

## Bay Bridge rust threat action needed immediately, panel says

By Andrew McGall

[amcgall@bayareanewsgroup.com](mailto:amcgall@bayareanewsgroup.com)

Posted: 10/14/2015 01:50:45 PM PDT [Comment](#) | Updated: about 18 hours ago



The sun sets behind the new and old spans of the Bay Bridge in this view from the bay in Oakland, Calif., on Thursday, Jan. 16, 2014. (JANE TYSKA/Staff file photo)

OAKLAND -- The new Bay Bridge needs immediate work to protect major vulnerable parts, including its main cables, that are subject to rusting and are inaccessible for inspection and repair, according to an expert panel. The techniques used to protect the \$6.4 billion bridge's main cable from corrosion are not good enough, the group reported in its review of the eastern span's long-term maintenance needs. The panel recommended installing a dehumidification system to prevent rust over the length of the main cable that loops over and then swoops down from the single tower.

Three key points along the new span use dehumidification, but the review panel said it should be used along the entire length.

"Unless there are overwhelming difficulties that prevent such a system from being fitted, it should be installed as soon as possible," the review group from the International Cable Supported Bridge Operators Association told the Toll Bridge Oversight Committee meeting this week in Oakland. The committee represents Caltrans, the Bay Area Toll Authority and the state Transportation Commission.

"The technology is now well-proven and is the only protection system that will prevent deterioration and strength

loss within the main cable, which arguably is the most critical element of the whole structure," the review panel said.

## Advertisement

Dehumidification is used to keep the main cable dry at its east anchorage, at the top of the tower and at the west end where the single, 18-mile long cable wraps around to the other side of the bridge, said John Goodwin, spokesman for the Metropolitan Transportation Commission.

The bridge cable consists of thousands of strands of galvanized wire, coated with anti-corrosion paste, wrapped in a waterproof interlocking wire and sealed in a steel tube that is painted. There has been no sign of corrosion on the cable, Goodwin said.

It's a hybrid system, he said, using "dehumidification to eliminate water and physical barriers to protect the cable from water."

Bridge engineers have been trying since before the new eastern span opened to overcome numerous serious defects in the bridge, from broken bolts to water intrusion where water shouldn't be.

The review group said it did not deal with the "major defects from the construction phase (regarding rods and bolts, welding quality and other topics)," but it recommended installing a custom-built, around-the-clock structural health monitoring system to detect problems at their earliest stages.

"Corrosion monitoring of the lower part of the bridge is a subject that should be included" in a monitoring system for the new bridge, the panel said.

In its recommendation for dehumidifiers, the panel noted that such systems have been and are being installed on suspension bridges all over the world. Bay Bridge operators already are using dehumidifiers to evaporate water leaking into areas underneath the roadway.

The panel also noted that neither the main cables nor the cables suspended from it that hold up the bridge deck have access for inspection and maintenance.

"Providing this access (to the suspender cables) while also minimizing the risk to bridge users to an acceptable level will be challenging," the panel noted in its report.

The review group also recommended installing acoustic monitors to assess whether the high-strength steel tendons -- the post-tensioning system -- running through the deck plates are corroding. It would pick up the sound of wire strand breaks.

The lack of access to the deck's post-tensioning system is standard, the panel said, but on other bridges rusting has gone unnoticed.

"The structural integrity of the deck relies on the post-tensioning system," the panel said.

Contact Andrew McGall at 925-945-4703. Follow him at [Twitter.com/AndrewMcGall](https://twitter.com/AndrewMcGall)

---

---

From around the web Selected for you by a Sponsor

[Recommended by](#)

More from the web

You Might Also Like

[Recommended by](#)

---

---

---

---

• [Article commenting rules of the road](#)

---