



NRC FACT SHEET ON SEABROOK NUCLEAR POWER PLANT LICENSING ACTIONS

WHAT IS ALKALI SILICA REACTION (ASR)? ASR is a chemical combining of reactive silica from the concrete aggregate with the alkali from the cement paste in the presence of moisture. The result of the reaction is a gel, which can expand and may cause micro-cracks in the concrete.

- **WHAT IS THE STATUS OF NRC REVIEWS INVOLVING ASR AT SEABROOK AND A RENEWAL OF THE PLANT'S LICENSE?:** The NRC staff on March 11, 2019 issued a license amendment approving NextEra's plans for addressing ASR, or concrete degradation, at Seabrook. On March 12, 2019, the NRC staff issued a 20-year license extension for the plant. The new license extends the plant's operating license to 2050.
- **WHY DID THE NRC STAFF ISSUE THOSE LICENSING ACTIONS PRIOR TO A PENDING HEARING ON ASR ISSUES?:** The NRC staff completed its safety reviews for the ASR license amendment and the license renewal application and did not identify any concerns with issuing those licensing actions prior to the completion of an Atomic Safety and Licensing Board (ASLB) hearing on ASR issues at the plant. In addition, promptly issuing these actions established requirements in the Seabrook license for monitoring and managing the effects of ASR.
- **STATUS OF ASLB HEARING ON C-10 CONTENTION REGARDING CONCRETE DEGRADATION:** The hearing is scheduled for Sept. 24-27, 2018 at a location near the plant still to be determined. There will also be a limited appearance session on Sept. 23 during which members of the public will be able to comment on the issue.
- **WHAT HAPPENS IF THE ASLB RULES IN FAVOR OF CHANGES?:** If changes to the Seabrook license are required as a result of the hearing process, the NRC staff will implement those changes at the conclusion of the process.
- **HOW HAS ASR AFFECTED SEABROOK?:** There has been water intrusion into sections of walls in certain below-grade structures at the plant. This has resulted in the degradation of some of the concrete, as evidenced by pattern cracking. Seabrook is the only nuclear power plant in the U.S. to date to experience this phenomenon.

Key Dates

LICENSE RENEWAL APPLICATION SUBMITTED:
May 2010

NEXTERA LICENSE AMENDMENT REQUEST ON CONCRETE DEGRADATION SUBMITTED:
August 2016

ISSUANCE OF NRC STAFF DRAFT SAFETY EVALUATION REPORT ON LICENSE AMENDMENT:
September 2018

ISSUANCE OF NRC STAFF SAFETY EVALUATION REPORT ON LICENSE RENEWAL APPLICATION:
September 2018

ADVISORY COMMITTEE OF REACTOR SAFEGUARDS (ACRS) MEETINGS ON BOTH SERS:
October-December 2018

ISSUANCE OF ASR LICENSE AMENDMENT AND LICENSE EXTENSION:
March 2019