PWU Interrogatory #4

Interrogatory

Reference:

Exhibit D2-1-3, Page 7 of 59, Lines 17-25

Project #82883 Darlington Class I Rectifier Replacement. The objective of this project is to replace 60 Class I rectifiers, which are obsolete and approaching end of service life. These rectifiers supply critical loads with Class I DC power from the Class II AC busses. Class I Power is very important for maintaining safety, as it provides an uninterruptible DC power to support proper operation of various safety systems. The reliability of these rectifiers is essential for reliable normal power supply to charge Class I battery banks, thereby ensuring uninterruptible power supply to nuclear system related loads and overall maintenance of system health. The total project cost is forecast to be $42.3M. Planned final in service is December 2032 with an in-service amount during the IR term of $17.0M.

Questions:

a) What is the design life of a Class I rectifier?
b) What is the average age of the 60 Class I rectifiers identified in the reference above?
c) What proportion of the existing Class I rectifiers will reach their end of service life by the end of 2026?

Response

a) As mentioned at Ex. D2-1-3, Attachment 1, Tab 45, p. 2, paragraph 2, the design life of a Class I rectifier is 20 years.

b) With enhanced component surveillance strategies, the average age of the identified 60 Class I rectifiers has been able to be extended to approximately 25 years.

c) If the status-quo is maintained, all the 60 Class I rectifiers will have reached the end of design life by the end of 2026, and it is expected that functional failures would start to occur.