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NRC Atomic Safety and Licensing Board Issues Seabrook Decision; Adds Conditions to License Amendment

An Atomic Safety and Licensing Board has [upheld](#) a license amendment for the Seabrook nuclear power plant's operating license, but has imposed four additional conditions. The license amendment addresses concrete degradation caused by the alkali-silica reaction. The Board concluded the additional conditions to the license are necessary to provide adequate protection of public health and safety.

In 2016, NextEra Seabrook, which operates the single-reactor Seabrook plant, located 13 miles south of Portsmouth, N.H., requested the amendment for analyzing the concrete degradation's impact on safety-significant areas of the plant.

The C-10 Research and Education Foundation filed 10 proposed contentions regarding the amendment. The ASLB granted a hearing in October 2017 on five contentions, which it consolidated into one contention – that NextEra's large-scale concrete testing program yielded data that are not representative of the reaction's progression at Seabrook, and that the resulting monitoring, acceptance criteria and inspection intervals are inadequate. The Board held a full hearing on the matter in September 2019.

Given the decision's use of proprietary information, the Board worked with the parties to produce the redacted version now available. The Board concluded the amended license will meet the NRC's requirements when the agency's Office of Nuclear Reactor Regulation imposes the following conditions:

- 1) NextEra will monitor certain devices measuring concrete expansion every six months, rather than starting in 2025 and every 10 years after that;
- 2) If stress analyses show degradation-related expansion and other forces will exceed the strength of rebar in the concrete, NextEra must monitor the affected rebar to ensure it has not yielded or failed, or detect such failure if it has already occurred;
- 3) If the degradation-related expansion rate in any area of a "seismic Category I" structure significantly exceeds a certain limit, NextEra will evaluate whether to implement more frequent monitoring; and
- 4) Each concrete core extracted from Seabrook must undergo a detailed microscopic evaluation to detect degradation-related features.

The ASLB is the NRC's independent body charged with conducting adjudicatory hearings and deciding legal challenges to the agency's licensing and enforcement actions. The Board's decisions can be appealed to the five-member Commission heading the agency.