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## DEC wants more data on Lake Source Cooling at Cornell Agency will do its own review for renewal of permit in 2008

By Krisy Gashler  
Journal Staff

ITHACA — Cornell University's report on the effects of Lake Source Cooling does not provide sufficient information for the state Department of Environmental Conservation to determine whether Cornell's permit should be renewed, and the DEC will conduct its own full technical review of lake impacts before renewing the permit.

In an Aug. 16 letter from DEC engineer James E. Burke to Patrick McNally, program manager for utilities and environmental compliance at Cornell, Burke writes that Cornell's "Before-After-Control-Impact Analysis report" filed three years ago does not provide necessary information on levels of phosphorous and chlorophyll-a before and after Lake Source Cooling came online, and it fails to report data from a monitoring site required by the DEC.

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Jim Adams, director of utilities and energy management at Cornell, said the report was a draft, and Cornell expected the DEC to request changes.

"(The) DEC has asked us to clarify some of the things we've said or evaluate the data we've given in a different way in order for us to demonstrate what needs to be demonstrated," he said.

The letter from the DEC was obtained through a Freedom of Information Law request by Walter Hang of Ithaca-based Toxics Targeting and provided Wednesday afternoon to The Journal.

Burke quoted from Cornell's State Pollutant Discharge Elimination System (SPDES) permit — the permit that gave Cornell permission to implement the \$60 million project that pumps cold water from Cayuga Lake to cool campus



buildings — to show what the DEC and Cornell agreed to when the permit was granted in 1998.

“In-lake monitoring will be required to show that the levels of total phosphorous and chlorophyll-a in the lake segment, as described, have not increased,” Burke quoted.

Cornell has not provided enough information for the DEC to assess this impact, according to the letter.

“It is important to provide the reader with a context with which to interpret the study's findings,” Burke wrote. “This shall include historical time series plots of water quality data for each of the monitoring sites and should include both a clear temporal marker to indicate when the LSC plant came on line and daily flow and loading data for the plant over the period of record. The time series information is explicitly called for in the existing SPDES permit.”

“This is part of the process that we're going through,” Adams said. “All these issues will be addressed and the draft report will be produced in its final form and these comments will be addressed.”

Lake Source Cooling works by pulling frigid water from the bottom of Cayuga Lake, pumping it into a heat exchanger where it cools water that is sent by pipes to campus for use in air conditioning. The lake water is returned, without mixing with the other water, to the shallow southern edge of Cayuga Lake.

The cooling system saves 20 million kilowatt-hours per year of electricity, while producing no ozone-depleting chlorofluorocarbons, the refrigerants used in the air conditioning system that Lake Source Cooling replaced.

Critics of the plan, such as Hang, applaud the concept but fault the execution.

Cayuga Lake, like roughly 600 other water bodies in New York state, is listed as an “impaired” water body by the federal Environmental Protection Agency. EPA listed the southern end of the lake as impaired because of excessive silt and phosphorous.

Phosphorous is exactly the issue that Hang is concerned about.

Phosphorous, in the form of dead aquatic life and other vegetation, naturally sinks to the bottom of the lake. When Cornell pulls water out of the bottom of the lake, 250 feet deep, it pulls this phosphorous with it.

But the water is returned to the shallow southern edge of the lake, about 10 feet deep.

When phosphorous in the lake is exposed to sunshine, above about 30 feet, it can contribute to growth of algae and weeds.

“It's like heroin for plants,” said Hang, who argues that Lake Source Cooling is responsible for increasing algae and other organic matter in the southern end of Cayuga Lake since it came online. “They took it from the bottom and dumped it in the area with the worst problems.”

Hang argues that Cornell should be required to put water back in the lake the same place it came from or at least to dump it out below 30 feet, so the phosphorous won't be exposed to sunshine.

This method would be significantly more expensive.

Adams argues that even if levels of phosphorous or chlorophyll-a were higher, Lake Source Cooling is not necessarily to blame.

"There could be a lot of different reasons for that," he said. "Weather, rain patterns, the other people who are putting stuff in the lake, the waste water treatment plant."

Tompkins County Legislator Frank Proto, R-Caroline and Danby, chairman of the Tompkins County Water Resources Council, which is working with Cornell on monitoring effects of Lake Source Cooling, said it's too early to tell whether there is any impact for phosphorous, algae or anything else.

"The university has compiled so much data and that's what's taking so much time to evaluate. That is a question that needs answering," he said. "At first blush one would assume that because of the temperature of the lake and it could be rising, you would assume that there is more phosphorous there, but we really need to complete the evaluation of the data."

Cornell's permit for Lake Source Cooling is up for renewal in March 2008.

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## STORYCHAT

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I agree with Thomas Paine.

The energy for this is going to have to come from somewhere - whether it is LSC, or a coal plant 20 miles down the road. Energy isn't cheap, free, or without consequences. If people want a higher standard of living, then you have to live with the consequences. Even wind-power, ethanol and other "greener" means have a cost.

Unless everyone is interested in turning off the lights, computers, AC, etc and start limiting your life to a 5-mile walking radius, then stop protesting every single project. Either that, or get an engineering degree and start inventing instead of whining.

Posted: Thu Sep 27, 2007 9:38 am

Who are "they"? Walter Hang? That's his job. If it's an oblique reference to "me", I'm just one person, not a crowd, and you may address me by "hermit".

If you were referring to me, then no, I'm not anti-everything, that's silly. One of the things I am very much in favor of is the environment, that's why I don't like LSC. Our lake is one of the better things we have around here, we should protect it.

If you want to discuss WHY I think it's a bad idea, I'd be happy to do so here when I have time over the next day or two. Overall... other than that you don't like "their" opinion, what's your point?

Posted: Thu Sep 27, 2007 8:53 am

If Cornell had been using the lake for cooling for 50 years previous to the LSC project, and then decided to stop using it and build a coal-fired electric generating plant, the same crowd would be jumping up and down screaming about the insanity of building a coal plant versus using the lake. They are anti-everything, just for the sake of being "anti". They are so predictable.

Posted: Thu Sep 27, 2007 7:55 am