

**MONTANA-DAKOTA UTILITIES CO.
SOUTH DAKOTA PUBLIC UTILITIES COMMISSION
DATA REQUEST
DATED AUGUST 1, 2016
DOCKET NO. EL16-026**

- 1-1. Regarding the production costing model PLEXOS for Power Systems (PLEXOS):**
- a) Is the use of PLEXOS mandated by any jurisdiction? If so, provide which jurisdiction.**
 - b) If PLEXOS is not mandated, explain the attributes of the model that make it ideal for MDU to use PLEXOS and explain why MDU chooses this model over other models.**
 - c) For what uses other than the QF avoided costs rates does MDU utilize PLEXOS?**

Response:

- a) The use of PLEXOS as a production cost model is not mandated by any of the jurisdictions MDU serves.
- b) PLEXOS is a production cost software model which is capable of providing an economic dispatch simulation of MDU's generation fleet versus its load serving obligations. One of the output pieces of information that PLEXOS calculates is a marginal energy cost which MDU uses as part of its avoided cost filings in the states of Montana, North Dakota, and South Dakota. The PLEXOS model calculates an hourly marginal cost to serve MDU's customer load based upon the last generation resource dispatched or the MISO energy market price.

MDU previously used PROSYM as a production cost model but that software was obsolete and no longer supported. MDU selected PLEXOS as a replacement production modeling cost software in 2010 because of its cost and functionality. MDU reviewed other options to replace PROSYM and selected PLEXOS as the best available replacement to PROSYM.

- c) MDU utilizes the output of PLEXOS in its financial planning models to budget for generator fuel and variable O&M expenses. PLEXOS is also used to support the base fuel calculations in rate case filings.