TE-MOAK TRIBE OF WESTERN SHOSHONE
BATTLE MOUNTAIN COLONY

# FINAL TECHNICAL REPORT

"FEASIBILITY STUDY FOR BATTLE MOUNTAIN RENEWABLE ENERGY PARK"

FUNDED BY: DEPARTMENT OF ENERGY
AWARD NO. DE-EE0005632
DATE: SEPTEMBER 30, 2014

# PROJECT DATA

| | |
|---|---|
| **Awardee:** | Te-Moak Tribe of Western Shoshone, Battle Mountain Colony |
| **Location:** | Battle Mountain, Nevada |
| **Project Title:** | Feasibility Study for Battle Mountain Renewable Energy Park |
| **Type of Award:** | Feasibility Study |
| **DOE Grant Number:** | DE-EE0005632 |
| **Award Amount:** | $334,895 |
| **Project Period:** | June 2012 – December 2014 |
| **Project Officer:** | Lizana Pierce, Manager<br>U.S.D.O.E. Tribal Energy Program<br>Golden Field Office<br>Phone: (702) 356-1749<br>lizana.pierce@go.doe.gov |
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# ACRONYMS

| | |
|---|---|
| AB | Assembly Bill |
| AC | Alternating Current |
| ARRA | American Recovery and Reinvestment Act |
| Band | Battle Mountain Colony of the Te-Moak Tribe of Western Shoshone |
| BIA | U.S. Bureau of Indian Affairs |
| BLM | U.S. Bureau of Land Management |
| BOS | Balance of System |
| Cd-Te | Cadmium-Tellurium |
| CIGS | Copper-Indium Gallium-Diselenide |
| CREBS | Clean Renewable Energy Bonds |
| C-Si | Crystalline Silicon |
| DBA | Doing Business As |
| DC | Direct Current |
| DNI | Direct Normal Irradiance |
| DOE | U.S. Department of Energy |
| DSM | Demand Side Management |
| EID | Environmental Impact Datasheet |
| EPC | Engineering/Procurement/Construction |
| GHI | Global Horizontal Irradiance |
| GTI | Global Tilted Irradiance |
| IRP | Integrated Resource Plan |
| IRR | Internal Rate of Return |
| IRS | U.S. Internal Revenue Service |
| ITC | Investment Tax Credit |
| kV | Kilovolt |
| kW | Kilowatt |
| kWh | Kilowatt-hour |
| LLC | Limited Liability Company |
| MACRS | Modified Accelerated Cost Recovery System |
| MW | Megawatt |
| $MW_{dc}$ | Megawatts Direct Current |
| MWh | Megawatt Hour |
| NMTC | New Markets Tax Credit |
| NPV | Net Present Value |

| | |
|---|---|
| NREL | National Renewable Energy Laboratory |
| O & M | Operations and Maintenance |
| PC | Portfolio Energy Credit |
| PPA | Power Purchase Agreement |
| PUC | Public Utilities Commission |
| PURPA | Public Utilities Regulatory Policies Act |
| PV | Photo-Voltaic |
| QF | Qualifying Facility |
| REAP | Rural Energy Assistance Program |
| REC | Renewable Energy Credit |
| RFP | Request for Proposal |
| RPS | Renewable Portfolio Standard |
| SAM | System Advisor Model |
| SB | Senate Bill |
| SGIP | Standard Small Generator Interconnection Procedures |
| T & D | Transmission and Distribution |
| TERA | Tribal Energy Resource Agreements |
| Tribe | Te-Moak Tribe of Western Shoshone |
| TWh | Terawatt Hour |
| USDA | U.S. Department of Agriculture |
| VAR | Voltage-ampere Reactive |

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# 1 Executive Summary

The Battle Mountain Band (Band) of the Te-Moak Tribe of the Western Shoshone Indians was awarded a Department of Energy Tribal Energy Program Grant to study the feasibility, benefits and impacts of a five Megawatt (MW) solar Photovoltaic (PV) generating system on lands held in trust by the Band, located in Battle Mountain, Nevada.

The project team conducted many open meetings with members of the Band throughout the grant period to engage and educate members regarding the opportunities of a solar project. A consensus favorable to the project developed as a result, and members of the Band supported project activities throughout the project.

Technical assessments were conducted to identify barriers and opportunities and potential fatal flaws. After reviewing the quality of the solar resource, PV and system technologies, transmission and interconnection access, cultural impacts, environmental impacts, and market opportunities, the greatest barrier to a successful project was determined to be selling the power. However, during the course of the project, the Nevada Legislature passed a bill into law that gave the State's investor owned utility, NV Energy, the option of purchasing an additional 350 MW of renewable energy over and above the state's Renewable Energy Portfolio requirement. This decision energized the market and there were indicators NV Energy would solicit proposals for 100 MW of new renewable energy resources by the end of 2014.

A feasibility study was conducted to further evaluate the benefits and impacts of a five MW solar PV project. Study findings were provided in the report titled, *Battle Mountain Band of the Te-Moak Tribe of Western Shoshone Indians Feasibility of a Five Megawatt Solar Photovoltaic Generating System* (Report) (Appendix A). The Report expanded upon key issues identified in the previous technical assessments, evaluated and recommended technologies, modeled finance and operating structures, and identified steps required to develop a solicitation for submission to renewable energy (PV) developers.

Based on the findings of the feasibility study and in anticipation of a solicitation for 20 MW projects by the utility, the Band voted to proceed with a solicitation of a solar lease with an option to purchase a maximum 20 MW project utilizing up to 100 acres of lands held in trust. The solicitation was conducted and a developer who met the eligibility requirements was identified and subsequently met in person with the Band.

The Band Council voted on July 14, 2014 to negotiate a solar lease with the developer. The Band is currently reviewing a draft "lease option agreement" that would provide compensation to the Band to hold the land while the developer conducts further studies, acquires permits, and negotiates a solar lease with the Band.

# 2 Background

The Battle Mountain Band (Band) is one of four distinct colonies of the Te-Moak Tribe of Western Shoshone Indians (Tribe). The Te-Moak Tribe and colonies were organized under the Indian Reorganization Act of 1934. Constitution and bylaws were adopted and approved in 1938 and amended in 1982. The Te-Moak Tribe's coalition government is headquartered in Elko,

Nevada, and serves the four distinct Shoshone colonies in Nevada: Battle Mountain Colony (Band), Elko Colony, South Fork Colony, and Wells Colony. The Te-Moak Tribal Council has shared jurisdiction over Tribal lands, though the colonies retain sovereignty over other affairs, and each colony has its own separate governing council.

The development of the Energy Park is a key component of the Band's long-term goals of conserving tribal property; developing resources; and promoting the welfare of Band members and their descendants.

The Band has been pursuing various efforts to create employment and training opportunities for members. The proposed Energy Park would provide training and employment opportunities for Band members and long-term income for the Band itself.

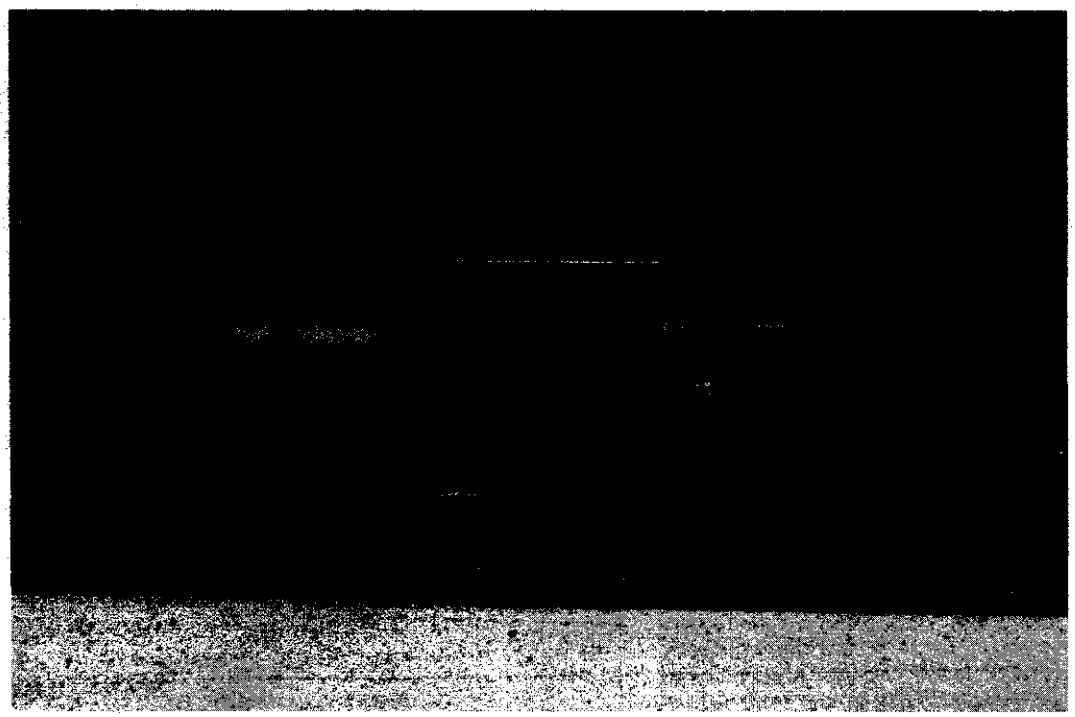

**Photo 2.1Entrance to the Old Colony**

## 3 DOE Grant and Objectives

In 2009 the Tribe conducted an initial analysis and planning for the project. That initiative was completed in November 2010 and the Band signed a Letter of Intent with a contractor to pursue development of the Renewable Energy Park. That company approached NV Energy and other energy off-takers on behalf of the Band and received initial interest in purchasing power from a portfolio of projects including the Battle Mountain Renewable Energy Park. The contractor subsequently assisted the Band in preparing a grant application to conduct a feasibility study.

On February 28, 2011, the Band Council passed Resolution No. 11-BM-03 authorizing "submittal of a funding request to DOE for the purpose of conducting strategic energy planning

and options analysis along with energy organization development and human capacity building." It was "further resolved that the Battle Mountain Band Council has identified an area of land behind the new colony and close to Interstate 80 and further described in Executive Order No. 2639 as suitable for the purpose of a Renewable Energy Park and are committed to using this area of land for the Project. The identified land is held in Trust." (Copies of Resolution 11-BM-03 and Executive Order No. 2639 are appended to the Report [Appendix B]).

On September 1, 2012, the Band was awarded Grant DE-EE0005632 by the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Tribal Energy Program, to conduct a feasibility study for a five Megawatt (MW) renewable energy park on land owned by the Te-Moak Tribe of Western Shoshone Indians of Nevada. The energy park was to provide clean energy for export to utility off-takers and job training and employment for Band members while producing revenue for the Band. The Study was to be the result of a collaborative effort between the Band Council, Band members, consultants, and stakeholders and would allow the Band Council to make informed decisions regarding a potential energy park project. However, by this time the economy of the State of Nevada had been severely affected by the national recession. NV Energy reported growth in their energy needs was flat and they did not plan to acquire additional renewable energy resources in the near term. The consultants informed the Band Council it was no longer able or interested in assisting the Band with the feasibility study.

On February 28, 2013, members of the Band Council met with BEC Environmental, Inc. (BEC) to express their goals for the project to determine if a five MW solar facility could produce sufficient new revenue to increase the sustainability of the Band and improve the quality of life of their members.

The Band Council's objectives included:

- Using grant funding in the most efficient, effective manner possible, in keeping with the Statement of Project Objectives.
- Remaining compliant with DOE reporting processes throughout the grant period.
- Working with and through a single point of contact to facilitate communications and expedite successful project completion.
- Completing the feasibility study in a manner that would expedite successful completion of the entire project.
- Maintaining communication with leaders of the Band to keep the Band informed and involved throughout the project.
- Exploring potential mitigation measures for fatal flaws that might be identified during the feasibility study.
- Creating jobs, training members of the Band, and increasing the Band's revenue stream potential.

On March 20, 2013, after considering the goals and objectives of the Band Council and the original Grant Project Objectives, BEC proposed amending the Project Approach to include a solicitation process in the event the Band Council decided to move forward with a project.

The Band Council accepted BECs proposal, and in May 2013, DOE accepted the requested amendments to the Grant structure and budget.

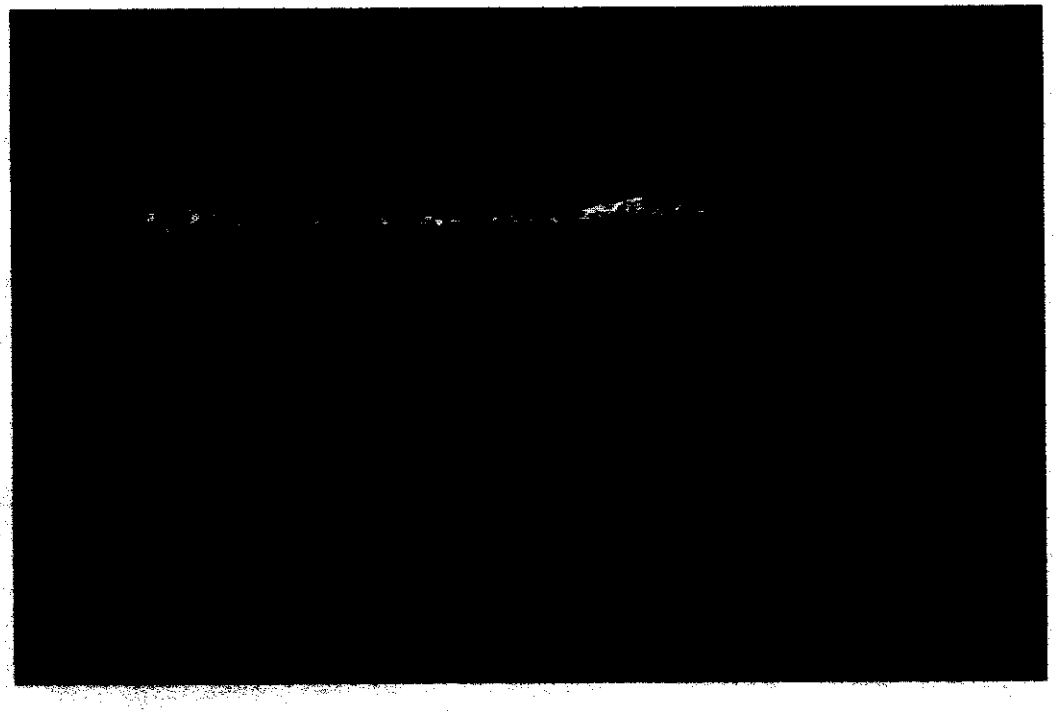

**Photo 3.1 Solar Site Landscape**

## 4 Description of Activities Performed

The Technical Approach for the development of the Feasibility Study and ultimately, for the solicitation of a solar energy project developer included the following Phases:

- Pre-phase: ***Community Engagement and Support*** to encourage participation in the project by Band Council members and members of the Band. A kick-off community meeting and subsequent focus group meetings gave members an opportunity to be involved and regular newsletter articles kept Band members informed of the project's status.

**Photo 4.1 Transmission and Solar Resource Focus Group**

- Phase 1: ***Project Organization and Initiation*** to bring stakeholders together to align resources and activities, confirm the project plan, and formally start project activities. The project manager met regularly with consultants to provide direction.
- Phase 2: ***Data Collection and Analysis*** is a coordinated process to collect data from desk top and field studies for a holistic and comprehensive analysis of factors which could present a possible fatal flaw. The Project Team worked with Band members, consultants, and stakeholders and utilized public and proprietary models and tools to assess the proposed project. The Barriers and Opportunities Analysis identified no fatal flaws.
- Phase 3: ***Recommendations*** to leverage the analysis completed in Phase 2 with the wisdom and judgment of Tribal leaders, stakeholders, and community members to develop project recommendations. The recommendations included determining project feasibility, design parameters for land use, technology to be used, project finance structures, and operations and management utilizing a collaborative process.
- Phase 4: ***Design and Solicitation*** followed the recommendations and conclusions of Phase 3 to prepare a conceptual design. The design was similar to a 30 percent engineering design where the individual system components were not designated by brand and model. System and equipment specifications were developed to guide the prospective bidder in responding to a Request for Proposal (RFP). The design laid out the footprint of the proposed system on a parcel of Tribal land selected by the Band Council. Minimum specifications for the Photovoltaic (PV) system equipment were specified as well as performance requirements and operating characteristics. These allowed RFP respondents the flexibility to provide the most competitive proposal possible. A solicitation process was conducted to identify and rank prospective bidders.

To implement the objectives of the grant, a Project Team consisting of Band Council members, consultants, and the Band's legal counsel was assembled.

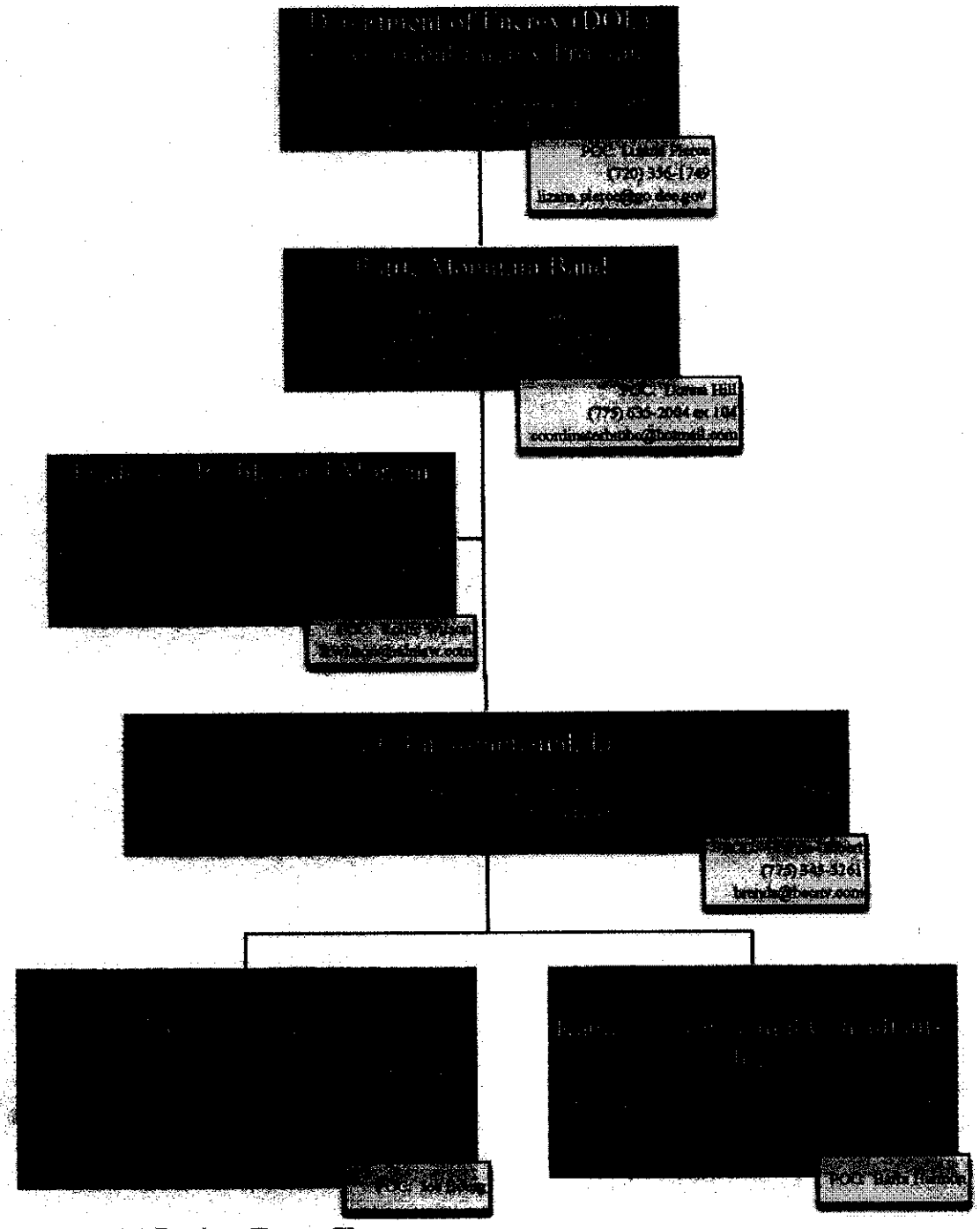

**Figure 4.1 Project Team Chart**

On June 28, 2013, the Project Team presented the Project Approach during a Community Workshop, facilitated a Question and Answer session to solicit input on the goals and objectives

for the proposed five MW PV facility, and participated in a site visit (Photo 4.2) with members of the Band and Band Council, and Wendy Helgemo (U.S. Senate Committee on Indian Affairs Counsel for U.S. Senator Harry Reid).

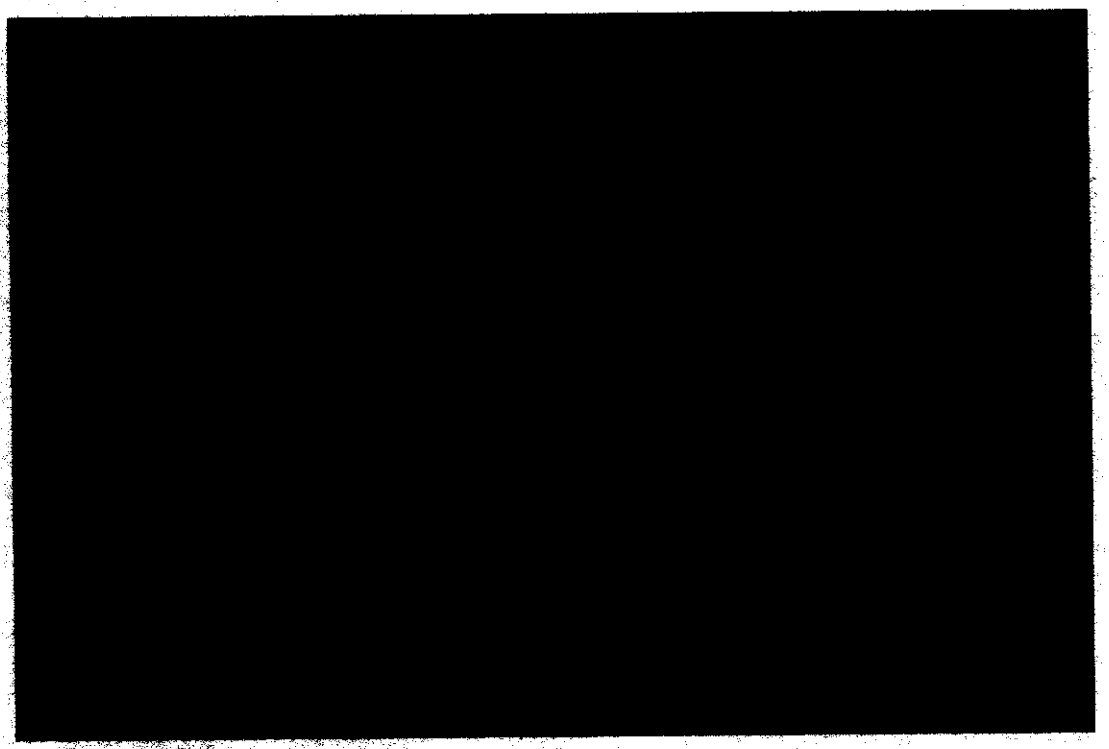

**Photo 4.2 Chairman Joseph Holly gestures during a site visit with Ms. Helgemo**

The Band Council requested the study comprise approximately 319 acres of tribal land as depicted on a map of the project study area (Figure 4.2). Because the project area is located on tribal lands held in trust for the Band by the United States, eventual project permitting will involve review and approval by Federal agencies. In preparation for Federal review and approval, a cultural survey was completed early in the project and in compliance with Section 106 of the National Historic Preservation Act (1966). The cultural survey ensured consideration of historic resources by means of their identification and National Register evaluation, as well as an evaluation of the project's potential effect upon those resources. An Environmental Datasheet was prepared from desktop studies for the area. Further environmental impact review could be required by the Bureau of Indian Affairs as part of the leasing process. These and other initial assessments were reported in the Feasibility Study Report dated March 2013 (Report).

**Figure 4.2 Study Area for the Battle Mountain Solar Park**

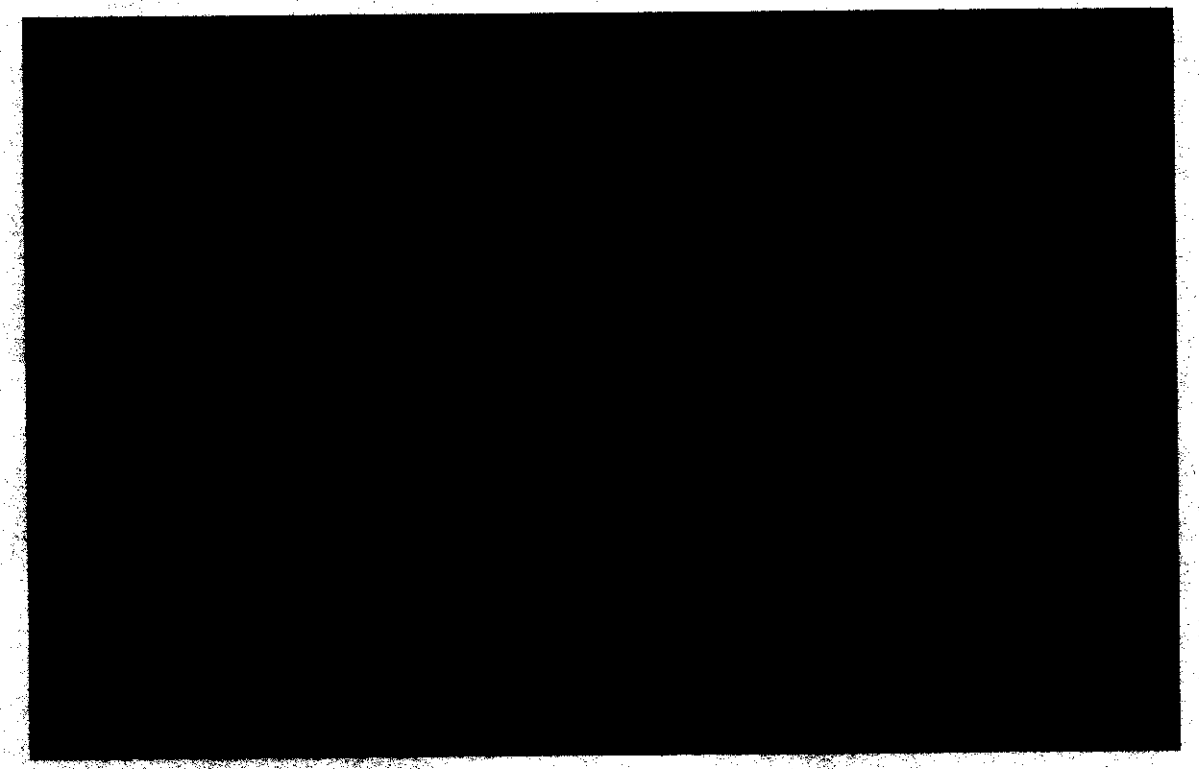

**Photo 4.3 Councilman Oppenhein Observes the Cultural Field Survey**

Technology options were reviewed and analyzed resulting in the selection of a potential project site, determination of photovoltaic (PV) infrastructure requirements, identification of applicable PV components, planning for the end of the life of the project, and recommend technology packages.

Variations of three project finance and operating structures were modeled: Simple Land Lease, Land Lease with Royalty, and Land Lease with buyout. Costs and benefits of each scenario were reported in the Report (see Table 4.1).

**Table 4.1 Business Model Options Summary for Battle Mountain Five MW Solar Park**

| Business Model Option | Description | Economic Analysis Objectives | Considerations Influencing Selection of Business Model |
|---|---|---|---|
| Land Lease – Option 1 | • 30-year term land lease with the developer/owner/operator of the solar facility ($/acre-year) | Analyze cash flows and economic metrics to the Band of a fixed price land lease based on current market prices. Cash flows will be analyzed for various acreage sizes corresponding to 3 different PV system configurations. | • Simplest and easiest model to implement<br>• Most common and proven option, utilized by Moapa and other tribal projects<br>• May require a separate tribal entity to be set up to mitigate risk<br>• Relatively low risk, but requires careful contract development<br>• Band can specify in land lease agreement that jobs be created for Band members in the construction and O&M phases<br>• Band can require or negotiate water sales to project developer<br>• Band has no ownership stake in project<br>• Minimal activity required by the Band to manage |
| Land Lease – Option 2 | • 30-year term land lease ($/acre-year)<br>• Band receives a royalty on energy production ($/kWh) commencing after tax benefits are absorbed by equity investors | Analyze cash flows and economic metrics to the Band of a fixed price land lease w/ royalty payment in out years. Cash flows will be analyzed for various acreage sizes corresponding to 3 different PV system configurations. | • Same as above<br>• Typically, a slightly lower land lease price is negotiated in return for a royalty payment on energy generation after the tax benefits have been accrued by the equity investors.<br>• This arrangement allows for shorter-term benefits up-front to the developer/owner of the project, and longer-term benefits in later or out years to the Band. |
| Land Lease – Option 3 | • Intermediate-term (7-12 years) fixed price land lease ($/acre-year @ Option 1 prices)<br>• Land lease contains buyout option at fair market value (FMV) in out years after tax | Analyze cash flows and economics metrics to the Band of a fixed price land lease with buyout option at an estimated FMV price in the earliest available purchase option year. The analysis would include the | • More complicated than the straight land lease options if the buyout option is exercised<br>• Would require development of a separate tribal entity (taxable or non-taxable), particularly if the buyout option is exercised<br>• Lower risk than outright ownership of the plant from the beginning, since PPAs, billing |

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|---|---|---|---|
| | benefits have been accrued by equity investors. Buyout price would decline each successive year after initial option year. | benefit and costs of full revenue recognition from energy sales under a power purchase agreement and Operation and Maintenance (O&M) and other costs associated with managing the plant. | mechanisms, and O&M procedures are already in place.<br>• Does not require the Band to determine if it wants to own the plant outright at the beginning of the development process. Allows the Band a considerable amount of time to decide if the ownership option is preferable and/or when ownership is deemed more preferable based on funding from other potential tribal business enterprises.<br>• Band can specify that jobs be created for Band members in the construction and O&M phases while the land lease is in effect<br>• Band can require or negotiate water sales to project developer<br>• Band would incur additional responsibilities, including re-negotiating PPA and Renewable Energy Credits (REC) contracts<br>• Band would incur higher risk and responsibility than straight land lease options, but with the expectation of higher economic returns |
| Third-Party Financed Partnership Using a Taxable Tribal Subsidiary; Conventional Ownership "Flip" Model<br><br>Rejected by the Band | • Requires formation of a Special Purpose Entity (SPE), such as a Project Limited Liability Corporation (LLC), and includes a tribal entity (likely a taxable LLC), as well as a large equity investor(s) who can utilize the tax benefits of the project.<br>• The large equity investors are the majority owners of the project until all of the tax benefits have been accrued and the project ownership structure "flips" with the debt | Analyze cash flows and economic metrics to the Band for the Third Party Flip business model – including an analysis of financed debt that the Band would be required to bring to the partnership deal. This analysis would include a summary of the benefits and costs of the Band acquiring and operating the plant after the "flip" in ownership structure. As with the lease options, this option would be analyzed for three different PV configurations. | • Most complicated and complex of all the business models considered by this study, but potentially the one that generates the most revenue to the Band.<br>• Requires a significantly higher level of risk, responsibility, and involvement by the Band<br>• Requires formation of an SPE by the Band, assumed to be a taxable LLC (but should be verified by Band's Legal Counsel).<br>• Band would be at least partially involved, if not fully responsible for securing the initial PPA / REC contracts with a buyer of the energy produced (off-taker) by the project depending on the project structure, and would be fully responsible for the PPA and REC sales after the |

| | | | |
|---|---|---|---|
| | investors (the Band) becoming majority owners of the project. | | ownership flip.<br>• Band would be responsible for O&M after the ownership flip.<br>• Requires the Band to determine that it wants ownership of the plant, and the responsibility and risks associated with ownership, from the beginning of the project.<br>• Requires the Band to secure and partner with large tax equity investors |
| Third-Party Financed Partnership, Using Non-Taxable Tribal Entity as Owner/Developer, with a Third Party Tax Equity Partner for an Inverted (Pass-Through) Lease (20-year agreement in keeping with PPA)<br><br>Rejected by the Band | • The Tribal entity would be the developer/owner, and would form a non-taxable Project LLC agreement with a Third Party Tax Equity Investor, who would lease the project from the tribal entity and thus receive the tax benefits. The Project LLC also would include the lender/equity investor (which could be the same as the tax equity investor; but typically is a separate bank or investor).<br><br>• The project would generate revenues from:<br>o PPA sales<br>o REC sales<br>o Tax benefits shared back with the Band from the tax equity investor as part of the lease payments | Analyze cash flows and economic metrics to the Band for the [4]-third party financed inverted lease business. This analysis would include a summary of the benefits and costs including the debt financing the Project LLC (i.e., via the Band) would need to bring to the partnership, as well as lease revenues and all other benefits and costs associated with the long-term ownership of the plant. Again, this analysis would be completed for three different PV configurations. | • Slightly less complicated than the third-party flip model, but still complex relative to the land leasing options.<br>• This model is potentially the quickest path to project ownership for the Band<br>• Requires formation of a non-taxable LLC by the Band that could enter in to the Project LLC<br>• Requires a significantly high level of risk, responsibility, and involvement by the Band<br>• This business model is new to tribal entities, with one tribal project underway as a result of an IRS letter approval. However, the IRS has stated no further tribal pass-through lease projects would be allowed without specific IRS review and approval<br>• The timeframe for IRS review, typically 18-24 months would be a **fatal flaw** for the Battle Mountain Band project given the two year window anticipated for securing a PPA from the utility<br>• Band would be fully responsible for securing PPA and REC contracts and renegotiating them for the life of the project<br>• Band would be responsible for overseeing EPC contractor during construction and overall management of the project over its life. |

| | | | |
|---|---|---|---|
| | | | • Band would be responsible for O&M for life of project<br>• Requires the Band to determine that it wants ownership of the plant, and the responsibility and risks associated with ownership, from the beginning of the project.<br>• Requires the Band to secure and partner with large tax equity investors |

Results of the analysis are summarized in this excerpt from the Report.

- The economic value of these scenarios varies widely. Consideration of factors beyond determining which option provided the highest economic value must include relative risk and investment cost.
- The simple land lease involved the least amount of risk. The land lease with royalty payment had a slightly higher risk, and the land lease with buyout options had the highest risk.
- The scenarios with the least risk yielded the lowest returns, and the highest risk scenarios yielded the highest returns by a factor of eight to ten over the lower risk scenarios.
- The Band must balance the economic returns with the amount of risk it was willing to undertake.
- The major asset the Band brings to the potential solar project is land strategically sited near an interconnection point with the utility grid. To maximize revenues from the project, the Band would need to maximize the revenues from the land on a dollars-per-acre basis.
- The PV technology packages considered by this study have varying degrees of impact on the project revenues, depending on the scenarios. The simple land lease scenario was less affected by technology. Under a royalty payment structure, the single-axis tracking system provided marginally higher returns and significantly higher returns under the buyout scenario.

The Band's Legal Council stated in a Legal Analysis Briefing, "Operating a solar project on tribal lands can be as simple as negotiating a lease under federal Indian law. If the Band chooses more complicated operating structures, federal Indian law and tribal law also provide options for developing tribally chartered corporations and utilities. Similar to financial options for operating a solar project, the Band will need to assess its existing and potential resources to determine which path will best serve the Colony."

On March 6, 2014, after considering the resource, market, transmission access, technology, financing, compensation, approvals, internal capabilities, and employment and training, the Band decided to pursue a solar lease with buyout if a qualified vendor could be identified.

The Band conducted a solicitation process utilizing the steps identified in the Report:

- May 7, 2014 Request for Proposals (RFP) for a PV solar lease up to 20 MW was issued.
- May 19, 2014 Site Walk and Pre-bid meeting were conducted.
- May 21, 2014 Answers to questions were provided to interested developers.
- June 9, 2014 Proposals were Due
- June 11, 2014 The RFP Evaluation Committee met by conference call to compare scores. PE/Q Energy (PE/Q) met the eligibility criteria and provided a compelling proposal. The Band invited the successful developer to visit the site and make a presentation.

- July 7, 2014 Tom Anderson (PE/Q) met with members of the Band, toured the site, made a presentation, and responded to questions.
- July 14, 2014 The Band Council voted to proceed with negotiations for a solar lease for up to 20 MW with PE/Q Energy.

In July and August, 2014, the Band worked closely with its legal counsel to review a draft "lease option agreement" that would provide compensation to the Band to hold the land while the developer conducts further studies, acquires permits, and negotiates a solar lease with the Band.

# 5 Conclusions and Recommendations

The grant provided the Band with an opportunity to engage our community in a process of evaluating and directing activities that could lead to development of a new source of revenue and jobs for members of the Band.

The Band studied the potential barriers and opportunities, technical feasibility, economic benefits, cultural and environmental impacts, technologies, business models, siting, and legal issues of a solar lease, and determined the benefit was great enough to set aside up to 100 acres of its lands held in trust and solicit interest from solar developers in a solar lease with an option to buy once federal tax credits were fully monetized.

The Band conducted a solicitation for up to a 20 MW solar project rather than a five MW project in response to indications from NV Energy that they preferred projects of this size. A qualified developer was selected and the Band is currently reviewing a draft "lease option agreement" that would provide compensation to the Band to hold the land while the developer conducts further studies, acquires permits, and negotiates a solar lease with the Band.

# 6 Lessons Learned

Lessons learned as a result of the project included:

- Thoroughly check the background and references of anyone offering to contract to write grants.
- Be involved in every step of the project.
- Obtain training from DOE before project kick-off on DOE requirements for tracking and submitting reimbursements.
- Be prepared to adapt the project approach as information is obtained and outside factors affect the project (e.g. policy changes).

Other good business practices included:

- Have trusted legal counsel provide input into study findings and review key project documents that bind the tribe.
- Do as much data collection as possible and understand your market before you begin marketing your project to developers.
- Engage your community in the process to build internal support for the project so you can present a unified opportunity to potential developers.
- Establish minimum eligibility standards in the RFP, but avoid being overly specific. Give bidders ample opportunity to customize while within the parameters of the RFP.
- Develop an objective method for prioritizing submittals, then request developers participate in a site visit and face to face meeting.

- Prepare a list of questions to ask the developer during the meeting. Ask the developer how and to what extent the Tribal community will be involved in the development process; in particular, the marketing of the project to financial partners and potential power customers.
- Understand the unique requirements of a solar lease of tribal lands held in trust.

# MILLENNIUM ENERGY LLC

## FINAL REPORT
## Phase IV – Task 4: Proposal Evaluation Report
## Proposal Ranking and Interviewee Response Summary

Submitted to:
BEC Environmental, Inc.
7660 West Sahara Avenue, Suite 150
Las Vegas, NV 89117

In Support of:
Feasibility Study for Battle Mountain Solar Energy Park
for the Te-Moak Tribe of Western Shoshone
BEC Project Number 056.13.001

Submitted by:
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Date: July 2014

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# 1 INTRODUCTION

The fourth and final task under Phase IV of the Te-Moak Solar Project Feasibility Study was to provide proposal process support to the Battle Mountain Band of the Te-Moak Western Shoshone Indians (Band). Services provided by Millennium Energy LLC (Millennium) under this task included serving as the contact and recipient of proposals in response to the Band's solar project RFP, distributing the proposals to the Band's proposal review committee, provided guidance to the review committee in the proposal review process in selecting a candidate for additional consideration, providing logistical support in coordinating a site visit and proposal interview in Battle Mountain, Nevada, and leading the interview meeting. As a result of these services, the Band selected a candidate developer for the project and identified the next steps to proceed in developing a land lease option contract for the proposed 20 MW solar PV project.

This report is organized into two subsequent sections. Section 2 summarizes the proposal ranking process, and Section 3 details the site visit and project interview meeting with the candidate developer.

# 2 PROPOSAL RANKING SUMMARY

Under Task 3 of Phase IV of this project, Millennium developed a proposal ranking methodology summary document, which provided guidance to the Band's Proposal Review Committee on what to look for in the proposals, what the minimum requirements were for each element of the proposal, and how to score the proposals based on a weighted scoring system. In addition, a scoring sheet was included to assist the review committee in evaluating and scoring the proposals. A copy of this summary document is included as Appendix A to this report. This summary report was completed prior to the proposal due date of June 9, 2014.

Prior to the proposal due date, Millennium had received three "Notices of Intent" to Bid on the Request for Proposals (RFP) from interested firms. And, since the "Notice of Intent" was not mandatory at least three bids were anticipated for the project. However, at the close of the bid response period on June 9, 2014, only one bid was received. Since the purpose of the proposal ranking process was to score the proposals in order to rank and select the best candidates for further consideration, the scoring and ranking process was irrelevant since only one bidder had responded. Therefore, in order to save time and resources of the review committee, it was decided that the review committee should review the one proposal using the scoring criteria guide to determine if a) the proposal met the minimum criteria specified in the RFP, and b) if so, if the proposal was of sufficient quality to warrant an interview with the firm and to further consider it for project award.

After the review committee members conducted their evaluation of the proposal, a conference call meeting was held to discuss each section of the proposal with respect to meeting the minimum criteria specified in the RFP, overall completeness, and the overall qualifications of the firm to develop the project. After these criteria were thoroughly discussed, it was determined that further consideration of the firm was warranted and that a proposal interview should be conducted. After

this meeting, Millennium contacted the firm, PE/Q Energy Inc., and informed them that they had been selected for an interview and began the scheduling process for the meeting.

It should be noted that while considerable effort was put into the development of the proposal scoring process and deliverables, these efforts provided several benefits even though the proposal was not scored. First, the scoring guide was still used as a tool to review the proposal to ensure that minimum proposal requirements were met and that if was of sufficient quality to proceed in bidder selection process. Second, the proposal review summary and scoring guide may be used for future PV projects by the Band should it decide to re-bid or expand its PV development efforts in the future. And third, it may serve as a template for the DOE Tribal Energy Program and other tribal entities pursuing project bids for PV development on their lands.

# 3 SUMMARY OF SITE VISIT AND INTERVIEW MEETING WITH CANDIDATE DEVELOPER

On July 7, 2014 the Band conducted a Site Walk of the proposed site and subsequently held an Interview Meeting with PE/Q Energy, Inc. to determine if they should proceed with the firm with project development activities. This section discusses these activities.

## 3.1 Site Walk Summary

Band Chairman Joe Holley escorted Millennium's Joe Bourg and PE/Q's Tom Anderson to the proposed project site for a Site Walk. This was the third site walk conducted for this project, and each time something new was discovered or revealed about the site. After driving the site and stopping at several points to walk around and take pictures, the Site Walk culminated at the north-east corner of the proposed project area south of I-80. The purpose of ending at this location was to examine the transmission / distribution infrastructure at the point that it comes onto the Band's land. Interestingly, there are two lines on the NV Energy pole approximately 150 feet west of the Band's land. The top line is a 69 kV line and terminates at that pole. The bottom line appears to be a 12.6 kV line and continues onto the Band's property to serve the lighting loads of several billboards.

These two lines pose a number of potential opportunities and challenges for the proposed PV project. First, the pole that contains the two lines is located on BLM land. This may or not be a problem with extending the 69 kV line onto the band's property. While it is only about 150 feet away from the project site, it could pose a potential barrier to extending the line from either BLM or NV Energy. However, the Band is currently attempting to acquire the property, and if successful would make this potential barrier non-existent. Other potential strategies for project development using these lines were discussed, but not presented here for confidentially reasons. After driving to other portions of the site, the Site Walk was concluded.

## 3.2 Interview Meeting Summary

After the Site Walk, Millennium's Joe Bourg led an interview meeting with the Band's Proposal Review Committee and PE/Q's Tom Anderson, as well as Brenda Gilbert (BEC Environmental, Inc.) and Rollie Wilson (Fredericks Peebles & Morgan LLP) via a conference line. The meeting

commenced with introductions of the participants. Tom Anderson then proceeded with an approximately 1 hour interactive presentation on PE/Q's background, qualifications, and approach to the potential Battle Mountain Band Solar Project.

Tom Anderson began his remarks with an overview of PE/Q, including its history, project resume, and target markets. He discussed the roles of central versus distributed generation, and why PE/Q is focused on distributed applications such as the one for the Band's potential project of less than 25 MW. He then discussed his team member's qualifications and the roles of each team member within the project development process. Next, he detailed the firm's experience in working with NV Energy, particularly on the Searchlight project in southern Nevada, and the relationships they have developed and the lessons learned in working with them. He also stressed the firm's commitment to taking care of property that it leases from others, and it's a responsibility as a steward of that property.

Mr. Anderson next discussed the firm's development approach to the Band's potential solar project, starting with reiterating and explaining his firm's bid for the land lease option of three years. He said that the annual lease option for the three years would be for 100 acres, plus some buffer land. Once the lease option contract was in place, PE/Q would begin developing the technical options for the project and the site layout requirements. Next, PE/Q would bring in investment partners, identify the permitting requirements, explore the environmental permitting requirements in detail (including the possibility of NEPA requirements as well as a categorical exclusion – although unlikely to be granted), and monitor NV Energy's RFPs for solar Power Purchase Agreements (PPAs) and/or development sites. In addition, while carrying out these activities, the firm would be developing strategies for winning NV Energy's business. Mr. Anderson then spoke about the advantages and opportunities of this potential project, including the fact that being ready to respond to RFPs and being ready to build is an advantage – and this project has potential advantages to start construction sooner than others due to the potentially reduced permitting/regulatory requirements of building on tribal land.

After his presentation, which included a lot of interactive dialogue and "questions and answers" with the Band's Proposal Review Committee, the next portion of the meeting was dedicated to a formal "question and answer" session with previously developed questions. Many of the previously developed questions were answered during Mr. Anderson's presentation. The results of the "question and answer" session are summarized below.

1. How long has PE/Q been in business? When did they break away from ACE?

   PE/Q was established in Spring of 2013. Members of PE/Q left ACE in October of 2012, although many continue to work directly for the firm as subcontractors.

2. Why have they focused on small utility projects of less than 25 MW?

   25 MW and under is the "sweet spot" in distributed energy applications, and we believe that distributed applications provide the most benefits and is where the future market is. Many utilities limit the size of distributed solar applications, and that is why we have picked that size range of our target market.

3. How would communication be handled with the Band?

Tom Anderson of PE/Q would be the point of contact throughout the project development process. During the development of the land lease option contract, PE/Q would have weekly conference calls with the Band. Once the option contract is in place, PE/Q would anticipate monthly conference calls with the Band until development is complete.

4. What performance guarantee do you anticipate offering?

PE/Q anticipates offering a 75% of capacity performance guarantee. PE/Q would guaranty 75% of the rated capacity output on an annual basis to the energy off-taker taking into account weather normalization and annual degradation. Offering a 75% performance guarantee provides more flexibility with the project investors/financers with respect to performance risk.

5. Speak about lessons learned from the project in Searchlight?

The main lesson learned on the Searchlight project is to get out in front of environmental issues, anticipate them, and work with counter parties to resolve them. For example, there was a misunderstanding with NV Energy on road usage at the project site that took a long time to resolve even though it was a relatively minor issue. It is important to get out in front of these potential issues. With the Battle Mountain Band project, PE/Q would anticipate getting out ahead with the Bureau of Indian Affairs to assess the environmental requirements for the project and review the existing checklist from the initial environmental assessment.

6. What made your Searchlight proposal successful in winning the PPA with NV Energy?

Our pricing, our team and its qualifications, and our project approach all contributed to our successful proposal.

7. What strategy will you use with NV Energy procurement?

Our strategy will depend on what NV Energy decides to do, and whether they will want to enter into PPAs or land leases for project development. In any event, the key will be to get out in front on the Interconnection Studies as soon as possible.

8. Describe the process of obtaining an interconnection agreement with NV Energy?

NV Energy has an established process for obtaining an interconnection permit, including facility- and system-level studies. We would initiate the process as soon as we have a land option contract in place and have completed the environmental requirements of the project.

9. How do you encourage development of small supporting businesses?

We encourage small business development through our training of local labor to work on various aspects of solar project development and operations and maintenance. We have seen

instances where people we have trained and hired have started their own small businesses to work on other projects.

10. What educational opportunities have you found to be the most successful?

The best educational opportunities we have found is working with k-12 students and bringing them out to the project site and teaching them about energy in general, and solar specifically. This also works well on a community level.

11. Based upon previous projects, how many years do you anticipate needing to monetize the tax credits?

It may vary depending on the investors/lenders, but we anticipate needing 7-10 years to monetize the tax credits.

12. What time frame do you anticipate for initiating royalty payments or an option for the Band to buy the project?

We would anticipate 7-10 days before initiating royalty payments, although we would need to be flexible with payment levels and initiation dates depending on a number of factors, including investor requirements, PPA levels, capital and O&M costs, etc. We would know what the payment levels and structure would be once we had a PPA. PE/Q will work to strike a fair deal with the band on royalties versus lease payments based on the final project costs and revenue streams.

13. How many acres do you anticipate wanting to option?

PE/Q anticipates wanting to option approximately 100 acres plus some buffer zone.

14. Why did you submit a proposal for this project?

We submitted our proposal for a number of reasons, including:

- We were invited to bid on the project
- Our history with NV Energy
- The project appeared to be real opportunity for us and provides an excellent site

15. Who would the Band be negotiating with on this project – PE/Q or its investors?

The Band would be negotiating with PE/Q. PE/Q is the developer/financial partner and will be spending its own money in the initial development phase of the project. The investors will not be brought in until the project is ready to be built, and will have standard financing terms.

16. Would water sales to PE/Q be included in a land lease agreement, or would that be a separate contract negotiated separately?

Water purchases would be handled under a separate contract and negotiated separately.

After the "question and answer" session was complete, the topic turned to next steps in the decision-making and contracting process. Based upon on a discussion with the Band members present at the meeting, it was determined that the following "next steps" should proceed immediately:

1. Hold a meeting of the Band members during the week of July 14, 2014 to determine if the Band should proceed with PE/Q on the development of a land lease option contract.
2. If so, then submit a request to the Te Moak Tribe for approval to enter into a land lease option contract
3. If approved by the Te Moak the Band will send a land lease option contract to PE/Q for review and approval.
4. If the contract meets with the approval of both parties, then a land lease option contract between the two entities will entered into.

The "next steps" discussion and decisions concluded the meeting interview and the meeting was adjourned.

## Appendix A: Proposal Evaluation and Scoring Guide

**Battle Mountain Band Solar Request for Proposals**
**Guide to the Proposal Evaluation Process**

Proposals submitted in response to the Battle Mountain Band RFP will be evaluated and graded on a point system. It is important that members of the proposal review committee read each proposal completely in order to accurately score them. The goal of this process is to arrive at objective and un-biased scoring of the proposals received. Each member of the review committee shall evaluate and score each proposal individually. At the end of the evaluation period, the review committee will meet to arrive at consensus scoring of each proposal, discuss the merits and drawbacks of each proposal as appropriate, and determine which proposals should be short-listed for interviews in Reno in mid-June. Based on the proposal scoring process, candidate interviews, and a final consensus development meeting, the winning bidder (if any) will be selected for final contract negotiations.

With respect to the scoring of individual proposals, the proposals shall be evaluated on "best value" based on the evaluation criteria shown below. Proposals will be evaluated based upon a 100-point scale. When assigning points to a particular criterion, utilize 1-10 point scale, which will then be multiplied by the weight assigned for the particular criterion. Please use the evaluation form on the following page as a guide for what to look for in each section and for keeping track of your scores. Please use a separate form for each proposal.

**1-10 Point Scale Guidance**

| | |
|---|---|
| 10 | Couldn't imagine a better response |
| 9-8 | Excellent, insightful response |
| 7-6 | More than adequate response |
| 5-4 | Adequate response, no special insights |
| 3-2 | Inadequate response |
| 1-0 | Totally inadequate response |
| 0 | No response given |

**Weighting Factors of Evaluation Criteria**

| | |
|---|---|
| Technical Specifications | 10 % |
| Project Financing Plan | 10 % |
| Qualifications of Team /Individuals | 10 % |
| Experience of Team with Similar Projects | 10 % |
| Band Employment and Job Training Plan | 10 % |
| Cost | 50% |

**Battle Mountain Band Solar RFP**
**Proposal Evaluation Form**
**PROPOSER NAME:** _____

| Criteria | Possible Points | Points Awarded | Multiplier | Total Points |
|---|---|---|---|---|
| **1. Technical Specifications**<br>A. Did the proposer meet the minimum technical specifications of:<br>• Crystalline Silicon or Thin Film PV Modules only<br>• Fixed Tilt or Single-Axis Tracking Mounting Structures only<br>B. Did the proposer address each of the technical elements required in Section 3.2.1.3 of the RFP (pages 4-5)<br>C. Did the proposer propose any value-added specifications? (i.e., components or attributes to increase efficiency/value/output of the project such as high efficiency PV modules or inverters, advanced trackers, etc.) | 0-10 | | 1 | |
| **2. Project Financing Plan**<br>A. Did the proposer include a Project Financing Plan?<br>B. Has financing been secured?<br>C. Does the proposer show innovation in its Financing Plan to secure potential sources of financing?<br>D. Does the proposer list potential sources of financing and have they used these sources before? | 0-10 | | 1 | |
| **3. Qualifications of Team and Individuals**<br>A. Does the proposer have a proven track record of developing similar projects of this type and size?<br>B. Do teaming partners and individuals have the breadth and depth of experience of working on similar projects?<br>C. Has the company shown proven experience in obtaining Power Purchase Agreements or power off-taker contracts with 3rd parties?<br>D. Does the proposer and its team members demonstrate innovation in bringing projects to completion? | 0-10 | | 1 | |
| **4. Experience of Team with Similar Projects**<br>A. Does the proposer list PV projects it has completed, and are they of similar type, scope, and size?<br>B. Does the proposer have experience with projects of 1 MW or greater?<br>C. Does the proposer provide at least 3 project references?<br>D. Does the proposer's team include partners? If so, do they have experience with similar projects?<br>E. Does the proposer and its team demonstrate project experience covering all facets of the required scope of services for this project? (i.e., land leasing, financing, PPA procurement, development, design, construction, and O&M) | 0-10 | | 1 | |
| **5. Band Employment and Job Training Plan**<br>A. Does the proposer include an Employment and Job Training Plan for Band Members?<br>B. If so, does the plan include both short-term employment and long-term job training?<br>C. Does it quantify the estimated number of jobs to be created? | 0-10 | | 1 | |
| **6. Cost Proposal**<br>A. Does the Cost Proposal address each of the elements required in the Price Proposal Form (Appendix A of the RFP)<br>B. Does the Cost Proposal meet the minimum bid price requirements?<br>C. How competitive, or cash flow positive to the Band, are the bid values compared to other proposals?<br>D. Does the proposer include alternative pricing strategies and/or innovative proposals to increase revenues to the Band from the project over time? | 0-10 | | 5 | |
| **TOTAL SCORE** | | | | |