

Edison unit commits to shut 858 MW of coal capacity in Illinois

02/29/2012 by Barry Cassell

Chicago Mayor Rahm Emanuel and the **Midwest Generation** unit of **Edison International** (NYSE:EIX) announced Feb. 29 the planned retirement of the coal-fired Fisk and Crawford plants located on Chicago's Southwest side.

According to an agreement signed by Midwest Generation, the Clean Power Coalition and the city of Chicago, the Fisk plant will be retired by the end of 2012 and the Crawford plant will retire by the end of 2014.

Edison International said in its Feb. 29 [earnings statement](#): "Reflecting low power prices and required retrofits which are less economical for some smaller coal-fired generation stations, [**Edison Mission Group**] decided to shut down Midwest Generation's Fisk by the end of 2012 and Crawford by the end of 2014. It also concluded it was less likely to retrofit Waukegan than the remaining larger stations, though no final decision has been made."

"Midwest Generation has made an important and appropriate decision today, which will be good for the company, the city, and the residents of Chicago," said Emanuel in a Feb. 29 [statement](#). "I committed during the [mayoral election] campaign to work with all parties to address community concerns about the plants, and today's announcement puts us on a more sustainable path for these neighborhoods."

"Today's announcement of the retirement of the Fisk and Crawford coal plants is a triumph for Chicago families," said Sierra Club Executive Director Michael Brune in a Feb. 29 [statement](#). "These old and dirty plants have been polluting two thriving Chicago neighborhoods for over 100 years. The effort to end pollution from the plants has been an uphill battle for a very long time."

Chicago has been a key target for Sierra Club's national Beyond Coal campaign, aimed at replacing coal-fired power plants with clean energy. The Sierra Club said that while this is a tremendous victory, Midwest Generation still has four other coal plants throughout Illinois. Midwest Generation will be making critical decisions in the next several months with whether to make risky investments in retrofitting these coal plants or choose to set retirement dates, the club noted.

The Midwest Generation coal plants are Powerton (1,538 MW), Joliet (1,326 MW), Will County (761 MW), Waukegan (689 MW), Crawford (532 MW) and Fisk (326 MW).

The Fisk and Crawford plants are the 98th and 99th plants to be retired since the Beyond Coal campaign began, the Sierra Club claimed. They join the ranks of coal plants like Cane Run in Kentucky and Potomac River in Virginia that have been the subject of recent retirement announcements. The campaign, in conjunction with allies around the country, has stopped more than 150 coal plants from breaking ground, the Sierra Club added.

Two targeted plants total 858 MW

Crawford is a 532-MW coal plant located in Cook County. The operating units are Units 7 and 8, which began operations

in 1958 and 1961, respectively, said Midwest Generation's Feb. 29 [Form 10-K report](#). Powder River Basin coal is loaded into barges at the Will County plant and delivered by barge to Crawford primarily on a "just-in-time" basis supported by Crawford's on-site storage.

Fisk is a 326-MW coal plant located in Cook County. The operating unit at Fisk is referred to as Unit 19 and began operations in 1959. PRB coal is loaded into barges at the Will County plant, delivered by barge on a "just-in-time" basis.

Waukegan is a 689-MW coal-fired plant located in Lake County on Lake Michigan. The operating units are Units 7 and 8, which began operations in 1958 and 1962, respectively. Midwest Generation shut permanently Unit 6, with 100 MW of capacity, in December 2007.

Midwest Gen plants burn primarily PRB coal

The Midwest Generation plants purchase coal from several suppliers located in the southern Powder River Basin of Wyoming. The total volume has historically ranged between 17 million and 19 million tons. Coal consumption in the current low natural gas price environment may be lower than the historical range, Midwest Generation noted in the Form 10-K.

Midwest Generation is under pressure to reduce its coal-fired emissions from several directions, including new U.S. Environmental Protection Agency regulations and the Combined Pollutant Standard (CPS) reduction program it signed with the state of Illinois in December 2006. The CPS calls for reductions of mercury, NO_x and SO₂. The CPS specifies the control technologies that are to be installed on some units by specified dates. Midwest Generation must either install the required technology by the deadline or shut the unit. The principal emission standards and control technology requirements for NO_x and SO₂ under the CPS are: **NO_x Emissions** - Beginning in calendar 2012 and continuing in each calendar year thereafter, Midwest Generation must comply with an annual and seasonal NO_x emission rate of no more than 0.11 lbs/MMBtu. The company substantially completed installation of selective non-catalytic reduction equipment in 2011 for compliance with this limitation. Capital expenditures relating to these controls were \$105m. **SO₂ Emissions** - Midwest Generation must comply with an overall SO₂ annual emission rate beginning with 0.44 lbs/MMBtu in 2013 and decreasing annually until it reaches 0.11 lbs/MMBtu in 2019 and thereafter. Testing of dry scrubbing using Trona on select Midwest Generation units has demonstrated significant reductions in SO₂. Use of dry sorbent injection technology in conjunction with low-sulfur coal is expected to require substantially less capital and time to construct than the use of spray dryer absorber technology, but would likely result in higher ongoing operating costs and may consequently result in lower dispatch rates and competitiveness of Midwest Generation's plants, depending on competitors' costs, the Form 10-K noted. **Mercury Emissions** - The CPS requires that, beginning in calendar year 2015, and continuing thereafter on a rolling 12-month basis, Midwest Generation must either achieve an emission standard of 0.008 lbs mercury/GWh gross electrical output or a minimum 90% reduction in mercury for each unit (except Unit 3 at Will County, which will be included in calendar year 2016). Midwest Generation will be required to install cold side electrostatic precipitator or baghouse equipment on Unit 7 at Waukegan by Dec. 31, 2013, and on Unit 3 at Will County by Dec. 31, 2015.

"Capital expenditures relating to required environmental controls (including the CPS, to which all of Midwest Generation's coal-fired generating units are subject) are expected to be significant," said the Form 10-K. "In February 2012, Midwest Generation decided to shut down the Fisk Station by the end of 2012 and the Crawford Station by the end of 2014 and concluded it was less likely to install environmental controls at the Waukegan Station and Joliet Unit 6. Midwest Generation may ultimately decide to shut down the Waukegan Station and Joliet Unit 6, and possibly other units, rather than make improvements."

The Will County plant is currently composed of Units 3-4. Midwest Generation shut permanently Will County Units 1-2, totaling 299 MW of capacity, at the end of 2010 in accordance with the CPS.

In connection with its decision to close Fisk and Crawford, Midwest Generation said in the Form 10-K that it entered into a memorandum of understanding with the city of Chicago that acknowledges that the cessation of coal-fired generation at the plants will achieve the objectives of the proposed Chicago Clean Power Ordinance. Midwest Generation and the

city of Chicago have also agreed to collaborate with key stakeholders to consider potential future uses, ownership and sources of external funding to transition the plant sites for other uses. The closure of Fisk and Crawford will be subject to review for reliability by **PJM Interconnection**.

Based on work to date, Midwest Generation estimates the cost of retrofitting its large coal stations (Powerton, Joliet Units 7-8 and Will County) using dry scrubbing with sodium-based sorbents to comply with CPS requirements for SO₂ emissions, and the associated upgrading of existing particulate removal systems, would be up to about \$628m. In order to retrofit its coal plants, Midwest Generation will need to borrow funds or receive additional contributions from affiliate **Edison Mission Energy**. The cost of retrofitting Joliet Unit 6 is not included in the large unit amounts as it is less likely that Midwest Generation will make retrofits for this unit. The estimated cost of retrofitting Joliet Unit 6, if made, would be about \$75m, while the estimated cost of retrofitting Waukegan, if made, would be about \$160m. In February, Midwest Generation received an extension of its state-issued permit to install a dry sorbent injection system at Powerton.

Plants likely to need 16 million tons of coal in 2012

The Midwest Generation plants purchase coal primarily from the southern PRB. For 2012, as of the end of 2011, the company had 16 million tons of coal contracted, which is about what it thinks it will need this year. It also as of the end of 2011 had 9.8 million tons per year contracted for both 2013 and 2014. The amount of coal under contract in equivalent tons is calculated based on contracted tons and applying an 8,800 Btu equivalent.

In anticipation of the expiration at the end of 2011 of its existing rail transportation contracts, during the fourth quarter of 2011, Midwest Generation entered into new multi-year transportation contracts with the **Union Pacific Railroad** and two short-haul carriers for a specified minimum and maximum amount of tons effective Jan. 1. The estimated minimum annual costs under these contracts, based on tonnage commitments, are \$386m during 2012, \$326m in 2013, and \$333m in 2014. However, all of the contracts have provisions that address the financial exposure of Midwest Generation related to possible plant closures. The contracts provide for quarterly and annual cost adjustments based on a number of factors that may increase the minimum payments.

ABOUT THE AUTHOR

Barry Cassell

Barry Cassell is Chief Analyst for *GenerationHub* covering coal and emission controls issues, projects and policy. He has covered the coal and power generation industry for more than 26 years, beginning in November 2011 at *GenerationHub* and prior to that as editor of SNL Energy's *Coal Report*. He was formerly with *Coal Outlook* for 15 years as the publication's editor and contributing writer, and prior to that he was editor of *Coal & Synfuels Technology* and associate editor of *The Energy Report*. He has a bachelor's degree from Central Michigan University.

Barry can be reached at barryc@pennwell.com.

For information on how to subscribe to [GenerationHub](#) call 1.800.823.6277 or follow the link.

© 2013 PennWell Corporation. All rights reserved.
