

Section 384.103 Finding

To: Bill Stowe, CEO and General Manager
 Project: Completion of 2015 5 kV System Emergency Repairs

Electric power is distributed throughout Des Moines Water Works' Fleur Drive Operations Center through a 5,000 volt system (5 kV System) served by 2 transformers in MidAmerican Energy Company's DMWW Substation. The 5kV System uses a very robust dual-feed, looped system which delivers power to each critical facility within the Operations Center from two essentially independent sources. This dual-feed looped system allows power to be quickly rerouted in the event of a failure on the primary circuit serving any given facility.

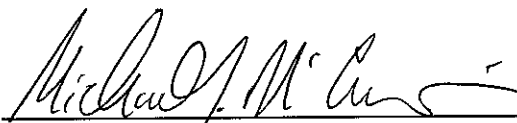
On June 26, 2015, and July 16, 2015, critical circuits that are part of the 5 kV system experienced catastrophic failures. The dual-feed nature of the system allowed plant operations to see minimal disruption during these failures. The failure on July 16, 2015 altered the vulnerability associated with this event as key equipment within West High Lift and the Filter Building were essentially without a redundant power supply. Staff determined that emergent repairs and back-up generation were necessary to protect the Fleur Drive Water Treatment Plant.

On July 24, 2015, Ted Corrigan certified the necessity for emergency repair of the 5 kV system. Estimated total expenses were \$135,760 and included efforts by both Baker Electric (remove and replace failed circuit conductors) and Ziegler Caterpillar (delivery and install of back-up generators to supply West High Lift Switchgear in the event of additional failures). This certification was delivered to the Board at the July 2015, Board Meeting.

The total expense for these emergency repairs was \$148,073.72 (Baker Electric: \$114,563.72 and Ziegler: \$33,510.00).

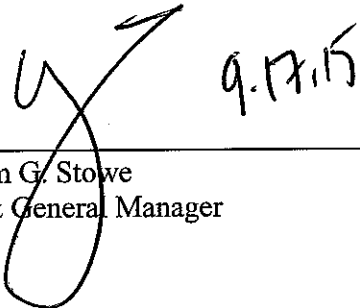
I certify that all work associated with the emergency repairs was completed by July 30, 2015.

Dated: September 15, 2015


 Michael J. McCurnin, P.E.
 Director of Water Production

I attest to the necessity to institute emergency proceedings under Section 620 of the Des Moines Water Works Board Policy Manual.

Dated: September 15, 2015


 William G. Stowe
 CEO & General Manager