



DESRI RENEWABLE ENERGY DEVELOPMENT BID TO NORTHERN STATES POWER COMPANY 2023 FIRM DISPATCHABLE PROCEEDING (PUBLIC)

[] | [] MWac in [], MN

DESRI Renewable Energy Development
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North Star Energy Storage LLC Document Summary List

Re: Competitive Resource Acquisition Process for up to 80

Megawatts of Firm Dispatchable Generation, Docket Number: E002/CN-23-212

North Star Energy Storage LLC Surplus Battery Proposal

Documents Submitted

- North Star Energy Storage Bid Narrative
 - ALTA Survey (Trade Secret)
 - Interconnection Agreement (Trade Secret)
 - PPA (Trade Secret)
 - Project Preliminary Layout (Trade Secret)
 - SLD (Trade Secret)
 - Title Report (Trade Secret)
- North Star Energy Storage Data Intake Form
 - Attachment 1 to Data Intake Form – Corporate Structure (Trade Secret)
 - Attachment 2 to Data Intake Form – Financial Statements (Trade Secret)



Executive Summary

DESRI Renewable Energy Development, LLC, an affiliate of D. E. Shaw Renewable Investments (“DESRI”) is pleased to submit a proposal for the [] MWac [] Project (“Project”). The Project is a new early-to-mid-stage development asset located in [], Minnesota, which will include battery storage technology added as a surplus storage IA to an existing solar photovoltaic facility.

The Project, which is being developed by DESRI and will leverage DESRI’s internal expertise as well as strong financing and construction relationships, will provide new storage to Northern States Power Company (“NSP”) at scale and close to the Minneapolis Metro load center. DESRI has approximately 10 acres under control and is working on active development of the Project. We are targeting a January 2027 commercial operations date for the Project.

DESRI is one of the leading owner-operators of renewable energy projects in North America. Since its formation in 2011, DESRI has had a successful track record developing, owning, and operating high-quality, utility-scale wind and solar power plants across the U.S., including its current portfolio of 55 operating and in construction projects with more than 3.2 GW of capacity. The DESRI team has significant experience financing renewable projects and has raised more than \$17 billion in project financing, tax equity, mezzanine debt, corporate debt, equity, and other capital for its projects. DESRI is a member of the D. E. Shaw group, a global investment and technology development firm with more than \$60 billion in investment capital as of December 1, 2022, and offices in North America, Europe, and Asia. DESRI is headquartered in New York, NY and Denver, CO.

We are proud to be on the leading edge of renewable energy investing and development in the U.S and to be one of the largest owner and constructors of new renewable projects in the Intermountain West. To date, DESRI has assets that are in development, construction or operations in most of the Midwest, including the 149 megawatt (“MWac”) River Fork Solar project, currently in construction in Sheridan & Parma Township, Michigan and the 239 MWac Assembly Solar project, which has been operating for 3 years in Venice and Hazelton Townships in Michigan. DESRI owns and operates the [], which sells energy to NSP (Xcel Energy), and achieved COD in []. In addition, DESRI is currently one of the largest owner and constructor of new renewable assets in the Midwest, where it currently has approximately 680 MWac of projects in operations, 769 MWac of projects in construction and ~2.5 GWac of projects in late-stage development (including through joint ventures). Lastly, we have a commercially operating Arroyo Solar and Storage facility with 300 MWac solar and 150 MWac / 600 MWh of co-located battery storage, and the San Juan Solar and Storage facility with 200 MWac solar and 100 MWac / 400 MWh of co-located battery storage under construction.

DESRI looks forward to working with NSP on the Project and anticipates that its location and development progress will add value to NSP’s system, which can be passed back to its customers. We have marked confidential information in this bid by highlighting it in yellow, and have marked all confidential exhibit materials as “CONFIDENTIAL”. We request that NSP please endeavor to maintain these materials’ confidential nature and alert us to any requirement to share this information outside of the Evaluation Team.

We appreciate the opportunity to bid and look forward to continued discussion on the Project.

Project Summary

Project Name	Location	Capacity (MWac)	BESS (MWh)	BESS Price (\$/kw-month)	PPA Term (Energy Only)	COD
[]	[], MN					
[]	[], MN					



Development Experience

DESRI Renewable Energy Development (“DESRI”, or “Seller”) is pleased to present [], a 50 MWac/200 MWh or 80 MWac/320 MWh co-located battery storage project to NSP for its 2023 RFP (“Project”). The Project is well-sited in Chisago County, CO, close to the Minneapolis Metro Load Center and can be a helpful driver of new energy and economic development in Chisago County. The Project is being bid as a separate tolling agreement structure, and will require an amendment to the existing North Star Solar PPA, with a 20 tolling agreement for storage.

DESRI is a nation-wide developer, owner and operator of new renewable assets and has over 8 GW of contracted, construction and operating assets across 69 projects and 24 states. Our team’s experience spans across early, mid and late stage development, as well as project financing and construction. DESRI has a track record of leadership in the Intermountain West and is currently the largest owner and constructor of projects in the Midwest. To date, DESRI has assets that are in development, construction or operations in most of the Midwest, including the 149 megawatt (“MWac”) River Fork Solar project, currently in construction in Sheridan & Parma Township, Michigan and the 239 MWac Assembly Solar project, which has been operating for 3 years in Venice and Hazelton Townships in Michigan. DESRI owns and operates the 100 MWac North Star Solar Facility, which sells energy to NSP (Xcel Energy), and achieved COD in December 2016. In addition, DESRI is currently one of the largest owner and constructor of new renewable assets in the Midwest, where it currently has approximately 680 MWac of projects in operations, 769 MWac of projects in construction and ~2.5 GWac of projects in late-stage development (including through joint ventures). Lastly, we have a commercially operating Arroyo Solar and Storage facility with 300 MWac solar and 150 MWac / 600 MWh of co-located battery storage, and the San Juan Solar and Storage facility with 200 MWac solar and 100 MWac / 400 MWh of co-located battery storage under construction. A full list of projects owned by DESRI is available in Figure 1 below.

Our team has a track record of delivering successful projects and thus has many repeat utility and corporate customers, and is one of the largest independent owner-operators of renewable energy assets in the United States. DESRI, through affiliated special purpose project entities, such as DESRI Tidewater Development, LLC and Aspen Renewables, is actively developing utility-scale solar projects across the United States.

DESRI is a member of The D. E. Shaw group, which is a leading global alternative asset manager, with more than \$60 billion in investment capital as of December 1, 2022. DESRI is a leader in renewable energy, having raised more than \$17 billion in capital through its renewable energy projects and portfolio companies since 2005. Biographies of relevant project team members are listed below.

Hy Martin, Chief Development Officer

Hy Martin is Chief Development Officer at DESRI. He has originated, developed, or financed more than 4,000MW of solar, wind, and conventional energy generation projects during his career. Prior to his current position, he was leading the development acquisition team at SunEdison transacting on more than 1,000MW of power generation assets. Hy previously held positions at NRG Energy, a multi-strategy infrastructure fund, and the United States Department of the Treasury. He has more than 15 years of experience in the power generation industry. Hy holds a BS from the University of Virginia, an MPA from Harvard Kennedy School, and an MBA from Harvard Business School.



Liz Peyton, Executive Director of Development

Liz Peyton is an Executive Director of Development for D. E. Shaw Renewable Investments. In this capacity, she has achieved financial close for approximately 275 MWac of new solar assets, and secured over 400 MWac in new power purchase agreements, (targeted to be executed by in Q1 2023), in the Intermountain West. Prior to joining DESRI, Liz was a Project Director for Development at NextEra Energy Resources, where she led development for 147 MWac of complex New England solar projects, including the largest solar projects in Vermont and in New England, respectively. Liz has worked through early-stage site diligence and land acquisition, all the way through PPA negotiations, and project construction. Liz holds a B.A. from Boston University and an M.A. from Tufts University. She resides in Denver, CO.

Jonathan Kett, Executive Director of Special Projects

Jonathan Kett is an Executive Director of Special Projects for D.E. Shaw Renewable Investments. Within this role, he is focused on utility scale solar, wind and storage projects in regions throughout the United States during both development and construction. Prior to joining DESRI, Jonathan was an asset manager at Invenergy, where he focused on operations and M&A for utility solar, wind and storage throughout North America. Jonathan has worked on greenfielding projects, acquiring projects through M&A, PPA agreements, and managing projects during operations & construction. Jonathan holds an engineering degree from University of Wisconsin – Madison. He resides in Denver, CO.

Damon Lao, Director of Engineering

Damon Lau is Director of Project Engineering for D.E. Shaw Renewable Investments. Within this role, he is focused on design optimization of mid to late stage projects and managing EPC designs. Damon has been working in renewables since 2011 working for EPCs, equipment suppliers and project developers. His last 8 years was spent at 8minute Energy and at Shell New Energies developing solar projects in the US and engineering projects globally. Damon holds a mechanical engineering degree from UC Berkeley and is a licensed Civil Engineer in California.

Daniel Wang, Director of Transmission

Daniel has a decade of interconnection experience on energy projects, first at Pacific Gas and Electric Company as an Interconnection Manager followed by development work. He has been involved in the achievement of commercial operations for one and a half gigawatts of solar generation across the United States. Daniel received his electrical engineering degree at the University of California, San Diego and his MBA at the University of Southern California.

Project	State	Type	Status	Size (AC)	Size (DC)
Airport	Oregon	Solar	Operating	47	61
Alta Luna	New Mexico	Solar	Operating	25	34
Assembly	Michigan	Solar	Operating	50	72
Assembly II	Michigan	Solar	Operating	110	161
Assembly III	Michigan	Solar	Operating	79	115
Balko	Oklahoma	Wind	Operating	300	0
Belmont	Indiana	Solar	Operating	4	5
Benson Creek	Oregon	Wind	Operating	10	10
Big River	Illinois	Solar	Operating	149	209
Cove Mountain 1	Utah	Solar	Operating	58	75
Cove Mountain 2	Utah	Solar	Operating	122	159
CT Fusion	Connecticut	Solar	Operating	20	32
Cuyama	California	Solar	Operating	40	56
Dressor Plains	Illinois	Solar	Operating	99	135
Drew	California	Solar	Operating	100	138
Durbin Creek	Oregon	Wind	Operating	10	10
Gray Hawk Solar	Arizona	Solar	Operating	55	65
Hunter Solar (UT)	Utah	Solar	Operating	100	130
Huntington (Parent Entity)	Oregon	Wind	Operating	0	0
Iris Solar	Louisiana	Solar	Operating	50	82
Jett Creek	Oregon	Wind	Operating	10	10
Kawailoa Solar	Hawaii	Solar	Operating	49	63
Kawailoa Wind	Hawaii	Wind	Operating	69	69
Lamesa	Texas	Solar	Operating	50	66
LNGN	Indiana	Solar	Operating	2	2
Marion (Parent Entity)	Indiana	Solar	Operating	0	0
Midway	Texas	Solar	Operating	182	236
Mississippi Solar 2	Mississippi	Solar	Operating	52	74
Mount Signal II	California	Solar	Operating 3rd Party	154	200
North Star	Minnesota	Solar	Operating	100	138
Orchard 1	Oregon	Wind	Operating	20	20
Orchard 2	Oregon	Wind	Operating	20	20
Orchard 3	Oregon	Wind	Operating	20	20
Orchard 4	Oregon	Wind	Operating	20	20
Orchard A	Oregon	Wind	Operating	40	20
Orchard B	Oregon	Wind	Operating	40	20
Portal Ridge (Parent Entity)	California	Solar	Operating	0	0
Portal Ridge Solar B	California	Solar	Operating	20	25
Portal Ridge Solar C	California	Solar	Operating	11	14
Power County (Parent Entity)	Idaho	Wind	Operating	0	0
Power County North	Idaho	Wind	Operating	23	23
Power County South	Idaho	Wind	Operating	23	23
Prairie State	Illinois	Solar	Operating	99	134
Prospector	Oregon	Wind	Operating	10	10
Rancho Seco 1	California	Solar	Operating	11	13
Rancho Seco II	California	Solar	Operating	160	213
Red Horse 2	Arizona	Solar / Wind	Operating	55	76
Red Horse 3	Arizona	Solar	Operating	30	38
Sigurd	Utah	Solar	Operating	80	112
Simsbury	Connecticut	Solar	Operating	26	50
Springbok 1	California	Solar	Operating	108	137
Springbok 2	California	Solar	Operating	165	191
St. James	Louisiana	Solar	Operating	20	35
Willow Spring	Oregon	Wind	Operating	10	10
Willow Springs	California	Solar	Operating	108	132
55				3213	3758



Figure 1 List of DESRI's current operating projects in the U.S.

Financial Information

DESRI's audited financial statements for 2020, 2021, and 2022 are available in Exhibit 10. We request these materials be treated **confidentially**, given their sensitive nature.

The Project will be financed as a non-recourse project and will utilize both debt and tax equity financing. At this time, it is expected that the Project will utilize the ITC with approximately 40-45% of the Project's financing derived from tax equity investment.

During construction, the Project will be financed using construction debt as well as a tax equity bridge loan, which will comprise approximately 80-90% of the Project's costs, with the remainder being supplied by sponsor equity from an affiliate of Seller. On completion of construction and commencement of operations, the Project's capital stack will include term debt, tax equity financing and sponsor equity. Project development security will be provided from one of DESRI's revolving credit facilities for development projects.

Bidder intends to finance the Project utilizing the project finance markets in a manner similar to our now operating utility-scale projects. If the Project is selected as a winning bid, project equity will be provided by DESRI with third party tax equity and project debt being provided by one or more national banking institutions with which our team maintains relationships. The project finance and construction loan market for high-quality utility-scale solar projects is highly liquid and competitive.

DESRI is an industry leader and one of the most active participants in raising tax equity and project finance for renewable energy projects, having closed approximately \$6 billion in funding commitments for its projects. Since 2005, the team's renewable energy portfolio companies have raised over \$10 billion in senior secured project debt, corporate bonds, tax equity, cash equity, and other sources of funding, as well as \$17 billion raised for energy projects.

An organizational chart representing the Seller's ownership structure are provided in Exhibit 2.

Project Description and Development Schedule

The Project is a well-sited proposed [] MWac energy storage facility. It will be sited on approximately 10 acres of land in [], MN. Bidder has engaged Westwood to complete a critical issues analysis for the Project, and they will likely be the Project's primary permitting consultant. The primary Project access will be adjacent to the existing [] substation, and our team will engage in permitting activities with the state and county in 2024 – 2025. There is ample land at the site and the project is working to secure additional connected land.

At this time our team feels confident that, pending interconnection timelines and construction of any required network upgrades (i.e., point of interconnection (POI) substations and/or substation yard upgrades), the Project can come online by January 2027. It is expected that the Surplus IA process will yield limited network upgrades. The Project's interconnection and associated transmission will be provided by NSP and the Project intends to enter the interconnection queue in Q1-24.

As described in more detail below, DESRI has many relationships with battery EPC and equipment manufacturers, and is actively procuring over 500 MW of BESS equipment.

The Project has not submitted bids into any other solicitations for new PPAs at this time.

Project Collection/Transmission Requirements

The Project Team has approximately 10 acres purchased, and is actively negotiating additional land for construction. The Project's contiguous acreage to the existing substation and POI is in place. As such, the Project team is working on a proposed Project lands are currently being used for agriculture.



Figure 2 [] Property Aerial Map

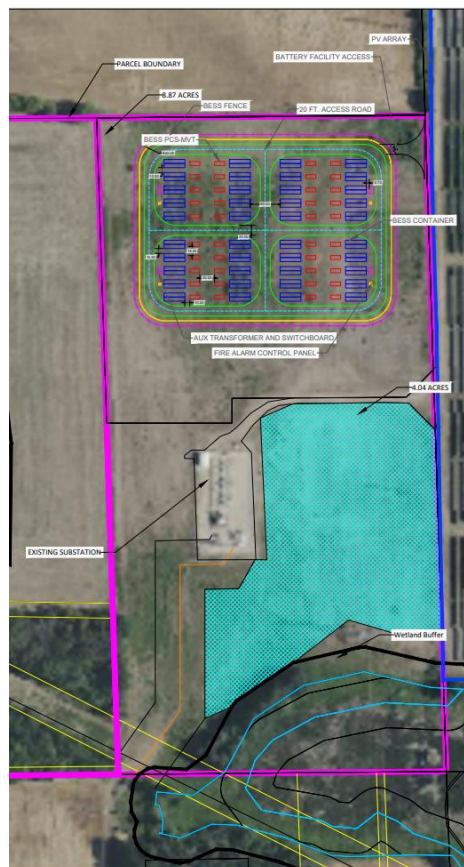


Figure 3 [] Layout

Equipment Description

DESRI will utilize new, tier one equipment for all major parts and equipment for the Project. Given the size of its portfolio, DESRI has strong, active relationships with a variety of tier one owner equipment manufacturers (OEMs) for battery storage equipment, BESS array equipment and project transformers. DESRI is comfortable with the Dynamic Reactive Power Capability requirements to comply with FERC 827 and applicable IEEE Std. 2800 requirements as well as the Ride Through Capability requirements.

DESRI will likely utilize one of the following OEMs for the Project:

- **Battery Storage Equipment:** Similar to Project modules, DESRI and its EPC partners procure batteries at scale. We would likely use Sungrow, Tesla or another tier one supplier.

Real Property Acquisition Description and Plan

DESRI currently owns 10 acres of land for the BESS. DESRI is actively negotiating rights to land [].

At this time, DESRI anticipates that we can fit land within the existing owned land, but may require approximately 1 additional agreements (or amendment to an agreement) to secure adequate land for the facility.

The existing owned parcel is currently being used for substation facilities.

Title reports for the Project's parcels are attached as supporting documents. DESRI anticipates preliminary title work and curative may be required when/if additional parcels are secured.

Permitting Plan

DESRI has engaged Westwood to prepare a Critical Issues Analysis and permit matrix for the Project, and is actively working to draft submissions for the state permitting process. The Project team, who have experience permitting projects in some of the most complex markets in the US are anticipating an approximately one year permitting timeline to complete these permits.

The Project is not anticipated to need any air quality permits, water discharge permits, or hazardous waste permits.

Transmission Plan

In addition to its proximity to the Minneapolis Metro area, [] is also advantaged in its proximity to strong transmission infrastructure on NSP's system. The Project site interconnects to the [] substation 115 kV . Given the surplus status of the filing, and the existing NRIS designation, we do not anticipate material interconnection upgrade costs ([]).

Community/State Reaction Assessment

DESRI has a strong track record of execution in the Midwest, and is currently one of the largest owner and constructor of solar in the Midwest. We have a comprehensive development, financing and construction strategy that yields strong assets that contribute to rural economic development and new construction job creation in the state. DESRI's goal is to be a steward of our relationships with host communities and to contribute positively to ongoing economic development in places where we have developed projects. This requires strong and transparent communication, local stakeholder engagement and consistent follow up.

DESRI's approach to development is as follows:

1. Identify a need for cost-effective, well-sited renewable energy;
2. Find the best resource and delivery point to serve that need;
3. Screen the site for the least environmental impact and least negative impact on the local community. Key screening factors considered include:

- a. Interconnection
- b. Fuel source/resource
- c. Permitability
- d. Constructability
- e. Levelized Cost of Energy.

In the case of [], the project is currently on lands being used for the solar substation and agriculture. The Project is sited in a primarily agricultural area with some residential development, but should not be visible from major thoroughfares. In addition, part of the value of the Project is its proximity to major electrical infrastructure, which in addition to creating a good injection point for the Project's power, also avoid a significant viewshed issue.

[]

Operations and Maintenance Plan

The EPC Contractor will be responsible for the operation and maintenance of the Facility until Substantial Completion. The Seller, through its O&M provider, will operate the Facility after Substantial Completion, and the EPC Contractor will administer the warranty for EPC-supplied equipment as directed by Seller.

DESRI manages a fleet of 69 contracted, in-construction and operating assets across 24 states, totaling approximately 8.4 gigawatts (GWac) of contracted, construction and operating projects.

DESRI's O&M partner for the Project will manage labor arrangements in compliance with state laws. It is likely that DESRI's O&M arrangements for the Project and its other proposed assets will be able to leverage operational efficiencies through scale.

Exceptions to Model PPA

DESRI has an existing fully financed power purchase agreement for its solar facility. As a result of this unique situation, DESRI suggests an amendment and restate of the existing PPA to accommodate a Solar plus Storage PPA. The form provided is not likely to be acceptable to the parties, and Standalone Storage PPA may be considered as an alternative, with clarification in the existing Solar PPA that charging energy shall be compensated at the existing PPA rate.

DESRI suggests a discussion between the parties to adequately retain the legacy solar PPA structure while affording the storage facility the interconnection rights required.

Beneficial Contributions/Section 123 Resources

DESRI's bid for the Project is a solar with co-located lithium-ion storage. As such, it would not be considered a Section 123 resource.

Employment Metrics

Approximate employment metrics for the Project are under review. DESRI has not yet committed to signing a PLA for the Project, but may elect to do so in the future.