Problem/Opportunity Statement

CRYPTO MINING GUIDELINES FOR PARTICIPATION IN THE ENERGY MARKET AS ECONOMIC LOAD RESPONSE

PROBLEM / OPPORTUNITY STATEMENT

Data centers that operate for the purposes of developing crypto currency are energy price sensitive customers. The number one input cost to create crypto currency is electricity, and the mining process (servers running mathematical calculations) can start and stop quickly without significant impacts to equipment, personnel or the output commodity being produced.

Crypto mining now accounts for the vast majority of all Economic Load Response participation in the PJM energy markets.

As an Economic Load Response participant, determining if a crypto facility would have continued to mine based on their revenues compared to their costs is a critical factor in determining if the load reduction offered into the PJM energy market would have occurred anyway, or only occurred because of the energy offer and the PJM LMP. If the crypto mining facility's revenue exceeded their costs for a given hour, then a curtailment for PJM LMP is eligible for settlement because the facility would have been expected to run to earn revenue mining. If the costs exceeded the revenue, the curtailment would not be eligible for settlement.

The information needed by PJM and the resulting calculations to determine eligibly are more complex than typical Economic Load Response customers and has required PJM to better understand the crypto mining business. As such, PJM developed a set of guidelines to help market participants, PJM, and other stakeholders align on what is eligible for energy settlement and what is not.

The guidelines have changed over time as PJM gained more experience and visibility into the crypto mining industry based on participation in the first few years. These changes are often necessary, in PJM's view, to keep up with industry developments and market behavior. At this point in time, PJM believes it is reasonable to include the guidelines in the Manuals to add more certainty for market participants.

The accompanying Issue Charge provides an opportunity for stakeholders to better understand crypto currency participation in PJM energy markets through education, make any necessary changes or other improvements to the guidelines document, and codify the guidelines in PJM Manuals or governing documents.