

MIT to Upgrade Central Cogen Plant

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MIT Campus in Cambridge, MA

The Massachusetts Institute of Technology (MIT) in the US is set to begin construction work this month on a comprehensive upgrade of its Central Utilities combined heat and power (CHP) plant.

The plant has been in operation since 1995 and features a single 22 MW gas turbine, which powers the campus microgrid.

For the upgrade, the existing turbine will be replaced and a second 22 MW turbine plus two heat recovery steam generators (HRSGs) will be installed. MIT said both turbines are planned to be operational by 2020.

Five existing boilers will also be upgraded to burn natural gas, in a drive to minimize the use of fuel oil on the campus. Going forward, the plant will use gas for normal operation and fuel oil only for backup, MIT said.

The upgrade will also include “state-of-the-art emissions controls” designed to lower greenhouse gas emissions by 10 per cent, and other pollutant emissions by 25 per cent, on 2014 levels. The university said this decrease is needed to offset a predicted 10 per cent emissions rise on the 68-ha campus “due to energy demands created by new buildings and programme growth”.

In a news release, MIT said the upgrade aims to conserve energy, lower emissions and improve campus resiliency. The university added that the upgrade will create “a flexible power system that positions the Institute to explore emerging sustainability and efficiency measures”.

Ken Packard, director of utilities at MIT, said: “When it’s upgraded, MIT’s smart microgrid will enable MIT to take most or all of our load off the regional grid when necessary. This reduces pressure on the region’s infrastructure and at the same time makes it possible for us to protect the campus from a superstorm or other power outage event”.

“Localized distributed energy resources are becoming more crucial to any forward-thinking energy strategy,” he added.