

From: [Carolyn Lauron](#)
To: [Justin Hawkins](#)
Cc: [Demetrius Murray](#); [Greg Cranston](#); [Andrew Brenner](#); [Michael Dudek](#)
Subject: NRC Staff response to questions re: SECY-94-084
Date: Wednesday, October 26, 2022 3:21:00 PM

Hi Justin –

Please see the NRC staff response below to the subject questions.
Please let us know if you need additional information.

Thank you,
Carolyn Lauron
USNRC

Questions:

1. SECY -94-084 references 420F when discussing safe shutdown criteria. Example pg. 14 states that, *“The staff concludes that cold shutdown is not the only safe stable shutdown condition which can maintain the fuel and reactor coolant boundary within acceptable limits, and that the EPRI proposed 215.6 °C (420F) as a safe stable shutdown condition is acceptable on the basis of acceptable passive safety system performance and acceptable resolution of the regulatory treatment of non-safety systems.”*

Q: Is this 420F for RCS Tavg? Is it the hottest place in RCS loop? Is it just fluid in the RPV? Can the staff provide any clarity here on this?

2. Can the staff provide clarity on whether, or not, there is a specific time requirement for a passive ALWR to be in a safe shutdown condition following a reactor shutdown? (36 hrs and 72 hrs are both referenced in the SECY-94-084)

NRC Staff Response:

The 420°F is considered the RCS average coolant temperature. NUREG-2194 has an example of how this was implemented into the Standard Technical Specifications for the Westinghouse AP1000. (<https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2194/>)

The specific timeframe for the design of the passive decay heat removal system to bring the plant to a safe shutdown condition is 36 hours. The Commission policy of SECY-94-084 redefined the temperature of what constitutes a safe long-term state for passive designs. The timeframe in which the staff expects decay heat removal systems to be capable of achieving a long-term safe condition (cold shutdown for active plants and safe shutdown for passive plants) remains unchanged at 36 hours.