

NIST building hydrogen pipeline laboratory

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The U.S. National Institute of Standards and Technology is constructing a new laboratory that's designed to test materials for hydrogen pipelines.

Widely used in industrial processing, hydrogen is attractive as a fuel because it burns cleanly without carbon emissions and can be derived from domestic sources, researchers noted. But long-term exposure to hydrogen can cause pipelines to become brittle, increasing the potential for dangerous failures.

The NIST's 750-square-foot laboratory is being constructed at the NIST campus in Boulder, Colo., and is expected to be operational by mid-year.

Researchers plan to use the hydrogen laboratory to develop long-term service tests and apply them to study pipeline materials and mechanical effects. The NIST is coordinating its research and safety plans with other national laboratories and industry groups working with hydrogen.

Tom Siewert, the NIST metallurgist who will manage the new laboratory, said initial research will include collecting fatigue and fracture data from existing pipelines as a baseline.

The new laboratory is among a variety of NIST programs focusing on hydrogen, including studies on fuel cells.

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