

Lake Source Cooling Facility Permit Status

Cornell's Lake Source Cooling (LSC) facility operates under a regulatory permit, referred to as a State Pollutant Discharge Elimination System (SPDES) permit, issued by the New York State Department of Environmental Conservation (NYSDEC). The state generally reviews all SPDES permits every five years and occasionally modifies their requirements. NYSDEC issued a SPDES permit for the LSC facility effective June 1, 2020 that modifies several requirements of the prior permit.

Two permit modifications specifically address phosphorus:

1. The addition of a phosphorus offset program. This requires Cornell to estimate the additional Cayuga Lake water circulated and corresponding internal phosphorus transfer resulting from connecting new buildings to the central cooling district served by the LSC facility. Any incremental phosphorus transfer within Cayuga Lake from the additional water circulated must be offset by a management practice that prevents twice as much phosphorus from entering the lake from the watershed, i.e. a 2:1 offset.
2. Finalizes a regulatory load limit of 6.4 lb/day on the amount of phosphorus transferred through the LSC facility.

The permit modification removed several special conditions of the prior permit that required detailed modeling and studies because they have now been completed. Other primary regulatory requirements of the prior permit (flow limits, monitoring and reporting requirements, practices to optimize system efficiency) will continue.

In addition to modifying the SPDES permit for the LSC facility, NYSDEC is preparing a draft Cayuga Lake phosphorus Total Maximum Daily Load (TMDL) for public review and comment. A TMDL calculates the total input of phosphorus from all sources that can be added to Cayuga Lake without risking harm to the lake's uses for water supply, recreation, and aquatic life protection. Reductions in load are allocated among the many sources. While Cornell was not involved in developing the TMDL, the university was required to fund and manage a monitoring and modeling program with NYSDEC oversight. The lake and watershed models completed under this program provided the quantitative foundation for NYSDEC to develop the phosphorus TMDL. Following a public comment period on the draft TMDL, NYSDEC will evaluate public input, prepare a Responsiveness Summary, and modify their draft as appropriate. The Cayuga Lake phosphorus TMDL will become final once it is accepted by the United States Environmental Protection Agency.