm becomes more critical, it is not a new pathway if the cow’s milk pathway existed, it is a new critical location. Additionally, the annual census results are not the only potential reason for updating the program. Changes in station design, such as relocating a solid Radwaste storage facility, during the preoperational phase may also dictate the need for a REMP program revision such as a new TLD location. It is recommended that the sentence read, “The preoperational program should be updated when new pathways or critical locations are identified.”	The staff agrees with this comment. The Regulatory Guide includes objective #3 that states, “determine if measurable levels of radiation or radioactive materials in the local environment are attributable to plant operation, and objective #4, Determine if measurable levels of plant-related radiation and radioactive materials in the local environment are commensurate with the radioactive effluents and plant design objectives (of “As Low As Reasonably Achievable”). A new section was added on “new routes of exposure” that also clarifies when changes are required for the REMP.
4	DOM	5	2	Section C.2 – 1st paragraph – see General comment 3 – revise second sentence. [The draft RG does not recognize the difference between release pathways and exposure pathways...]	The staff agrees with the comment. The concepts of exposure pathway and release pathway have been clarified. Guidance was provided for evaluating the REMP for changes in exposure pathways, receptor locations, receptors, and routes of exposure.
5	DOM	5	2	Section C.2 – 1st paragraph – see General comment 1 – delete last 2 sentences as they are related to 10 CFR 50.75(g), not REMP.	The staff agrees with the comment. The sentences have been removed.
6	DOM	6 6	2.1 2.2	Section C.2.1, C.2.2, and C.2.4 – The wording in these sections provides inconsistent and unclear	The staff agrees with the comment. Guidance on sampling low usage food

	10	2.4	<p>guidance on what and where pathways are to be monitored.</p> <p>(a) Are all the primary pathways (Section C.2.1) required? In several cases, some of these pathways (e.g., nuts) will be not applicable at many sites. If required, how does a site take exemption to these pathways?</p> <p>(b) At what distance do these sampling requirements apply? In Section 2.1 there is an example that says “no milk animals in proximity.” What is proximity? For milk, NUREG-1301/2 states to sample at 3 locations within 5 km, and if none exist that close, sample between 5 and 8 km if the projected dose exceeds 1 mrem. It is likely that no site’s projected dose beyond 5 km exceeds 1 mrem. As mentioned earlier, it would be better to only have one set of guidance (e.g. NUREG-1301/2) on this and other information in this RG.</p> <p>(c) In Section C.2.1, under food products, the parenthetical phrase “(if used as a local, common food product)” is only included next to “invertebrates.” Does that imply that all the other listed food products must be sampled if they exist, even if not used as a food product? For example, if there are milking goats at 3 km, but that milk is not used for human consumption, does the milk still have to be sampled and analyzed? If yes, then should the same logic be applied to fish, which should be monitored if they exist even if not a local food product. If that’s the case, then why does C.2.2.c state that fish may be an additional pathway if of local community interest? Should this section also include the statement that only those exposure pathways need to be monitored if the pathway is</p>	<p>products has been clarified as dependent on the importance and usage factors. Meat consumption has been addressed and examples were added. (See also the NRC response to NEI comment #20).</p> <p>The information provided in NUREG-1301/1302 (and the licensee’s technical specifications) is sufficient with respect to the distance over which monitoring should be conducted and that information was not replicated in RG 4.1.</p> <p>Section c.2.1.e was deleted.</p>	
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				<p>considered significant? However, how does this evaluation get adequately “verified” without being part of REMP?</p> <p>(d) Does “meat” in Section C.2.1 mean just commercial meat production facilities? If not, why is hunting listed in C.2.2.c as an additional pathway (if of local interest). If meat is not just commercial, but also includes individual use, hunting could be a baseline meat pathway? Are any of the listed food product pathways considered as principal exposure pathways only if commercial facilities exist?</p> <p>(e) There is no difference between C.2.1.e and Section C.2.2? Suggest deleting C.2.1.e.</p>		
7	DOM	8	2.3	Section C.2.3 – Based on General comment 1, this section should be removed from this RG.	The staff agrees with the comment. The on-site environmental monitoring program has been removed from the RG.	
8	DOM	7	2.3.1	Section C.2.3.1 (if this section is not deleted) – Does 2.3.1.b mean that exposure control TLD results which Health Physics typically handles need to be reported in the REMP report? What about onsite air sampling assessments? The onsite water monitoring described for items 2.1.3.f and 2.1.3.h will normally be reported in the Annual Radiological Effluent Report. These requirements are more appropriate for DG-1186 (or another Section 1 RG as discussed in General comment 1.	The staff agrees with the comment. The on-site environmental monitoring program has been removed from the document, and appropriate guidance incorporated into RG 1.21.	
9	DOM	8	2.3.3	Section 2.3.3 – The last sentence should be deleted. It should be acceptable to document long term tracking in either the AREOR or the ARERR.	The staff agrees with the comment. The section was deleted.	
10	DOM	11	2.6	Section 2.6 - The new proposed H-3 LLD (300 pCi/liter) is quite arbitrary. What is the basis for	The staff agrees with the comment, and has	

				<p>this specific value? Why not 500 or even 1000 pCi/liter? We realize we can take exception to this value based upon a written evaluation, but this sets a potentially dangerous precedent. Performing analyses to this low level, especially onsite, is not the norm, nor should it be. This may have a significant cost impact with little or no benefits. In many cases when looking for activity especially onsite near the potential sources, such low LLDs are unnecessary.</p>	<p>deleted the recommended 300 pCi/L.</p>	
11	DOM	12	2.8	<p>Section C.2.8 – This Section provides another example of why it is not a good practice to have two documents for the same thing (NUREG-1301/2 and RG 4.1). There are a number of inconsistencies between what the draft RG 4.1 specifies for a Land Use Census and what is in NUREG-1301. For example, the NUREG states that in lieu of performing a garden census, broadleaf vegetation can be sampled at the site boundary. Such an option is not provided in the draft RG. The draft RG requires the determination of drinking water supplies and feeding characteristics, whereas the NUREGs, and likely most ODCMs do not. These inconsistencies need to be resolved.</p>	<p>The staff agrees that the inconsistencies need to be corrected. The section on Land Use Census was revised with references to NUREG-1301/1302.</p>	
12	DOM	13	2.10	<p>Section C.2.10 – Another case of inconsistencies with the NUREG. For example, the NUREG more clearly states that Table 1 reporting criteria only apply if the activity is plant related. Such a caveat is missing from the draft RG. This caveat does not appear until the second paragraph which may cause interpretation issues. The NUREG has a value of 15 pCi/l for I-131 in water if there is no drinking water pathway and the draft RG does not. Also, the values listed under the</p>	<p>The staff agrees with the recommendation, and has added the words “plant-related radioactivity.” The Table has been deleted, and this corrected the typographical errors in the Table.</p> <p>The reference to the “health physics regional office” has been corrected.</p>	

				Milk column should be for Broad Leaf vegetation (or should it really be for Food Products as listed in the NUREG?). Again, the best solution is to update NUREG 1301/2 and delete RG 4.1 in its entirety. The reference to “health physics regional office” is also called NRC regional office. More consistent formal titles would seem appropriate.	
13	DOM	16	2.11	Section C.2.11 – The two examples provided in this section are not representative of the comparisons intended by Section IV.B.2 of Appendix I to 10 CFR 50. A typical comparison that might be made is the calculated dose for the year from fish consumption based on the measured liquid effluent releases for the year input into RG 1.109 models (e.g., LADTAP) with the calculated dose based on the measured concentrations of radionuclides in REMP fish samples. The example comparison in the first paragraph discusses long term buildup trends in sediment, something that can't be compared as the effluent dose models do not calculate long term sediment buildup. The example comparison in the second paragraph compares the effluent dose calculations with the calculations performed for the design objective (the original Appendix I compliance calculations). Such a comparison is not routinely performed, nor is there a need to do so. The two examples in this section should be deleted.	The staff agrees that additional clarification for trends is needed, and the examples were deleted. See NRC response to NEI comment # 38.
14	DOM	16	2.12	Section C.2.12 – Per some Technical Specifications, the annual report is submitted to the NRC Document Control Desk, with copy to the Regional Administrator. Some plants must submit by May 1 per the TS. Suggest deleting	The staff agrees with the comment. Guidance on the annual report has been improved, and provision has been made for varying submittal dates that are authorized based on Technical Specifications.

				the details on actual submittal requirements as guidance is not needed on clear TS requirements.		
15	DOM	19	Glossary	Glossary – “drinking water” – for the purposes of REMP compliance, drinking water is not the same as potable water as implied in the definition. To be considered drinking water, the water supply must be physically used to supply public drinking water, and not just considered satisfactory for human consumption.	The staff agrees that the previous definition of drinking water could be improved. A new definition was added, and it includes single use wells (even though EPA drinking water standard does not apply to single use wells).	