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National Association of Regulatory Utility Commissioners

According to staff, the commission lacks information and experience on evaluating technical information in applications to upgrade existing facilities. The storage operator submitted plenty of information, but commission staff are unsure of how to evaluate the request. The commission is also considering what other experts, such as the AOGCC, might be able to provide additional studies for the commission to rely on for a decision.

Michigan

Michigan holds several storage fields operated by different entities. The Michigan Public Service Commission (PSC) and the Michigan Department of Environmental Quality (DEQ) share enforcement, although neither has primacy over PHMSA. The DEQ is generally responsible for overseeing the drilling, completing and plugging of wells. The PSC tracks production, with the DEQ stepping back in if a well needs to be plugged. The PSC grants certificates to all storage fields, including interstate storage fields. Michigan recently adopted federal rules for storage safety to mirror the federal standard, creating added consistency for storage operators.

The PSC reviews applications for storage fields, formations, and wells with a typical process consisting of hearings, testimony, and discovery. The commission relies on geologists to provide data on the characteristics of geologic formations. As part of its consideration process, the PSC reviews any well drilled into the formation in question, including plugged wells. While most data gathering is done prior to an application being filed, staff can require additional information during the review process. The costs associated with construction, operation, and maintenance are passed through to Michigan's rate base.

Once the commission comes to a decision in an order, it can also require well protection using downhole safety valves, emergency shutdown procedures, monitoring storage wells, water quality monitoring, and more. Downhole safety valves were historically required through a commission order. While they have largely been effective at preventing leaks, blowout preventers can fail if an adverse event occurs with the wellhead. If any work needs to be done within the well, the valve has to be removed, which can be a difficult process. Further, it can be hard to tell if a downhole valve is working properly, particularly in older wells. Michigan has allowed some operators to place valves above grade, and the commission anticipates that operators will continue to replace downhole valves with above-grade valves.

Pennsylvania

The Pennsylvania Public Utilities Commission (PUC) began inspecting storage facilities last year. The PUC has not yet seen any applications for new storage facilities, but the commission oversees some of the state's existing storage capacity. The PUC would look at any existing wells while considering a new application. New wells are regulated by the state's Department of Environmental Protection, with oversight passing to the PUC once the injection well is designated as a storage well. The state follows the American Petroleum Institute's [Recommended Practice 1171](#), "Functional Integrity of Natural Gas Storage in Depleted Hydrocarbon Reservoirs and Aquifer Reservoirs."

California

California experiences a summer electricity peak, with the majority of gas used for electricity generation. While it is the second largest consumer of gas, California accounts for just 0.7% of [total U.S. gas production](#), putting it well outside the top 10 producing states. As a consequence, the state imports gas



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from the Permian Basin and British Columbia. In the aftermath of the [Aliso Canyon](#) well failure in 2015, gas storage has been an increasingly important focus for state regulators.

California has a regulatory regime for storage similar to that of Michigan. Oversight begins with the Division of Oil, Gas, and Geothermal Resources (DOGGR). Once DOGGR decides that a formation is suitable for gas storage from a technical and safety perspective, the storage operator (either a private company or a regulated utility) will engage with the California Public Utilities Commission (CPUC) to demonstrate a need and obtain a certificate for the facility. CPUC is paying particular attention to the integrity of the well overall, specifically well casings, with special scrutiny on aging infrastructure. CPUC works closely with the state fire marshal for safety and inspections.

CPUC considers three questions when considering new storage applications: (1) does the state need more storage; (2) is this the right location for storage; and (3) will this facility be cost-effective for ratepayers? With California's aggressive greenhouse gas reduction goals, CPUC is also looking at how gas-fired electricity can support the integration of more intermittent solar and wind energy, and what role gas should have in an increasingly electrified future.

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