Ishkonige Nawadide Solar Project Update

December 17, 2020

Bad River Band of Lake Superior Tribe of Chippewa Indians

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Bad River Band of Lake Superior Tribe of Chippewa Indians

- Located on a 125,000+ acre reservation in Northern Wisconsin on the south shore of Lake Superior.
- Territory ceded by the tribe to the U.S. government includes the upper one third of what is now the State of Wisconsin.
- Has over 7,000 members, the majority living off the reservation, about 2,000 live on/near the reservation.
Overview

- Phase 1: Ishkonige Nawadide
  - Objectives
  - Project Details
  - Planning & Development
  - Execution of Project
  - Challenges
  - Accomplishments
  - Next Steps
  - Partners
- Long-term Planning
- Phase 2: Giwijiiwaaganinaan Gitigan Microgrid Project
- Questions
Phase 1: Ishkonige Nawadide Solar Project
Ishkonige Nawadide
Objectives

- The Bad River Tribe was awarded a USDOE Grant in 2019 for the Ishkonige Nawadide (It Catches Fire) Solar Microgrid Project.
  - 2 Million Dollar Project
  - 50% USDOE Contribution
- Focused on resiliency after the 2016 Flood and while experiencing lengthy electrical outages at crucial facilities, such as the Health & Wellness Center, the Tribe’s community Clinic.
- Tribe is installing over 500 kW of solar with over 1000 kWh of battery storage at three tribal facilities located in the Odanah Community:
  - The Chief Blackbird Administration Building
  - Wastewater Treatment Plant (WWTP)
  - Health & Wellness Center (H&WC)
- Systems at the H&WC and the WWTP will offset the entire facility electrical loads and offer a level of resiliency if power goes out that can last projected days if not weeks.
Ishkonige Nawadide
Details

- Chief Blackbird Administration Building
  - PV Size: 24kW DC
  - Battery Size: 22 kWh

- Health & Wellness Center
  - PV Size: 300 kW DC
  - Battery Size: 568 kWh (250 kW or discharge rate)

- Wastewater Treatment Plant
  - PV Size: 200 kW DC
  - Battery Size: 426 kWh (200 kW or discharge rate)

- All Systems operate on a DC Bus System
  - Everything (PV and batteries) is connected on the DC side.
  - Cloud Monitoring System
Odanah Community
Ishkonige Nawadide
Planning & Development

- The Ishkonige Nawadide Project was guided with both Strategic Energy Planning done in 2012 and 2017.
- The Tribe used the newly adopted 2018 Emergency Preparedness Plan (EPP) to identify critical infrastructure that was affected by power outages and the 2016 Flood.
- Several buildings and scenarios were identified for possible solar projects.
- The 2018 EPP clearly identify the Health & Wellness Center, Wastewater Treatment Plant, and the Chief Blackbird Administration Building as critical infrastructure.
Ishkonige Nawadide
Execution of Project

- Request For Proposals:
  - Investor and Developer come together
  - Started Nov 2019
  - Concluded May of 2020
  - Awarded Faith Technologies

- Contracts & Documents
  - Leasing and Energy Services Agreement (Several Attachments)
  - Started June 2020
  - Concluded and executed October 2020

- Began Construction in October of 2020
  - Anticipated Commissioning in March of 2021
  - Interconnection Agreement and PPA process has started
Administration
Health & Wellness Center
Ishkonige Nawadide
Challenges

- COVID-19
  - Tribe issued Declaration of Public Health Emergency with Respects to the 2020 COVID-19 Pandemic in March of 2020 along with Safer at Home orders once COVID begun to hit the community in June
  - Made meetings difficult
    - Decision making by leadership
    - Utility Task Force Meetings
    - Overall Team Meetings
    - Virtual Meetings have created a great level of communication
- Construction
  - Limited building access and extra precautions
  - Contractors coming from out of town
  - Required all contractors to have strict COVID-19 policies
Ishkonige Nawadide
Challenges

- Community Acceptance
  - Replacing land with solar or any infrastructure is not always accepted by elders and environmentalists.
    - “I don’t know how I’ll feel about it until I see the panels…. The trees were nice.”
      Community Elder
  - There is a level of sovereignty given up when involving partners and investors.
    - Any time this is said it will not be accepted by many tribal members
    - Emphasizes the need for clarity and transparency
    - Community meetings and presentations around financing strategies
Ishkonige Nawadide
Accomplishments

- Completed RFP Process
- Executed Construction and Contracts
- Developed a Long-term Strategy once Ishkonige Nawadide has been commissioned

- Working with Faith Technologies to develop Tribal workforce
  - Workers knowing how to install and handle panels
    - One tribal worker during Construction of racking and PVs
    - Working with education to support training module within 18–24-year-old program.
    - OMCO has offered complete training for Tribe with racking and PVs
  - Facility Managers will identify technicians to work with Faith Technology Staff or (Itians) in order to develop skills to fully operate the microgrids.
Ishkonige Nawadide
Next Steps

- Batteries and interior electrical
- Interconnection and Commissioning scheduled for March
- Execute Long-term Phased Energy Plan
  - Phase 2 USDOE Application Submittal in February of 2021
  - Identify Other funding strategies
Ishkonige Nawadide
Partners

- Bad River Tribe Utility Task Force Team
- Cheq Bay Renewables
- Madison Solar Consulting
- muGrid Analytics
- Faith Technologies
Long-term Planning

- Conducted November of 2019, led by Amy Simpkins of MuGrid Analytics.
- Concentrated on a strategic phased approach incorporating the Ishkonige Nawadide Solar Project as Phase 1.
- Two-day collaborative meeting with Department heads, leadership, and community representatives.
- Long-Term Poster and Report was developed for the Tribe
  - Report: https://tinyurl.com/y6xl9gt7
  - Poster: https://tinyurl.com/y5ffqnem
## Bad River Band Phased Energy Plan

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<td>Solar+Storage at Housing Authority</td>
<td>Solar+Storage at Pump House</td>
<td>Solar+Storage at Community Center</td>
<td>Microgrid the main cluster with MV distribution</td>
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<td>Solar+Storage at Elderly Bldg</td>
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### Core Values

- Progressive Leadership
- Financial Stability
- Tribal Sovereignty
- Empowered Individuals

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**Energy Sovereignty**

*for the benefit of the land, the water and the people*

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**Tribal Utility Authority / Public Works**

**Electric vehicle infrastructure**

**Food sovereignty**

**Tribal jobs**

**2030 VISION**
Phase 2: Giwiijiiwaaganinaan Gitigan Microgrid Project

- Giwiijiiwaaganinaan Gitigan means Community Garden or Three Sisters Garden. This was the original Project title for Clinic, Head Start and Elderly Buildings when Clinic was originally built.
- Connects new Head Start and existing Elderly buildings adjacent to the Clinic to the Ishkonige Nawadide Solar Microgrid
- Applying for USDOE funds and using same financing strategy
- Team is also working with the Bad River Housing Authority on Phase 3
  - Elderly Apartments and other infrastructure
  - 1MW solar garden specifically for residential benefits
  - Challenges are land availability and Utility capability
Miigwech!
(Thank you)

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