

Commenter	Location in Document (section, subsection, paragraph, sentence)	Comment	Response	X
Duratek	General	Reference NUREG-1609 ("Standard Review Plan for Transportation Packages for Radioactive Material") and state the basis for the complimentary documents, consistent with the notations provided in NUREG-1609.	Comment incorporated.	Y
Gary Clark	General	"The draft DG identifies that references be placed in the appendix of each section. SARs that have been submitted and approved by the NRC have utilized footnotes as a method of identifying references (e.g., TRUPACT-II, HalfPACT, and GNF-A NPS SARs). The DG should state that other methods for reference identification are acceptable."	Intent is to establish a standard format. No change.	Y
Gary Clark	General	"The draft DG does not identify requirements for electronic submittals of either a complete application or computer input/output files that are used in the structural, thermal, shielding, and/or criticality evaluations. Electronic guidelines for submittals should be included in this DG."	Agree. Comment incorporated.	
Packaging Technology	General	"The format resembles the existing draft Regulatory Guide 7.9. Sections which are new ore revised, however, often result in: Material presented prematurely, i.e., before it can be adequately introduced, thus breaking the natural flow of thought Material presented redundantly, i.e., the same material requested in two or more locations. Following the proposed format will result in either excessive SAR size or in excessive use of the general term, 'See Section X for a discussion of...'"	Agree. Reorganized some sections in Chapters 2, 3 and 4.	Y
Barry Miles	B, Style and Composition, 3	"The paragraph discusses referencing proprietary documents. There may be cases where a proprietary document has no proprietary equivalent to be references. Is this requirement implying that such a summary description be generated? If not, 'if available' should be added prior to the words 'the nonproprietary.'"	No change. Non proprietary version typically developed.	Y
Duratek	B, Style and Composition, Last	"The Paragraph reads, 'Pages should be numbered by section and sequentially within each section.' Is there a preferred or recommended method for numbering appendices to sections?"	Comment incorporated.	Y
Brian Gutherman	B, Revisions, 3, 1	Should read: "All pages submitted to update, revise, or add pages to application should show the date of change or a change or amendment number."	Preference is for both date and revision number. No change.	Y
Barry Miles	B, Revisions, 3	"The inclusion of date of change on each page of the revision seems	Preference is for both date	Y

		superfluous as long as the SARP front matter (e.g., transmittal letter, List of Effective Pages) can be used to associate a date with a particular revision.”	and revision number. No change.	
Barry Miles	B, Revisions, Last	“The parenthetical phrase should begin with ‘e.g.’ instead of ‘i.e.’”	Comment incorporated.	Y
Brian Gutherman	B, Physical Specifications, Last, 1	“The drawings do not need to include signatures or initials to indicate approval of the drawings and revisions if manual signatures on the drawings are not used. The current state of the art allows electronic ‘signatures’ on drawings (e.g. in the form of a numeric identifier) to avoid manually signing drawings that are otherwise electronically generated. I suggest a more flexible statement such as ‘and an indicator of approval of the drawing and each revision.’”	Comment incorporated.	Y
Gary Clark	B, Paper Stock	“The draft design guide (DG) identifies the paper weight as 20 pound for duplex printing (i.e., both sides) or 16 to 20 pound for single side printing. The DG should identify these weights as the ‘minimum’ poundage acceptable. Some duplex printers require a heavier weight paper (e.g., 28-pound) in order to print properly.”	Comment incorporated. Specified range as identified.	Y
NRC/OCIO	B, Number of Copies	“Revise the number of copies to be submitted, in accordance with the e-rule. The rule was effective January 1, 2004, and requires that only one copy must be submitted to NRC, with exception of Part 63. Only if copies are required to be sent to multiple external locations, e.g., the Regions, may NRC request on additional copy for each location.”	Comment incorporated.	
ME&TS	C, 1.2.1	“The guide lists the maximum filled and minimum empty weights as items to include. The guide should be clarified to indicate that the maximum filled weight should be less than or equal to the weight of the package evaluated for structural integrity (both NCT and HAC) in Section2. The guide should also be clarified to indicate that the minimum empty weight is the nominal weight of the packaging (empty with all attachments (as applicable). The guide should also request that the application include the estimated manufacturing tolerance of the weight, taking into account the allowable variances (per the drawings) in the raw material and parts used to manufacture the packaging.”	No change. Judged to be too detailed for Chapter 1 and varies from case to case.	Y
Gary Clark	C, 1.2.2	“This section states to define the exact boundary of the containment system, including a sketch. 4.1.1 requires essentially the same information with the addition of further details. Based on the requirements of 4.1.1, it appears that 1.2.2 is a duplication of the containment boundary definition requirement. Suggest that this section be revised to clarify the content versus the content requirements of 4.1.1.”	Agree. Removed Section 1.2.2 and revised Section 4.1.1.	Y

ME&TS	C, 1.2.3	"Clarify the meaning of minimum and maximum weight."	Revised for clarity.	Y
Barry Miles	C, 1.2.3, 1, 2	"The section requires more description than the CoC content description normally contains. Sentence should read: '...in at least as much detail as intended...'"	Agree. Revised.	Y
ME&TS	C, 1.3, Heading	"The heading used, 'General Requirements for all Packages,' is confusing, since only two are listed for this section. It would be less confusing if the Minimum Package Size requirement were added under Section 1.2.1 and the Tamper Indicating Feature were placed under Section 1.2.2 and the 'General Requirement' heading was removed."	Moved to Structural section.	Y
Gary Clark	C, 1.3	"This section states that the requirements of 10 CFR 71.43, <i>General Standards for All Packages</i> should be addressed. However, only the requirements for Minimum Package Size (1.3.1) and Tamper Indication Feature (1.3.2) are identified at the subsection level. The other general requirements of 10 CFR 71.43 should also be identified in this section. The other criteria that should be identified are: positive closure, chemical and galvanic reactions, protection of package valve or other device, no reduction of packaging effectiveness under the tests of 71.71, Normal Conditions of Operation, accessible surface temperature limit—exclusive use/non-exclusive use, continuous venting."	Moved to structural section.	Y
Barry Miles	C, 1.3	Similar to comment above.	Moved to structural section	Y
Brian Gutherman	C, 1.4, Title	"Should this subsection be entitled 'Drawings' rather than 'Appendix'? If so, in the first sentence, 'Appendix 1.3' should be 'Section 1.3'"	Revised.	Y
ME&TS	C, 1.4, Title	Change "Appendix 1.3" to "Appendix 1.4"	Revised.	Y
Barry Miles	C, 1.4, Title	Similar to comment above.	Revised.	Y
Gary Clark	C, 1.4	"This section states that the drawings should be included in 'Appendix 1.3', the correct reference should be 'Appendix 1.4.' Additionally, this section should reference NUREG/CD-5502, Engineering Drawings for 10 CFR Part 71 Package Approvals, for guidance in preparing engineering drawings."	Revised. Only Standard Review Plans will be referenced.	Y
ME&TS	C, 1.4, General	"This section should be revised to include guidance on supplying manufacturing specifications for items that are not produced to generally recognized standards (e.g. ASTM) and have a significant impact on the performance of the packaging. For example, polyurethane rigid foam insulation, coatings, blanket insulations, neutron or gamma shielding, etc. Additionally, the specifications should be reflected on the packaging drawings."	Comment incorporated, included in Chapter 2 Appendix as identified in Section 2.2.	Y

Brian Gutherman	C, 1.4, 1, 2-4	"Drawings do not need to specify welder and welding procedure qualification requirements or the method of nondestructive examination and acceptance standard IF the Code to which the package will be constructed (such as ASME III) includes these requirements, and is documented in the SAR and NRC approval of any alternatives to the Code is required."	No change. Codes and standards for fabrication requirements are needed on drawings.	Y
ME&TS	C, 2.1.1, 2, 1-2	"The first two bullets are repetitive information, since they appear in later sections and should not be calculated or discussed in depth in the Discussion Section. I would be less taxing to defer these items, as they appear in detail in following sections."	Agree. Deleted list.	Y
ME&TS	C, 2.1.3, General	"Clarify the meaning of 'Weight.' It appears that the nominal weight is called for."	No change. Allows some flexibility.	Y
Gary Clark	C, 2.2.2	"This section is a requirement from 71.43, General Standards for All Packages, and hence, should be provided in DG 1.3, General Requirements for All Packages."	Agree. Moved section 1.3 to Structural Chapter.	Y
ME&TS	C, 2.2.3, Heading	Heading should read: "Effects of Radiation on the Materials of Construction."	No change. Other materials (e.g., gaskets) may be important.	Y
ME&TS	C, 2.3	"While it is understood that the fabrication methods and extent of examination greatly influence the reliability of the packaging, especially when a particular weld, process, or part is being credited for structural stability, this information has been addressed in Section 8 in the past and still appears to be addressed in Section 8 in this draft. It may be more appropriate to ask the applicant to identify the important welds, processes, or parts in this section in order to assure that they are properly fabricated and examined on the drawings, specifications and Section 8."	No change. Comment not clear.	Y
Duratek	C, 2.4.2, 1, 5	Should read?: "Determine the effect of the imposed forces on vital package components."	Comment incorporated.	Y
ME&TS	C, 2.5, Heading + General	Heading is too broad—it should read: "Methods for demonstrating Compliance." "This section is difficult to address, since many times several different models and approaches are used to analyze the package. Describing them all in a single section may be confusing. It may be more helpful to provide this information as general guidance under Section C, stating that each evaluation (applies to all, including structural, thermal, shielding, criticality, containment) should fully describe the model/prototype, conditions, etc, and refer to this guidance in the appropriate sections."	Agree. Sections reorganized.	Y

Packaging Technology	C, 2.5	<p>"The information requested in this section seems to be somewhat premature. Under 2.5.1, essentially all of the information on the test program is requested to be discussed in detail. However, the load cases are normally presented and discussed in later sections, such as 2.6 or 2.7. Similarly, 2.5.2 requests a detailed discussion of all the analytical procedures and calculational details. This information is relevant and should by all means be supplied, but it is more appropriately located in the sections where it is used.</p> <p>It is suggested that 2.5 be eliminated, since all of the data now requested there is more appropriately addressed in the individual analyses which follow in the evaluations of Normal Conditions of Transport and Hypothetical Accident Conditions."</p>	Agree. Sections reorganized.	Y
Gary Clark	C, 2.5.1	<p>"This section requires a significant amount of information that has been historically been supplied in a test appendix, i.e., Certification Tests. These appendices usually include a large number of photographs, data sheets, and/or other graphical information that were obtained during the testing. Test appendices can be as large as 100 pages. By requiring this information in the main body of the structural evaluation section rather than just a summary of the tests, the section will increase in size, creating a large separation from the following sections. Suggest modifying this section to require summarizing the certification testing, with reference to an appendix for details."</p>	Agree. Sections reorganized.	Y
Gary Clark	C, 2.5.1, 4	<p>"This section states that the dimensional tolerances for the prototype or model are to be specified, and that these dimensional tolerances are to be compared to the tolerances that will be used for the packaging. This statement is not sufficiently clear whether a quantitative or qualitative comparison is required. The section should clarify what type of comparison is required. Note that if a quantitative comparison were required, then fabrication tolerances would essentially become the SAR tolerances for all dimensions, both non-critical and critical"</p>	No change. This allows appropriate flexibility.	Y
Gary Clark	C, 2.5.1, 4	<p>"This section states to provide detailed drawings that show its dimensions and materials of construction. As currently written, an applicant would be required to create and include essentially another set of engineering drawings in addition to the general arrangement drawings required for Appendix 1.4. This requirement adds significant cost and bulk to the SAR. Rather than a totally independent drawing set, it is suggested that a descriptive comparison between the prototype or model and the package.</p>	No change. Some flexibility is allowed for prototype versus scale model.	Y

		Examples of this type of comparison are provided in the TRUPACT-II and HalfPACT SARs.”		
Gary Clark	C, 2.5.2	“It would appear that this section requires a significant amount of information that would also be required in 2.6 and 2.7. It is suggested that this section be revised to require only the discussion of the analysis technique(s) and analysis model(s) be stated, and that the analysis results are discussed in their appropriate section, i.e., 2.6, or 2.7.”	Agree. Sections reorganized.	Y
ME&TS	C, 2.6.1	“The thermal evaluation is provided in Section 3; thus it is possible to summarize both heat and cold in this section as ‘Temperature Effects.’ The applicant should qualitatively describe any effects on the packaging and payload due to heat or cold, including any phase changes, thermal expansion effects, shrinking, brittle behavior, etc, and their effect on the operation of the packaging. The applicant should be advised to examine the worst case condition (heat or cold) in Sections 2.6.1.1 through 2.6.1.4.”	No change. Existing format tracks with regulatory requirements.	Y
ME&TS	C 2.6.1, 1-4	“It seems that these sections would be more efficiently listed: 2.6.1.1 Summary of Pressures and Temperatures (no change) 2.6.1.2 NCT Stress Calculations 2.6.1.2.1 Stresses due to differential thermal expansion 2.6.1.2.2 Stresses due to pressurization 2.6.1.2.3 Stresses due to mechanical loads 2.6.1.2.4 Combined Stresses 2.6.1.2.5 Comparison with Allowable Stresses”	No change.	Y
ME&TS	C, 2.6.4, 1, Last	“The word ‘possibility’ implies that a risk assessment analysis is necessary. Suggest, ‘Evaluate the packaging for buckling.’”	Comment incorporated.	Y
ME&TS	C, 2.6.6, 1, 2	Sentence should read: “Evaluate the effects of water on the material properties of moisture-sensitive components, for example, wood, fiberboard, paper honeycomb, and open-cell foam products may exhibit reduced strength when wet.”	Revised for clarity.	Y
ME&TS	C, 2.7.1, General	“It appears that other package components must be assessed for the combined load of a 30-ft drop and a puncture drop, as well as internal pressures and thermal stresses. Please clarify the combination of the 30-ft and puncture drops—is this meant to be the deceleration of the 30-ft drop and deformation of the puncture drop?”	Revised for clarity.	Y
Barry Miles	C, 2.7.1, Last, Last	Sentence is redundant and should be removed.	Agree. Removed Sentence.	Y
ME&TS	C, 2.7.1.5	“This section is superfluous, as a complete summary of damage is given in Section 2.7.8.”	Sections are not redundant. No change.	Y

ME&TS	C, 2.7.4, 2-4	"These sections should be re-organized similar to the suggestion for Section 2.6.1.1."	No change.	Y
ME&TS	C, 2.10	Remove: "as applicable."	Comment incorporated.	Y
ME&TS	C, 3.2.2	"As appropriate" should be replaced by "that are important to the thermal performance of the package." These specifications should be provided in Section 1.4 and called out on the drawings.	Revised for clarity. Specifications called for in Chapter 3 Appendix.	Y
ME&TS	C, 3.3	Same comment as Section 2.5	Agree. Sections reorganized.	Y
Packaging Technology	C, 3.3	<p>"As for 2.5, this information seems to be placed ahead of its natural position, and all of the same comments apply here. The sections which follow, 3.4 and 3.5, make a clear and necessary distinction between the two major load cases, and for this reason, the load case details, modeling details, and results are more appropriately discussed in them. Note is also taken of the fact that the same information requested in 3.3 is currently requested in 3.4 and 3.5. Thus, 3.3 seems both premature and redundant.</p> <p>Section 3.3.3 also requires a discussion of information that has, at this place in the chapter, not been developed or presented.</p> <p>It is suggested that 3.3 be eliminated, since all of the data now requested there is more appropriately addressed in the two sections that follow, 3.4, and 3.5."</p>	Agree. Sections reorganized.	Y
Gary Clark	C, 3.3.1	"It would appear that this section requires a significant amount of information that would also be required in 3.4 and 3.5. It is suggested that this section is revised to require only the discussion of the analysis technique(s) and analysis model(s) be stated, and that the analysis results are discussed in their appropriate section, i.e., 3.4 or 3.5."	Agree. Sections reorganized.	Y
Gary Clark	C, 3.3.2	Same comment as Section 3.3.1.	Agree. Sections reorganized.	Y
Gary Clark	C, 3.3.3	"This section requires identification of thermal margins of safety for the package temperatures, pressures, and thermal stresses. This same information is also required under 3.4 and 3.5, which are more suited for discussion of their applicable results. Suggest elimination of this section so that there is no duplication of thermal results in the later sections."	Agree. Sections reorganized.	Y
Packaging Technology	C, 3.4	"It is suggested that discussion of the analytical or test model be included in this section."	Agree. Sections reorganized.	Y
Packaging Technology	C, 3.4	"Note that discussion of the fire performance of the package is inappropriate in this section (see 3.4.3)."	Agree. Section moved to accident conditions.	Y

Packaging Technology	C, 3.4	"It is suggested that a discussion of general package performance under Normal Conditions of Transport be included at the end of this section."	No change.	Y
Barry Miles	C, 3.4	"The current format for this section does not seem as logical as the previous section, which was split up into: Thermal Model Package Temperatures Maximum Internal Pressures Minimum Internal Pressures"		
ME&TS	C, 3.4.2	"Hydrogen generation and flammability should have been addressed in Section 2.2.2."	No change. Section 2.2.2 primarily describes materials compatibility.	Y
Packaging Technology	C, 3.5.1	"It is suggested that the maximum pre-fire temperature, calculated using maximum decay heat and no solar, be identified as a relevant initial condition."	Revised for clarity. Note that solar should be considered.	Y
Packaging Technology	C, 3.5.3	"It is suggested that a discussion of general package performance under Hypothetical Accident Conditions be included at the end of this section."	Comment incorporated.	Y
ME&TS	C, 4.1.2	"This section appears to be misplaced. Suggest it is more appropriate in 1.2.3."	Comment incorporated.	Y
ME&TS	C, 4.2	Same comment as Section 2.5.	Comment incorporated.	Y
Duratek	C, 4.3, 2, 1	Change: "10 CFR 71.51(a)(l)" to "10 CFR 71.51(a)(1)"	Agree.	Y
Barry Miles	C, 4.5	"'Leakage Rate Tests for Type B Packages,' is already covered by Chapter 8, Section 8.1.4 is 'Leakage Tests, so the Chapter 4 section can be deleted."	No change. Sections 8.1.4 and 7.1.3 should include details of how the leakage tests are performed.	Y
ME&TS	5.3	"This section does not appear to contain information concerning code benchmarking consistent with Sections 2, 3, and 6."	No change. Experience has been that benchmarking no necessary.	Y
Duratek	C, 5.3.1, Last, 1	Change "10 CFR 71.51(a)(2)" to "10 CFR 71.51(a)(2)"	Agree.	Y
ME&TS	C, 6.3.4	"This section should clarify that the internal moderation should consider both water moderation and moderation by any hydrogen-containing pre-packaging materials used with the payload. In particular, when the pre-packaging materials have a hydrogen density greater than that of water (for example, polyethylene buckets used to pre-package material for	Section revised for clarity.	Y

		transport in the packaging), the applicant should demonstrate that the optimum multiplication factor calculated with water moderation is unaffected by the addition of these materials, even when re-distributed by HAC conditions (as applicable) or the material should be modeled explicitly. Additionally, the applicant should consider the absence of the materials (as applicable)."		
ME&TS	C, 6.8	"The criticality evaluation section of the SAR has historically included a benchmarking section, with each applicant providing a benchmark of the code used. This is inconsistent with the requirements of the structural, thermal, and shielding sections; in these sections, it is only necessary to show that the code is well benchmarked. The use and accurate result of all of these codes (structural, thermal, shielding) is dependant upon the skill of the analyst as well as the accuracy of the code, yet individual applicant benchmarking is not required only for the criticality section. Internationally recognized codes such as SCALE and MCNP should be provided with universally accepted bias values by the manufacturer or by a User's Group for use within specific parameters, and NRC should take the lead in organizing the effort. The applicant should only be required to benchmark those portions of the code that are not within the universally accepted benchmark. Suggest this section be revised to be consistent with Sections 2, 3, and 5."	No change. Benchmarking for Chapter 6 is detailed in other guidance documents.	Y
Packaging Technology	C, 8.1.2	"It is noted that weld examination is discussed fully in a new section 2.3.2, Examination. It is suggested that weld inspection information not be included in two places. Either eliminate Section 8.1.2, or move all the information of Section 2.3.2 to Section 8.1.2."	No change.	Y