

How Bitcoin & Blockchain Operations May Affect Chelan PUD



Chelan County customer-owners,

In the last few weeks, Chelan PUD has been inundated with requests for service, many of which are enormous in terms of the amount of power they are seeking. These large requests appear to be primarily due to the escalation of price in Bitcoin. These requests raise serious issues about priorities (the PUD already has an ambitious plan as adopted in the 2018 budget) and policies (consideration should be given to the appropriate rates and fees that adequately protect existing customer-owners from financial risk). This letter provides background and seeks to establish appropriate expectations for the pace at which these requests for service can be addressed.

Bitcoin – the most widely used cryptocurrency – operators use a large amount of power to run their algorithms on high-speed computers. These computers run 24 hours a day/seven days a week/365 days a year and give-off considerable amount of heat.

During the past two years the market-value for this cryptocurrency has skyrocketed from a value of \$300 to \$20,000. A bitcoin is used in a number of online financial transactions. While blockchain digital transactions using bitcoin aren't new, the run-up in bitcoin pricing has created a new electric service demand phenomena for Chelan PUD.

Chelan PUD, much like its neighbor utilities in Grant and Douglas Counties, began to see increased requests for power to serve bitcoin operations in early 2014. In order to ensure adequate policies were in place to address the

inherent risk for these kinds of service requests, the PUD placed a moratorium on what was termed “high density loads (HDL)” and worked with the community and bitcoin operators to come up with a reasonable approach for fees and rates for an HDL of up to 5MW. The moratorium was lifted in January 2017, but now that the cryptocurrency market is so attractive, the PUD is seeing an increase in interest by bitcoin operators and for loads greater than 5MW.

Resource constraints

In line with our value of providing operational excellence, we must assess what is the right staffing level to address customer needs when they arise but not to staff in excess of need. The speed and magnitude of the growing interest in both HDL and large electric services has placed significant strain on PUD resources. In particular, we are short staff time to analyze:

- Safety and reliability impact of HDL operations at residential services
- Potential transmission requirements
- Existing PUD substation ability to serve multiple HDLs
- Impact of potential customer-owned substations on the system
- Availability of power to deliver, particularly for large requests
- Community engagement efforts for siting new PUD infrastructure

At the same time, the PUD sees unpermitted high density loads requiring immediate attention that divert staff resources to identify, evaluate and install proper electrical service. These rogue operators put a strain on the PUD's reliability and the community's safety, particularly because of the continuous usage at peak levels that our largely residential system that isn't designed for. Much like your car that can operate briefly at 8,000 RPM, doing so consistently will cause damage and break-down.

Even local real estate professionals are seeing purchase and sales agreements for property to require guarantees of available power in order to complete a deal. The power needs are significant. The average Chelan County retail load is about 200 MW, with a winter peak of 491 MW set in January 2017. The PUD has received four inquiries of 100MW or more, each of which will take detailed study if formal application is submitted. Additionally, there are multiple inquiries in the 10-50MW range and ongoing interest in small "hobby" connections.

Additionally, there are those prospective HDL customers who believe that with the curtailment of operations at the Alcoa plant, mean there is available power resources to fulfill these large requests. That isn't the case. The Alcoa power allocation is under contract and not available.

This recent surge in inquiries is putting a strain on the PUD to provide the best for the most for the longest because the existing business plan, revenue forecast and

resource allocation does not include the type of personnel demand, nor infrastructure, that will be required to adequately respond.

PUD Response

The response to this unprecedented increase in HDL-type inquiries are at the very heart of PUD Values, including Operational Excellence, Trustworthiness, Safety and Stewardship. In order to ensure the best customer experience for our existing customers and to assist potential new customers, the PUD will

- Continue to process existing new service applications from those who have paid engineering fees and have all required application information completed
- Answer those with questions regarding HDL service or large loads after completion of a Power Inquiry Form – it can be found on the PUD website here: **www.chelanpud.org/my-pud-services/business-services**
- Respond to those wishing to know about power availability at their location once a service application is completed (**www.chelanpud.org/docs/default-source/default-document-library/non-residential-electric-service-application-jan-2017.pdf**). This will start the process.
- Pre-application meetings will be reserved for those who have completed all application materials but have technical questions before associated fees are assessed.

For more information,

chelanpud.org/my-pud-services/business-services