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Emissions Project Finance Profile: Wisconsin Energy Corp.

By Jay Hodgkins

Pushed by Wisconsin's renewable portfolio standard, Wisconsin Energy Corp. is diligently moving to add new renewable resources, but thanks to the state's support of the company's Power the Future program a decade ago, Chairman, President and CEO Gale Klappa does not believe pending federal air emissions rules will force Wisconsin Energy into a similar rush to build new environmental controls.

Klappa spoke with SNL Energy on June 4, detailing Wisconsin Energy's efforts to get from the approximately 4% of retail load provided by renewable resources today to the 8.5% of retail load Wisconsin will require the company to provide from renewables by 2015.

Wisconsin Energy and its state utility, Wisconsin Electric Power Co., will take a large step in that direction upon completion of the $367 million, 160-MW Glacier Hills wind project, which Klappa said has been under construction for a couple of weeks. Then, if Wisconsin regulators approve the project, Klappa said the planned $255 million, 50-MW Rothschild Biomass (Domtar) project, with a projected completion of 2013, would be the next major move forward to meet the target.

While many biomass projects have come under fire around the country due to questions about the origins and sustainability of the supply, Klappa said he believes regulators will look kindly on the Rothschild project because it will procure its biomass directly from the supply chain Domtar Corp. uses at its paper mill at the site, therefore only burning paper and wood waste from forests that are sustainably harvested. In addition, Klappa said biomass has the benefit of being a dispatchable resource, which is an advantage over relying on more intermittent wind resources.

Glacier Hills and Rothschild do not nearly get Wisconsin Energy all the way to its state renewable target, though, as Klappa said the company will still have hundreds of megawatts to build or procure. Wisconsin Energy in an April 7 investor presentation said it would need the equivalent, based on capacity factor, of 500 MW of wind on top of the renewable resources it is already developing to hit its 2015 renewable target.

To fill that gap, expect Wisconsin Energy to pursue a mix of more company-owned and contracted wind resources, another biomass project if it is successful developing the Rothschild project and about 12 MW of solar capacity, Klappa said. The company is still too early in its planning process to give any specifics into what proportion of its new renewable resources will be wind, contracted wind and biomass, he noted.

"We are in a continuing planning phase when looking at how to most economically meet the standard in 2015," Klappa said. "I think after Glacier Hills is completed and we hopefully get approval and complete the biomass plant, we will look at a mix of sources focusing on [portfolio diversity] and some element of it we want to be able to dispatch for reliability reasons."

Wisconsin Energy has budgeted $97 million for renewable capital expenditures in 2010, $393 million for 2011 and $290 million for 2012. Those amounts include $35 million in 2011 and $145 million in 2012 for projects that have yet to be identified, according to the April 7 presentation.

Because Wisconsin's renewable mandate is based on percentage of retail sales, Klappa said a major determining factor in how much renewable energy the company will need to add boils down to projecting demand in 2015. And, currently, Wisconsin Energy is projecting that demand will not even return to 2008 levels until after 2014, which limits the amount of investment the company might have expected to meet the 2015 target before the U.S. recession.

However, Klappa said he thinks it is inevitable that Wisconsin Energy will need to meet an increased renewable mandate sooner or later, either through a federal standard that would likely end up at around 20% by 2020 or 2025, or an increased state standard. Congress and President Barack Obama have repeatedly proposed a federal renewable mandate and Wisconsin legislators recently failed in an effort to pass an increased RPS of 25% by 2025.

Klappa believes that if the Democratic candidate in Wisconsin's gubernatorial election wins in the upcoming state election then he will likely pursue an aggressive increase in the state's renewable mandate, while a Republican victory would likely mean an expanded RPS would not be among the state's top priorities.

New EPA rules no big worry thanks to modern, fully scrubbed coal fleet

Wisconsin Energy has Wisconsin regulators to thank for putting the company in a much more advantageous position than many other coal-heavy utilities to deal with a host of pending new U.S. Environmental Protection Agency regulations covering all forms of air emissions, Klappa said, as the Power the Future program also helped empower the company to improve the emissions profile of its coal fleet.

Klappa said the construction of two large coal units at the Elm Road Generating (Oak Creek) facility has enabled Wisconsin Energy to increase its coal-fired capacity by 50%, but reduce overall NOx, SO2 and mercury emissions by 70%. The first 615-MW unit at the Oak Creek site is already online and Klappa said the second will enter service this fall barring any unforeseen event.

Regulators and Wisconsin Energy foresaw the coming EPA crackdown on emissions, which Klappa said led to authorization to build the new units with the most state-of-the art emissions controls. In addition, Klappa said the company plans to complete a more than $900 million environmental control project installing scrubbers and selective catalytic reduction systems at four existing units at Oak Creek in 2012, which will leave about 85% of Wisconsin Energy's power plant capacity fully scrubbed for NOx, SO2 and mercury.

All of that early work leads up to little concern for Klappa when it comes to the impending round of EPA regulations, which include replacements for the Clean Air Interstate Rule, Clean Air Mercury Rule and others.

With the EPA on June 3 announcing a new rule that SO2 emissions from power plants will now be required to meet a new one-hour health standard of 75 parts per billion, Klappa said the rule will not have a big impact and may only require some additional controls or other changes at the company's Valley plant near Milwaukee, which is at a site that cannot accommodate a major scrubber project.

Klappa said the limited impact of the new one-hour SO2 rule should be repeated as the EPA adopts new SO2, NOx, mercury or particulate matter rules.

In fact, Klappa addressed a March 19 Sanford C. Bernstein & Co. LLC report in which analyst Hugh Wynne predicted Wisconsin Energy could have to shut down as much as 43% of its existing coal-fired capacity, surmising that Wynne must have used old company emissions data not incorporating the impact of the new controls on the four existing Oak Creek units and the two new units. Klappa said he does not expect his company to have to shut much older coal capacity at all.

That statement also stands if the EPA ends up ultimately being the governmental body to regulate CO2 emissions, Klappa said. Because Wisconsin Energy's coal-fired fleet will be among the most efficient in the nation and most efficient in Wisconsin, Klappa said his company's units will not be among the first that need to shut down or fall significantly down the dispatch curve due to CO2 restrictions.

Klappa, however, did acknowledge that the EPA is still in the early stages of crafting its CO2 rules, which would call for best available control technology to limit CO2 emissions from any new power plant or existing plant applying for a major modification.

"We are very much in the early stage of developing a regulatory approach, so no one can say with great precision what it will look like in two to five years," Klappa said. "But, in our case, I'm pleased to say our capacity, because of its newness and efficiency, will be among the least affected."

Klappa also acknowledged that the EPA could be much harsher in its new rules for other air emissions, which could throw off his predictions on the strong position of Wisconsin Energy's well-scrubbed fleet. But Klappa said current emissions controls are preventing such a high percentage of air emissions that it is hard to imagine the EPA could pass regulations requiring more.

Wisconsin Energy has also dipped its toe into CO2 capture and storage technology, as the company completed a CO2 capture demonstration pilot for using chilled ammonia technology at its Pleasant Prairie plant and is a partner in a larger project using the same technology at American Electric Power Co. Inc.'s Mountaineer plant. However, Klappa said commercially ready CO2 capture and storage technology is still at least a decade away, leaving the question of what is BACT for CO2 up in the air because the EPA cannot require capture and storage as BACT.

Financing and recovery

With so much recent work to build new renewable assets, coal-fired projects and environmental controls, a major focus for the company's regulated utility has been recovery of those investments.

While Wisconsin does not have any tracking mechanisms available for Wisconsin Electric to recover costs of projects during construction, Klappa said state regulators have a long and steady history of granting recovery on project costs in the first rate case after the projects are complete, assuming the projects were built on the approved budget.

Klappa said at the request of regulators, Wisconsin Electric files a new rate case every two years using a forward test year, which significantly reduces regulatory lag on recovery of project costs.

Because renewable projects and environmental controls both must first receive approval from regulators and are ultimately paid for through rates, Klappa said Wisconsin Energy uses the same approach to finance both types of projects, with a 52% equity and 48% debt structure. Klappa said the company uses commercial paper to have cash for construction, if needed, and then does permanent long-term debt financing whenever needed based on the utility's capital structure.

Klappa emphasized that Wisconsin Energy does not see the need to issue additional equity related to any of its currently under construction and planned projects.