RAI 6-7 Approach

To address NRC concerns regarding the linkage between burnup, enrichment, cooling time, and bounding source terms, the minimum cooling time as a function of burnup and enrichment will be added to the Technical Specifications (TS) and based upon 2.4 kW PWR fuel, which is the thermally hottest PWR fuel included in Amendment 1. This table applies only to PWR fuel. Burnups in this table will be expressed in GWd rather than GWd/MTU because decay heat is proportional to the total energy extracted from a fuel assembly and thus correlates more closely with GWd.

The general format of the fuel qualification table is provided below. Burnup (BU), enrichment (E) and cooling time (CT) values will be included in the official RAI response. The information in the bulleted list below will be provided with the table and/or BASES (Appendix 13A of the UFSAR), although the precise wording in the final response may be different.

- Minimum cooling times are provided only for specific burnup and enrichment combinations. The minimum cooling times for arbitrary burnup and enrichment combinations may be interpolated using the values in this table.
- Fuel assemblies with minimum enrichments below the values provided in this table are acceptable for storage at the E_{min} cooling time. These fuel assemblies are considered statistical outliers and comprise < 0.5% of the spent fuel population.
- The minimum cooling times in this table are based upon bounding irradiation parameters used to develop the source terms used in the UFSAR analysis. Because a general fuel population will typically be irradiated with less penalizing irradiation parameters, fuel with cooling times less than the minimum cooling times provided in this table may be loaded provided the decay heat limits are met and the Licensee demonstrates that the dose rate limits in TS Section 5.1.2 are met.
- The minimum cooling time after discharge is 2 years.

Fuel Qualification Table, Minimum Cooling Times

Burnup (GWd)	BU_{min}	…	…	…	BU_{max}
Minimum Enrichment (wt. % U-235)	E	…	…	…	E
Maximum Enrichment (wt. % U-235)	5.0	…	…	…	5.0
Minimum CT at E_{min}	CT	…	…	…	CT
Minimum CT at E_{max}	CT	…	…	…	CT