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**A TECHNICAL BASIS FOR REVISION TO
ANCHORAGE CRITERIA**

by

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ABSTRACT

The objective of this project is to provide the US Nuclear Regulatory Commission (NRC) with a comprehensive document that can be used to establish regulatory positions regarding fastening to concrete. The project consists of the following three tasks:

- 1) Prepare a report summarizing the guidance in documents such as:
 - a) ACI 318 (fastening proposal);
 - b) ACI 349, Appendix B;
 - c) USI A-46, SQUG Report; and
 - d) ACI 355.
- 2) Review and evaluate available sources of test data to establish trends in test results (for example, group and edge effects).
- 3) Prepare a comprehensive report that covers aspects of fastening design.

In this report, the guidance of existing documents is reviewed. Test results are evaluated for anchors under tensile and shear loads. Based on that evaluation, procedures are recommended for the evaluation and design of fasteners to concrete, including the effects of cracked concrete and dynamic loading.