

**Proposed content of the qualification report**

<b>Parameter</b>	<b>Topical Requirement – information in this column does not change and is to be carried over into the qualification report for reference use</b>	<b>Qualified Value(s) – Information in this column is input by the user; they must state values that are applicable to this qualification report; if a table (such as BECT) include pointer to this information</b>	<b>Justification – Information in this column is input by the user; they must add a reference to where appropriate justification (as required by topical) such as calculation file, etc.</b>
<b>Allowable content definitions</b>			
<b>Shielding Design Changes and Site Specific Parameters</b>	Shielding design can be changed via 72.48, some designs have variable thickness transfer casks, however changes and/or site-specific parameters must be included in the shielding analyses used as a part of the FSAR method for dose rate calculations	include reference FSAR, differences in design and/or site-specific parameters that deviate from the design basis FSAR that have been incorporated into this qualification	Provide references to applicable 72.48 reports or updated FSARs as appropriate
<b>Fuel assemblies and characteristics that can be loaded</b>	Allowable fuel assemblies are in Table 2.2 of the topical; FSAR will have more specific allowable fuel assembly characteristics; different masses of assemblies may be analyzed as long as the same mass is used in the source term and dose rate analyses	Include reference to TS/FSAR and Table 2.2 of the topical that include allowable assemblies; if there are restrictions associated with an assembly used as an analysis parameter (i.e. if a different/lower assembly mass is used) that needs to be stated here	Include a reference to the calculation report documenting different mass used for source term and dose rate calculations
<b>Fuel Hardware</b>	Section 3.2 of the topical states that if source term does not consider Inconel spacers then	State if fuel with Inconel spacers is allowed and if they were considered in the source term evaluation	Include a reference to the calculation report documenting how Inconel

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	qualification must be restricted to fuel without them		spacers was considered within source term
<b>Fuel Conditions</b>	Damaged or reconstituted fuel is allowed however the method for modeling this fuel is not part of the topical	State if and how much damaged and reconstituted fuel is allowed and include a loading pattern(s)/locations that include this information (could be an appendix to this table)	Include reference to Include reference to calculation file for source term and dose rate
<b>Inserts/non-fuel hardware (NFH) that can be loaded (PWR)</b>	Allowable NFH are in Table 2.2 of the topical; FSAR will have more specific allowable fuel assembly characteristics; masses are in Table 3.4 of topical; however different masses can be used, if different masses are used this must be stated and loaded NFH are restricted to these masses	If PWR, include inserts/NFH that are allowed to be loaded; reference topical or FSAR as appropriate, and/or include allowable masses of inserts if different	If NFH mass is different from topical assumptions, include a reference to the calculation report documenting different NFH mass used for source term calculations
<b>Neutron source assembly (NSA; PWR only)</b>	Three options are explained within Section 3.4.3 of the topical. (1) no limit to NSAs if source is determined to be negligible, (2) quantify and consider NSA source in calculation and number and location of NSAs is part of the content, (3) perform no evaluation and NSA are limited to 1 at the center of the basket	State which option is selected and if option (2) include the allowable number and location of NSAs	If (1) is selected, provide reference to justification that source is negligible, if (2) is selected provide reference to analyses showing source term and compliance with dose rate limits
<b>Burnup/enrichment/cooling times and loading patterns</b>	Can vary based on qualified content, maximum burnup allowed is 68.2 GWd/mtU for PWR fuel and 65.0 GWd/mtU for BWR fuel; enrichment range is 0.5 wt% to 5.0 wt% <sup>235</sup> U; cooling time is greater than or equal to 1 year	Include allowable FQT or burnup/enrichment/cooling times (can be appendix to this table)	Include reference to calculation file for source term and dose rate

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Analysis Method			
<b>Design Basis Assembly</b>	Topical gives the option of using assembly from Table 3.1 or 3.2 of the topical, this needs to be consistent with what is used in the FSAR	State here which design basis assembly was chosen for source term and transport calculations	No justification needed
<b>SCALE Code Version</b>	Topical allows for newer version of the SCALE code system than 6.2.1. If newer versions of the code are used, topical requires a comparison per section 3.1 must be performed	State here which version of SCALE is used to perform source term calculations	If SCALE version is a newer than 6.2.1, provide reference to documentation of comparison per Section 3.1
<b>Gamma/neutron group structures</b>	Gamma and neutron group structure is documented in Tables 3.5 and 3.6 and is allowed to change slightly per Section 3.2 and 3.3 of the topical	State if the group structures from the topical have been used or state what the group structures are and if they are different; similar to BECT, can be after this table in an appendix to this report	Include reference to calculation file that includes justification of different group structure
Results			
<b>Acceptance criteria</b>	Dose rates must meet acceptance criteria as established in transport method defined in FSAR	Include comparison to acceptance criteria (similar to FQT, won't fit in this box so may include as appendix, Appendix XYZ to this table, etc.)	Reference calculation file with dose calculations
<b>Justify acceptance criteria is valid if there are design changes</b>	FSAR will include criteria/method for demonstrating that acceptance criteria dose rate points are still valid if there are design changes from FSAR version where these were originally approved	If there are design changes, include results of criteria/method used to demonstrate acceptance criteria dose points are still acceptable	Reference calculation file with dose calculations

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Example Appendices

Appendix A: FQT

[include FQTs with burnup/enrichment/cooling time]

Appendix B: Loading Pattern

[Include loading pattern, locations of damaged fuel, inserts, etc.]

Appendix C: Group structures

[Include gamma and neutron group structures if different from topical]

Appendix D: Acceptance Criteria

[Include results of dose rate calculations demonstrating that acceptance criteria has been met]