SUNSI Review Complete
Template=ADM-013
E-RIDS=ADM-03

ADD: Michael Eudy, Bridget Curran, Solomon Sahle, Mary Neely
Comment (2)
Publication Date: 3/6/2023
Citation: 88 FR 13735

From: Tania Martinez Navedo
To: Michael Eudy
Cc: Liliana Ramadan; Sheila Ray
Subject: Comment on DG-1418
Date: Wednesday, March 8, 2023 8:31:21 AM
Attachments: image001.jpg
image002.jpg

Good morning Mike,

I have shared with folks in DEX 1 comment I have on DG-1418. I would appreciate it if they could be added to the comments resolution table for the DG:

Comment:
The last paragraph in the background section states:
IEEE Std. 485-2020, section 4.2.5, “Duty Cycle Diagram,” states that the total time span of the duty cycle is determined by the requirements of the installation. This duty cycle time depends on the type of production and utilization facility design—active or passive. The duty cycle time is typically discussed in a plant safety analysis report. For facilities that are active, the battery duty cycle should cover both design-basis accidents (DBAs) and station blackout (SBO) scenarios (with a permitted load shedding scheme). For DBAs, since an emergency diesel generator (EDG) or other onsite emergency power source is assumed to be available within approximately 10 seconds to recharge the battery, some facilities have sized the vital batteries considering a duty cycle of less than 2 hours duration. However, an EDG or onsite emergency power source may be out of service at the time of an accident concurrent with the loss of offsite power. It may take up to 2 hours to switch the associated battery charger to an alternate power source. Therefore, for active designs, the vital batteries should be sized for the worst-case duty cycle, consisting of either a minimum of 2 hours for the DBAs or the analyzed SBO duration (with a permitted dc load shedding scheme). This guidance does not apply to the EDG’s or onsite emergency power source’s own battery if provided separately (which is exclusively sized based on the starting requirement of the EDG or onsite emergency power source, such as field flash).

This paragraph may cause confusion since passive plants may still need to design for DBA and SBO and this paragraph doesn’t state as such – really, it doesn’t provide sufficient guidance for passive plants. Passive plants and advanced Rx will have to size their batteries, based on the safety analysis (i.e. for what events they are needed – DBA, SBO, AOO, etc).

I would recommend revising the paragraph as follows:
IEEE Std. 485-2020, section 4.2.5, “Duty Cycle Diagram,” states that the total time span of the duty cycle is determined by the requirements of the installation. This duty cycle time depends on the type of production and utilization facility design, and~~—active or passive. The duty cycle time~~ is typically discussed in a plant safety analysis report. ~~For facilities that are active, the battery duty cycle should cover both design-basis accidents (DBAs) and station blackout (SBO) scenarios (with a permitted load shedding scheme). For DBAs, since an emergency diesel generator (EDG) or other onsite emergency power source is assumed to be available within approximately 10 seconds to recharge the battery, some facilities have sized the vital batteries considering a duty cycle of less than 2 hours duration. However, an EDG or onsite emergency power source may be out of service at the time of an accident concurrent with the loss of offsite power. It may take up to 2 hours to~~

~~switch the associated battery charger to an alternate power source. Therefore, for active designs, the vital batteries should be sized for the worst-case duty cycle, consisting of either a minimum of 2 hours for the DBAs or the analyzed SBO duration (with a permitted dc load shedding scheme).~~
This guidance does not apply to the emergency diesel generator's (EDG's) or onsite emergency power source's own battery if provided separately (which is exclusively sized based on the starting requirement of the EDG or onsite emergency power source, such as field flash).

Happy to discuss further if you'd like.

Tania

Tania Martinez Navedo, Acting Deputy Director
Division of Reactor Oversight
Office of Nuclear Reactor Regulation
US Nuclear Regulatory Commission
e-mail: tania.martinez-navedo@nrc.gov
phone: (301) 415-6561