



Ticaboo Utility Improvement District

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Committed to providing reliable power and clean, safe, drinking water to the community

**TICABOO UTILITY IMPROVEMENT DISTRICT
PUBLIC NOTICE REGULARLY SCHEDULED MEETING Minutes
with Torus Presentation
DATE: June 11th, 2025
TIME: 5:30 PM
LOCATION: Electronic Meeting**

Pursuant to House Bill 5002, 'Open and Public Meetings Act Amendments,' passed during the 2020 Fifth Special Session of the Utah Legislature and codified under Utah Code Ann. § 52-4-207(4), I, Alexa Wilson, hereby make the following written determination in my capacity as Chair of the Board of Trustees of the Ticaboo Utility Improvement District warranting the TUID Board to convene and conduct electronic meetings without a proper anchor location:

Renewable Energy Partnership Exploration

The board meeting began with introductions from Torus representatives, including Nate Walkingshaw, founder and CEO, Chris Klima, Chief of Staff, and Cara Baldwin, legal representation. The group was in attendance to explore a potential partnership with Ticaboo towards a renewable energy solution.

The agenda was adopted with a modification to exclude the general manager's report due to John's absence. Meeting minutes from March were not yet available for approval. The board discussed recent unfortunate incidents, including a waterline break and a coolant heater fire on a generator, which impacted the financial position and reserves.

Torus Energy Storage Solutions Overview

Nate presented Torus's energy storage and management solutions, highlighting their ability to provide turnkey miniature power plants from 0.5 to 5.5 megawatts. He explained that Torus's system would reduce generator runtime by 80-90% at TUID by combining solar energy storage with flywheel technology, and would also address reoccurring power quality issues. The proposed solution includes a 1.1-megawatt hour energy storage unit, two flywheel energy storage devices, and a 370-kilowatt solar array, to be located near the power plant, with the goal of extending generator life and providing clean power. Nate outlined next steps if the board decided to move forward, which included entering into a formal design and engineering phase with stamped engineering and structural permits.

Alexa provided context on the timeline, explaining that due to a canceled grant opportunity, they are now proceeding with a PPA process.

Members of the board were asked for any input on the process; none was offered.

Next the board discussed entering a closed session to discuss water rights litigation strategy.

At 6:00 pm Mike Morlang made a motion, citing Utah code 54205, to enter into a closed meeting. Amy seconded the motion, and the board entered into a closed meeting.

Return from the Closed Meeting to the Regularly Scheduled Public Board Meeting

At 6:29 the board returned from the closed meeting.

The next meeting was confirmed for Wednesday August 13th at 5:30 pm via zoom

Adjournment-Alexa Wilson called for adjournment. Amy Golden made the motion to adjourn, Mike Morlang 2nd and the meeting was adjourned at 6:30 pm

Torus Proposal *presented by Nate Walkinshaw*

Proposal Summary

- **Objective:** Provide solar and energy storage solutions on-site to reduce usage of generators
- **Goals:** Provide solar offset (to the existing solar infrastructure) to reduce generator usage
- **Project Details:** TUID historical energy usage data was used to estimate annual usage
- **Load forecast:** provide solar offset to reduce generator usage into the teens
- Interval match existing usage across TUID network and size a system appropriately to accomplish goals

Commercial buildings: Upgrade Your Power Supply:

- Fully Integrated Energy Solution-Torus systems combine leading **energy storage, management software, and security protection** into one cohesive solution
- Customized Sizing—We size your system to your building’s exact power requirements, handle permitting and installation, and **offer maintenance and monitoring**, providing a seamless experience from end-to-end.
- Reduced Operation Costs—Installing a Torus system **lowers operating costs by an anticipated 30%**, prevents downtime with AI-powered outage protection, and reduces CO2 emissions by up to 90%.
- Energy Bill Savings—Energy bill reduction and generous **up-front incentives** often ensure the lifetime savings generated by a Torus system far exceeds its initial cost.

“One unique differentiator for Torus are the **flywheel energy storage devices that use inertial based energy storage that focuses on power quality**. A lot of the problems that are pervasive at TUID are power quality issues, frequency regulation or voltage dropout. Variable frequency drives mixed with solar power and loads that kick on and off wreak havoc on the grid. Flywheels do a fantastic job smoothing or cleansing all of that congestion and frequency regulation issues across that infrastructure.”

“**Long duration dispatch**—cleanses the power and gives you a lot of backup capacity as well, should there be any problems across the TUID network.”

“Torus is also unique in that it has a full **SCADA** system; the **energy management system** gives you real time data millisecond for millisecond observation and a **cyber security appliance**, where digital and physical security is looked at 24/7 365 days a year, and there’s the digital infrastructure, so that if anyone tries to attack the SCADA system they prevent it from happening.”

Sync Generator Program

- Ensure That Safe, Stable Power Is Always Flowing to Your Facility
- Prevent Downtime + Reduce Costs + Protect Equipment
- **Low Voltage Ride Through**—Maintains operations during brief voltage dips and sags, preventing equipment shutdowns, production interruptions, and system resets.
- **Power Factor Correction**—Improves power factor to near unity, eliminating utility penalties and potentially saving \$15k+ a year for commercial customers.
- **Voltage Regulation**—Stabilizes incoming voltage, protecting sensitive equipment and extending the life of motors, drives, and electronic systems.
- **Harmonic Distortion Mitigation**—Filters harmonics that cause nuisance tripping and reduced equipment lifespan while improving overall efficiency.

Managed Services: How Torus Secures Your Energy Assets

Physical Security

- **Surveillance Cameras**—4K cameras provide 24-hour surveillance, 365 Days a year
- **Door Sensors**—Door sensors at access points fire an alert to our on-call security team when triggered without prior authorization
- **Secure Remote Access**—Maintenance is managed through controlled access protocols, where permissions are granted temporarily and monitored by our security team.

Cybersecurity

- **Multi-Layered Defense**—Intrusion detection and prevention systems, modern firewalls, and zero-trust access controls.
- **Proprietary Anomaly Detection**—Segmented and isolated architecture to reduce attack surfaces and prevent lateral movement within networks.
- **Zero Trust Access**—No internet-facing attack surface and no-implicit trust policy that requires verification for all devices and users, regardless of network location.

Current Generator Systems Load Profile:

- Gen Run Time: 100% (24 hrs.)
- Gen Age: 20+ Years
- Peak Demand: 250 KW

Torus Microgrid Load Profile:

- Generator, Solar Generation, Battery Charging-Solar & Battery Discharging
- Gen Run Time: ~15-20% (4 hrs.)
- Extend Gen Age: 5+ Years
- Peak Demand: 250 KWH

Location:

- Next to the existing power plant
- Energy storage and flywheels most likely will be located in front of the transformer
- A fresh solar array will be added next to that
- An additional solar array will be added next to the existing solar that's already there
- Take existing solar and pull it back to the Torus station to help charge the flywheels and the long duration dispatchable product, reducing generator run time over the course of the year.
- Battery size area: 2,292 sq-ft

Nate paused for questions by board or meeting attendees: no questions were offered

Ticaboo Main Plant:**Torus Microgrid:**

- Total Energy Storage: 1.1 MWh
- Solar Array Size: 370 kW
- Annual Production: 565 MWh
- Torus Spin: 2 Spins
- Torus Pulse: 1 Pulse

Next Steps if the decision is made to move forward; all steps are open to discussion or feedback and change during the process

Phase 1: Design & Engineering

- Site assessment
- Design plans
- Engineering specs (structural and electrical)
- Presentation of the final site plan and permit-ready design package
- Return to board for review

Phase 2: Manufacturing, Delivery, Installation

- Permit process commences
- Manufacturing of hardware commences
- Installation coordination on site with contractors

Phase 3: System Installation Complete

- All hardware and software installed and ready to operate
- Phase 4: Permission to Operate
- Torus will obtain permission to operate from **Authority Having Jurisdiction (AHJ)**

After pausing for any questions that the board or attendees had, Nate concluded the Torus presentation.