

OPERATIONAL MONITORING *and* OPERATIONAL TESTING

February 2021



This fact sheet is the second of a series of fact sheets intended to assist project sponsors with the Commission’s groundwater project withdrawal renewal process. Each fact sheet can be used and reviewed on its own, but the combination of fact sheets provide a greater understanding of the Commission’s renewal process. Please reference the *Groundwater Project Renewal Process and Water Level Monitoring* fact sheets for additional information.

BACKGROUND

The Susquehanna River Basin Commission (Commission) encourages projects to collect and maintain operational monitoring data that provides information about the performance of a project’s groundwater source and supports groundwater withdrawal renewal applications. Hydrogeological data collected through operational monitoring over a project’s approval term is important for evaluating sustainability and assessing potential impacts of the withdrawal. Additionally, collection of adequate operational monitoring and testing data often provides an opportunity to avoid the costs and efforts of completing a stand-alone aquifer test.

DATA GAPS

As referenced in the Groundwater Project Renewal Process fact sheet, data gaps are missing information that the project will need to collect and provide in support of the renewal application and the Commission will need to review to ensure that a project conforms to current standards. The Commission strives to ensure that projects, whether new or undergoing renewal, do not cause significant adverse impacts to other users or the environment and are sustainable. Although a project may have

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been approved previously, renewals must provide sufficient data to support future operations and allow the Commission to evaluate sustainability under changing conditions and any potential for significant adverse impacts to occur. Common data gaps are:

- Aquifer testing or a hydrogeological report was not completed;
- Aquifer testing was incomplete or inadequate;
- Long term operational monitoring data were not collected;
- Surface water monitoring, such as springs, streams and wetlands, was never performed;
- Impacts to other users were not evaluated; or
- The well has not operated at or near the desired withdrawal renewal rate.

OPERATIONAL MONITORING VERSUS OPERATIONAL TESTING

Both Operational Monitoring and Operational Testing are completed during operation of the withdrawal, allow use of the water and require monitoring of withdrawal and water levels.



Operational monitoring is completed at or near the current withdrawal rates and can include expanded monitoring of nearby wells or surface water features.



Operational testing can include strategic changes in pumping rate and additional monitoring locations of nearby features to collect data to address specific data gaps.

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To identify potential data gaps, a project should:

1. Compile all available historical testing data and reports that may have been completed;
2. Compile all operational monitoring data, including withdrawal quantity and groundwater level data;
3. Evaluate all available data and testing to determine if sufficient data is available to assess the sustainability of the withdrawal at the anticipated renewal rate;
4. Evaluate the potential for impacts to any nearby sensitive features, including springs, streams, wetlands, and rare threatened or endangered species; and
5. Evaluate potential impacts to other users.

If it is determined that insufficient data is available to evaluate items described above, completion of operational monitoring or operational testing may be able to gather the necessary data.

ADDRESSING DATA GAPS

Targeted operational monitoring or operational testing can often be completed to collect data to eliminate known data gaps and collect supplemental data during ongoing project operation that will provide support for a renewal application. Many projects are able to avoid data gaps by completing basic operational monitoring and eliminate data gaps with basic or expanded operational monitoring. However, some projects may need operational testing to eliminate data gaps.

Target data collection to supplement historical testing and operational data to address data gaps.

Operational Monitoring

Basic or expanded operational monitoring is often appropriate for projects seeking renewal at or near current withdrawal rates. Basic water withdrawal and groundwater level operational monitoring may be sufficient to demonstrate that the requested withdrawal is sustainable, whereas expanded operational monitoring often includes collecting water level from one or more nearby wells or wetlands, or flow data from a nearby spring or stream. Expanded operational monitoring should be considered when historical testing did not address the potential for impacts to other users or the environment. Expanded operational monitoring is conducted during the routine operation of the source and few changes are made to the operation of the source during monitoring. Periods of little to no precipitation while the well is operating at or near its approved rate will provide the most appropriate data to support the withdrawal application.

Operational Testing

Operational testing should be tailored to the project in a way that generally aligns with the Commission's Aquifer Testing Guidance policy. The guidance includes recommendations for monitoring equipment, phases of testing, system operations, and the monitoring network. Operational testing often includes operating the well at a constant rate for a specific period while monitoring features to eliminate identified data gaps. Collection of supporting operational testing data is best completed during a dry period with little to no precipitation. Operational testing should

utilize the test water, to the extent possible, to reduce costs and move water from groundwater source location. Although operational testing should be conducted in general accordance with the Aquifer Testing Guidance Policy, more flexibility is provided to projects in the design of the operational test, as the testing is intended to be performed in conjunction with the use of the water from the well.

Commission Assistance

Commission staff can provide guidance for operational monitoring or testing designed to collect the necessary hydrogeologic data for a groundwater withdrawal renewal that requests withdrawal quantities at or below previously approved quantities. Commission staff can also assist the project sponsor in evaluating its data to identify data gaps or deficiencies. The benefit of operational monitoring or testing is that the project may be able to collect data without having to conduct a comprehensive aquifer test, which reduces the time, effort, and cost of a renewal.

Questions & Additional Information

If you have any questions or would like to request a time to review or discuss a project's data available, please contact the Commission's Manager of Project Review at 717-238-0423.

