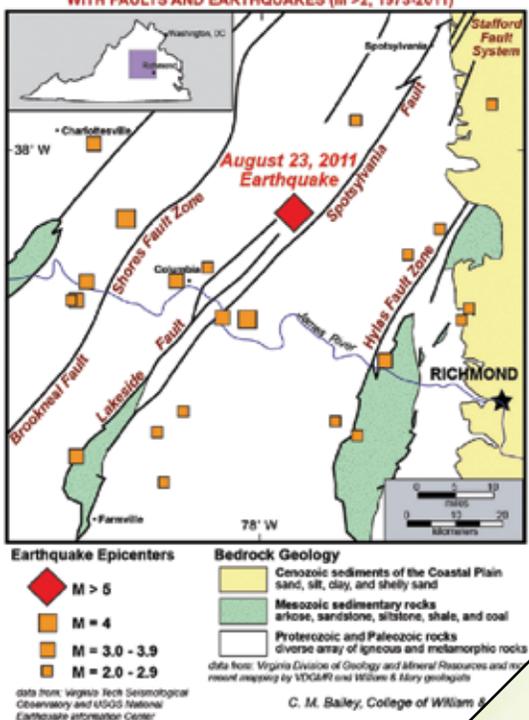


GENERALIZED GEOLOGIC MAP OF THE CENTRAL VIRGINIA PIEDMONT WITH FAULTS AND EARTHQUAKES (M >2, 1973-2011)



**Structural Integrity Associates, Inc.®**

## Assuring Nuclear Power Plant Seismic Capability

Following the recent earthquakes events in Japan and the eastern United States, some reports have indicated that nuclear power plants near the earthquake epicenters may have experienced seismic loads in excess of the plants' design bases. While the findings from these events are still being evaluated, the events have provided valuable real-time seismic data that can be evaluated to better assure the plants' seismic capability for the future. It is also likely that continuing evaluation of these events will bring increased emphasis on the needs to examine, assess, and improve performance of site soil models and consequent seismic loadings on plant structures and components.

Structural Integrity Associates, Inc. (SI) and its partners, SC Solutions, Inc. and Anatech Corp., have teamed to provide full-service assessments of nuclear power plant seismic performance and capability. These services include the following:

- Evaluation of recorded ground motion time histories to produce acceleration floor response spectra
- Postulation of new ground motion time histories or response spectra if recent ground motion time histories have not been recorded
- Review of actual (or postulated) response spectra relative to the plant's seismic design basis
- Review of the existing plant's seismic soil-structure interaction model relative to its ability to capture the recorded (or postulated) event
- Refinement of the current soil model and validation of the model's ability to reproduce the event
- Performance evaluation of critical and near-critical systems, structures and components (SSCs), including those not originally designed for seismic loads, to document design assurance.
- Updating of plant piping and equipment seismic structural analyses to evaluate the impact of revised floor response spectra, incorporating recent Code and Regulatory guidance

These services can be performed to ensure the defense-in-depth plant seismic capability of the SSCs, thus increasing plant owner and regulator confidence regarding reliability.

Together, Structural Integrity, SC Solutions and Anatech have over 80 years of experience in the prevention and control of structural and mechanical failures in the power generation industry.

For more information, please contact:

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