

CONSUMPTIVE USE MITIGATION: EVAPORATION FROM ON-SITE STRUCTURES

OVERVIEW

The waters of the Susquehanna River Basin are used for many purposes — domestic, municipal, agricultural, commercial, industrial, power, environmental, and recreational. When water is used in such a way that it is not returned to the basin undiminished in quantity, the loss is defined as being consumptively used. The water loss may be due to any of a variety of processes: when water is evaporated, transpired due to irrigation, incorporated into manufactured products or injected underground.

The Susquehanna River Basin Commission (Commission) regulates consumptive uses greater than 20,000 gallons per day (gpd) on a 30-day average to ensure reductions in water availability due to consumptive uses do not pose significant adverse impacts to water supply, water quality, and the environment. Regulated consumptive users are required to mitigate the impacts of their use and submit a plan for that mitigation.

Mitigation minimizes the impacts of Commission-approved consumptive uses during critical low flow periods. While the intent of the program is not to fully offset the water resource impacts of droughts, which occur naturally in varying degrees of severity, mitigation can help protect public health and safety, avoid water use conflicts, prevent water quality degradation, sustain economic production, and support ecological flow needs throughout the basin.

The Commission adopted a Consumptive Use Mitigation Policy (SRBC Policy No. 2020-01) in March 2020 that includes contemporary standards for mitigation planning and an expanded scope of mitigation options that will provide tangible benefits.

Of particular interest to some projects, the policy also revises the Commission’s approach to evaporative loss from certain on-site structures. Evaporation from ponds and basins constructed for the purpose of supplying mitigation water or reducing or dampening withdrawal rates will no longer be subject to consumptive use mitigation requirements.

What is the Policy Regarding Evaporation from Structures?

Evaporation from qualifying on-site structures will no longer be included in a project’s consumptive use calculation. If an existing project currently includes evaporation from an eligible on-site structure and elected payment for its

mitigation, its consumptive use mitigation fee will be reduced when the amount of evaporation is removed from its consumptive use calculations.

On-site structures that meet either of the following two conditions qualify:

- Structures used for the purpose of supplying mitigation water (such as storing and releasing water to meet mitigation requirements); or
- Structures used for the purpose of reducing or dampening the project’s withdrawal rate (such as pooled water behind a impoundment which partially lessens the intensity of the rate of withdrawal to a flowing stream).



This storage pond used for snowmaking is an eligible structure and the project’s consumptive use mitigation fee will be reduced when the amount of pond evaporation is removed from its use calculation.

WHY IS IT IMPORTANT TO REGULATE CONSUMPTIVE WATER USE?

The Commission adopted consumptive water use regulations in 1976 to help manage water resources and reduce human impacts caused by consumptive water use during low flows. Although droughts are naturally occurring events that cannot be prevented, one of the Commission’s roles is to minimize the impacts to natural flow conditions. Regulated consumptive water users are required to mitigate for impact from their use during a Commission-designated low flow period and must submit a plan for that mitigation in the application. Several options are listed in regulation, and provisions are in place to allow a project sponsor to propose and implement another alternative approved by the Commission.

The primary methods utilized by approved projects are:

- ◀ reduce withdrawal in amount equal to the consumptive use, and withdraw from alternative surface or underground storage facilities;
- ◀ release water for flow augmentation, in amount equal to the consumptive use, from surface or underground storage facilities;
- ◀ discontinue the project’s consumptive use;
- ◀ use a consumptive use source that maintains a conservation release; and
- ◀ provide monetary payment for annual consumptive use.

Monetary payments for consumptive use go into a special water management fund that is used to investigate, develop, and maintain Commission controlled water storage and other alternate strategies for mitigating the cumulative impacts of consumptive water use throughout the Basin.



Evaporation from this storage pond for golf course irrigation will no longer be included in consumptive use requirements.

What Structures Are Not Subject to Mitigation?

The Commission’s policy, combined with current practice, means that if a project has an on-site structure that meets the criteria above, or is like the examples below, evaporation from that structure will not be included in its consumptive use and mitigation requirements:

- An irrigation storage pond, like those used by a golf course.
- A storage pond, like those used by a ski resort for snow making.
- An ornamental pond.
- A natural pond.

What Structures Are Subject to Mitigation?

In keeping with the Commission’s policies and current practice, a project that has any of the following types of on-site structures must continue to include evaporation in its consumptive use and mitigation requirements:

- Reservoirs at a pumped storage hydroelectric facilities.
- Ponds or impoundments at quarries, constructed for the purpose of providing water for materials processing operations or settling; unless they reduce or dampen the project withdrawal rate or recirculate water

How Will the Policy be Implemented for an Existing Project Approval?

The Commission has reviewed all projects with evaporation and determined if that evaporation should be removed from consumptive use calculation and mitigation requirements. Eligible approvals have been modified by the Commission at no cost to the project. The Commission has completed the necessary approval and metering plan modifications and notified projects of the changes made. The project will then only have to remove evaporation from those on-site structures from its consumptive use calculation and quarterly consumptive use reporting. The changes to reporting and invoicing for consumptive use became effective beginning the second quarter of 2020.