New Mexico Environment Department

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Ground Water Quality Bureau

San Juan Generating Station Assessment Progress Update - June 2025

Overview

The San Juan Generating Station (SJGS), a coal-fired power plant near Waterflow, NM, operated for more than four decades before shutting down in 2022. Throughout its operation SJGS discharged wastewater, stored solid waste, and handled coal by-products that may have contributed to long-term soil and groundwater contamination

In 2023, the New Mexico Legislature passed House Bill 142 (HB-142), which provides resources to the New Mexico Environment Department (NMED) to investigate, report on, and ensure cleanup of any contamination at SJGS. NMED is conducting an independent site investigation alongside formal permit reviews to protect public and environmental health by using the resources available to identify, address and eradicate contamination

Our focus is on safeguarding groundwater, filling critical data gaps, and holding PNM accountable for a science-based, enforceable cleanup, especially for pollutants like nitrate, metals, VOCs, and TDS that could impact groundwater or flow into nearby aquifers.

NMED actions include:

- **Groundwater Protection**: Monitoring, assessing, and enforcing cleanup of groundwater contamination.
- **Groundwater Contamination Risks and Cleanup**: Remediation efforts targeting pollutants like heavy metals and other contaminants that could move into regional aquifers.

High-Level Findings

NMED's review of site records, permit files, and monitoring data, alongside field inspections, has revealed several concerns:

- **Contaminants Exceed Standards**: Substances such as nitrate, sulfate, arsenic, selenium, uranium, and boron have been found in groundwater at concentrations above New Mexico's standards.
- **Incomplete Monitoring Coverage**: Some high-risk areas, such as the raw water reservoir, former process zones, and the Shumway Arroyo, do not yet have enough wells to fully evaluate contamination.
- **Uncertain Groundwater Flow and Capture**: Existing systems meant to intercept contaminated groundwater may not be fully adequate, and changes in water flow since plant shutdown could influence where contaminants are moving.
- **Limited Historical Soil Data**: Previous investigations did not include much subsurface soil sampling near former operational areas.

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Ongoing Actions and Progress

NMED, with support from Jacobs Engineering, is leading a series of actions to fill data gaps, evaluate contamination, and inform cleanup plans.
These include:

- **Historical Records Review**: We are reviewing over four decades of records and reports to determine where to investigate further and where to prioritize remediation.
- **New Monitoring Wells**: We installed six new groundwater monitoring wells at four high-priority locations. These include nested well pairs to monitor shallow alluvial and deeper sandstone aquifers. The goal is to:
    - Establish background (upgradient) conditions,
    - Improve downgradient monitoring and
    - Evaluate whether contaminants movement paths.
- **Groundwater Quality Analysis:** We conducted targeted sampling across the site to evaluate potential threats to water quality from compounds including (not limited to):
    - **Metals** (like arsenic, selenium, and uranium): These can come from coal ash and industrial waste. At high levels, they may affect health or make water unsafe for farming or drinking.
    - **Nitrate**: This can come from waste, fertilizers, or other sources and may pose health risks, especially for babies and pregnant people, if found in drinking water.
    - **VOCs and SVOCs**: These are chemicals from fuels and solvents that can move through soil and water and may be harmful if breathed in or consumed.
- **Conceptual Site Model (CSM) Development**: We are building a site-wide CSM to bring together everything we know about the site—what contaminants are present, how they got there, how groundwater flows, and what's potentially at risk. It helps guide our fieldwork, interpret monitoring results, and plan future cleanup actions.
- **Updated Groundwater Model:** We are developing a groundwater model to simulate how water moves through the site and to evaluate existing systems and infrastructure. The model will also help us assess potential risks to nearby water sources.

Our Commitment

NMED utilizes every tool available under state law and HB-142 to ensure a thorough investigation and cleanup of the San Juan Generating Station. We are reviewing records critically, overseeing field work closely, and requiring PNM to address historical contamination and current gaps. These actions are essential to protecting nearby communities, land, and water resources. Site closure cannot and will not happen until groundwater quality standards are met through remediation and site restoration.