

PUBLIC SUBMISSION

As of: 3/16/15 3:27 PM
Received: February 28, 2015
Status: Pending_Post
Tracking No. 1jz-8hgn-5qru
Comments Due: March 30, 2015
Submission Type: Web

Docket: NRC-2014-0257

Improved Identification Techniques Against Alkali-Silica Reaction Concrete Degradation at Nuclear Power Plants

Comment On: NRC-2014-0257-0002

Improved Identification Techniques Against Alkali-Silica Reaction Concrete Degradation at Nuclear Power Plants; Request for Comments on Petition for Rulemaking

Document: NRC-2014-0257-DRAFT-0007

Comment on FR Doc # 2015-00199

Submitter Information

Name: G. Dudley Shepard

Address:

1 Blossom Lane
Exeter, NH, 03833

Email: dshepo@comcast.net

General Comment

Comments on Petition for Rulemaking; Docket ID NRC-2014-0257

Submitted electronically to www.regulations.gov ; 2/28/15

Detection and Analysis of Alkali-Silica Reaction Concrete Degradation at Nuclear Power Plants

Through my connection with C-10 over many years I have been aware of the extent of Alkaline Silica Reaction (ASR) at Seabrook Station, and of the need to inspect and evaluate the condition of concrete nuclear structures that may have experienced age-related degradation.

I have spent a broad career in the field of mechanical engineering, both as a professor at UMass/Lowell and as a real-world practitioner at the MIT Instrumentation Laboratory (now Charles Stark Draper Laboratory).

Although the fields of civil and mechanical engineering are different, they are the same in a very important way. Engineering comes down to the question of "what makes it work and how do you do it?" Success almost always involves a team effort based on codes, interface agreements, specifications, documents, negotiations, etc. When the Draper Laboratory was the prime contractor for the design of the guidance system for Project Apollo, we had to negotiate interface requirements with the aircraft companies who designed the space craft. In the case at

Seabrook, the players are NRC, NextEra, ACI, ASTM, and so on. The regulations governing the solution to the problem of the presence of ASR in safety structures at Seabrook is mapped out by two excellent documents: ACI 349.3R and ASTM C 856-11. Each of the players must be responsible for their role in the solution. In particular, this means that NRC must enforce the adherence of NextEra to the above-cited sets of regulations. Without NRC enforcement oversight, the solution process breaks down, and the problem remains. There is no other way.

A vital part of the analogy between the design work at Draper and the design challenge facing the nuclear power industry is the importance of protecting human life. With the Apollo work, that priority provided the impetus for all of the involved parties to "get it right". It's important that NRC meet their legal responsibility to protect the public health and safety. Enforcing these regulations is crucial to meeting that responsibility.

Professor G. Dudley Shepard (retired)
Dept. of Mechanical Engineering
University of Massachusetts/Lowell