



NEWS RELEASE

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District: District 4
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Toll Bridge Program Oversight Committee Approves Expert Engineering Panel to Support Further Tower Bolt Testing

OAKLAND – Caltrans today announced that the Toll Bridge Program Oversight Committee (TBPOC) voted to fund a panel of international engineering experts to help design a plan for further testing and analyzing the Bay Bridge tower's seismic anchor rod system. The TBPOC also agreed to concurrently expedite laboratory testing for recently removed rods.

"Now that more than 99 percent of the more than 400 rods tested in the Bay Bridge tower foundation passed the seismic tests, we will bring together a panel of internationally-recognized engineering experts to review and help design the next phase of laboratory testing," said Dr. Brian Maroney, Chief Engineer of the Bay Bridge Project. "A laboratory will also immediately begin analyzing the removed rod to investigate the one fractured surface."

Among the globally recognized experts recommended for the review panel are engineers with membership in the National Academies of Science and Engineering, one of the highest professional honors accorded engineers, based on their distinguished and continuing achievements in original research with a lifetime's worth of accomplishments. The experts include:

- **FRIEDER SEIBLE, PH.D., P.E., M.NAE, M.CAE** – World leader in bridge design and strategies to mitigate earthquake damage to buildings and bridges.
- **JOHN FISHER, PH.D., P.E., M.NAE** – Specialist in structural connections, the fatigue and fracture of riveted, bolted and welded structures, the behavior and design of composite steel-concrete members and the performance of steel bridges.
- **I.M. IDRIS, PH.D., P.E., M.NAE** – Specialist is soil mechanics and foundation engineering with emphasis in geotechnical earthquake engineering.
- **HERBERT TOWNSEND, PH.D., P.E.** – Globally recognized in stress corrosion cracking and hydrogen embrittlement of steel fasteners, wire, plate and pipelines and establishing the long-term atmospheric corrosion performance of galvanized, Galvalume and weathering steels.
- **ALAN W. PENSE, PH.D., M.NAE** – Specialist in physical and mechanical metallurgy.
- **KARL H. FRANK, PH.D., P.E.** – Renowned expert is design and behavior of steel bridges.





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- **SHELDON W. DEAN, JR., PH.D., P.E.** – International leader in corrosion and corrosion testing.
- **JEFFREY A. GORMAN, PH.D., P.E.** – Expert on materials, corrosion, stress analysis, fracture mechanics and failure analysis.
- **ROBERT HEIDERSBACH, PH.D., P.E.** – Highly accomplished metallurgical engineer focused on corrosion, corrosion testing and failure analysis.
- **THOMAS LANGILL, PH.D., P.E.** – Significantly regarded in the area of galvanized steel and its use in particular environments.
- **DOUGLAS WILLIAMS, P.E.** – Extensive work in materials, welding, inspection and quality control/assurance of structural steel and piping.
- **JOHN M. KULICKI, PH.D., P.E., M.NAE** – World renowned expert in all aspects of bridge analysis and design.

Also at the request of the TBPOC, the Federal Highway Administration (FHWA) will also participate in reviewing and advising on the testing plan and processes.

The expert panel will focus on the Bay Bridge tower's seismic anchor rods that were previously discovered to not be fully grouted and in some cases exposed to standing water. The panel will help design tests of anchor rod behavior in environments that environmentally and seismically reflect potential earthquakes to identify strengths or potential weaknesses. Initial department recommendations for testing include microscopic examinations of anchor rod threads and surfaces, diameter measurements along the threaded length, and corrosion resistance testing conditions. TBPOC also approved no more than \$200,000 to test and analyze the removed rods with possible stripping or fracturing.

The Bay Bridge is a "lifeline" structure for emergency vehicles and the community in the event of a large scale earthquake. The threaded anchor rods are part of the bridge's system to protect it during a seismic event. Caltrans recently completed an earthquake proof test of the seismic anchor rods system that met lifeline performance requirements of post-earthquake operations.

The department is seeking support from outside experts as part of an in-depth testing plan and protocol and a commitment to transparency and communicating complex engineering issues as clearly as possible. Please visit www.baybridgeinfo.org for more details about the Bay Bridge project. Attached please find a list of all the expert reviewers, including their professional biographies.

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