

NRC Question

Per UFSAR Section 9.5.4.1.1 (Rev. 18), the usable diesel fuel volume required to support each Division 1 and 2 diesel generator continuous operation at rated load for 7 days is 32,200 gallons. Division 1 diesels will now be loaded above the continuous rating due to the load increase needed for the AST amendment. Provide a detailed discussion addressing how the EDG 7 day fuel supply requirement is satisfied as a result of this AST amendment.

Response

The load increase needed for alternative source term (AST) is approximately 40 kW (References 1 and 2) due to the addition of Standby Liquid Control (SLC) system pumps. The fuel consumption rate for the increased rating (i.e., continuous rating + SLC pumps) is 190.1 gallons per hour, which is up from 187.2 gallons per hour at the continuous rating (Reference 4). The increased fuel consumption rate is calculated as follows:

$$\text{previous fuel consumption rate} * (\text{continuous rating} + \text{SLC pumps}) / \text{continuous rating}$$

While the additional load is being powered, an additional 3 gallons of fuel will be consumed per hour. LaSalle County Station (LSCS) Technical Specifications Bases Table 3.8.3-1 and LSCS UFSAR Section 9.5.4.1.1 show that the 7 day fuel supply requirement for the Division 1 and Division 2 Emergency Diesel Generators (EDGs) is 32,200 gallons (as calculated in Reference 4). As stated in Reference 3, the maximum time required for full SLC injection is 125 minutes. Because 31,841 gallons are needed as a minimum (Reference 4), the remaining 359 gallons provide sufficient margin and show that the EDG 7 day fuel supply requirement is satisfied.

References

1. Letter from P. R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "Additional Information Supporting Request for License Amendment Regarding Application of Alternative Source Term," dated November 18, 2009
2. Letter from P. R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "Additional Information Supporting Request for License Amendment Regarding Application of Alternative Source Term," dated March 29, 2010
3. Letter from P. R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "Additional Information Supporting Request for License Amendment Regarding Application of Alternative Source Term," dated September 28, 2009
4. Letter from P. R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "Response to Request for Additional Information Related to Technical Specification 3.8.3, 'Diesel Fuel Oil and Starting Air' (TAC Nos. MD8674 and MD8675)," dated July 23, 2008