Pacific Northwest Economic Region (PNWER) Annual Summit - July 13, 2015
Renewable Resources and Transmission – Challenges and Successes
Mike Cashell, Vice President - Transmission
About NorthWestern

Montana Operations
Electric
353,600 customers
24,300 miles – transmission & distribution lines
895 MW of baseload power generation
105 MW of regulating services generation
Natural Gas
189,000 customers
7,200 miles of transmission and distribution pipeline
18 Bcf of gas storage capacity
Owns 70 Bcf of proven natural gas reserves

South Dakota Operations
Electric
62,500 customers
3,500 miles – transmission & distribution lines
360 MW of power generation
Natural Gas
45,500 customers
1,655 miles of transmission and distribution pipeline

Nebraska Operations
Natural Gas
42,000 customers
750 miles of distribution pipeline

All data as of 12/31/2014
NorthWestern Energy serves 354,000 Montana electric customers in 187 communities, and provides essential infrastructure for electric cooperatives and other transmission customers.
NorthWestern Energy’s serves 189,000 Montana natural gas customers in 105 communities, and provides gas storage and transmission to other parties.
NorthWestern at a Glance

- 6,900 miles of MT electric transmission lines
- 17,500 miles of MT electric distribution lines
- 5,000 miles of MT natural gas distribution pipeline
- 2,000 miles of gas transmission pipeline, plus gathering and storage
- Due to recent purchases, NWE owns about 75 billion cubic feet of natural gas reserves – all dedicated to serve our MT customers
A Portfolio for the 21st Century

- November 2014 acquisition of eleven base load hydroelectric generating facilities representing 633 megawatts of capacity and one storage reservoir from PPL Montana
- These assets are consistent with our vision of providing safe and reliable energy

### Overview of Hydro Facilities (1)

<table>
<thead>
<tr>
<th>Plant</th>
<th>Net Capacity (MW)</th>
<th>Ownership%</th>
<th>COD</th>
<th>River Source</th>
<th>FERC License Expiration</th>
<th>5-Yr Avg. Capacity Factor (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Eagle</td>
<td>21</td>
<td>100%</td>
<td>1927</td>
<td>Missouri</td>
<td>2040</td>
<td>73.6%</td>
</tr>
<tr>
<td>Cochrane</td>
<td>69</td>
<td>100%</td>
<td>1958</td>
<td>Missouri</td>
<td>2040</td>
<td>49.1%</td>
</tr>
<tr>
<td>Hauser</td>
<td>19</td>
<td>100%</td>
<td>1911</td>
<td>Missouri</td>
<td>2040</td>
<td>79.3%</td>
</tr>
<tr>
<td>Holter</td>
<td>48</td>
<td>100%</td>
<td>1918</td>
<td>Missouri</td>
<td>2040</td>
<td>72.4%</td>
</tr>
<tr>
<td>Kerr (3)</td>
<td>194</td>
<td>100%</td>
<td>1938</td>
<td>Flathead</td>
<td>2035</td>
<td>64.5%</td>
</tr>
<tr>
<td>Madison</td>
<td>8</td>
<td>100%</td>
<td>1906</td>
<td>Madison</td>
<td>2040</td>
<td>89.2%</td>
</tr>
<tr>
<td>Morony</td>
<td>48</td>
<td>100%</td>
<td>1930</td>
<td>Missouri</td>
<td>2040</td>
<td>63.8%</td>
</tr>
<tr>
<td>Mystic</td>
<td>12</td>
<td>100%</td>
<td>1925</td>
<td>West Rosebud Creek</td>
<td>2050</td>
<td>48.2%</td>
</tr>
<tr>
<td>Rainbow</td>
<td>60</td>
<td>100%</td>
<td>1910 / 2013</td>
<td>Missouri</td>
<td>2040</td>
<td>77.5%</td>
</tr>
<tr>
<td>Ryan</td>
<td>60</td>
<td>100%</td>
<td>1915</td>
<td>Missouri</td>
<td>2040</td>
<td>79.8%</td>
</tr>
<tr>
<td>Thompson Falls</td>
<td>94</td>
<td>100%</td>
<td>1915</td>
<td>Clark Fork</td>
<td>2025</td>
<td>60.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>633</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>66.1%</td>
</tr>
</tbody>
</table>

(1) Hebgen facility (0 MW net capacity) excluded from figures. All facilities are “run-of-river” dams except for Kerr and Mystic, which are “storage generation”
(2) As of June 2013
(3) The Confederated Salish and Kootenai Tribes have an option to purchase Kerr from September 2015 thru 2025
NorthWestern Energy
RPS Compliance History & Forecast

Renewable Energy Credits

- Wind Projects
- Hydro Projects
- Carry over RECs
- RPS Requirement

Year: 2008 to 2030
NorthWestern needs an additional 43 MW of eligible CREP resource to meet installed capacity requirements for locally owned renewables.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Resource Type</th>
<th>Fuel</th>
<th>Installed Capacity MW</th>
<th>Estimated Annual Energy (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judith Gap</td>
<td>PPA/REC</td>
<td>Wind</td>
<td>135</td>
<td>474,000</td>
</tr>
<tr>
<td><strong>Gordon Butte Wind LLC</strong></td>
<td>QF-1/CREP</td>
<td>Wind</td>
<td>9.6</td>
<td>41,000</td>
</tr>
<tr>
<td>Musselshell Wind Project LLC</td>
<td>QF-1/REC</td>
<td>Wind</td>
<td>10</td>
<td>26,000</td>
</tr>
<tr>
<td>Musselshell Wind Project Two LLC</td>
<td>QF-1/REC</td>
<td>Wind</td>
<td>10</td>
<td>31,000</td>
</tr>
<tr>
<td>Fairfield Wind LLC</td>
<td>QF-1/REC</td>
<td>Wind</td>
<td>10</td>
<td>32,000</td>
</tr>
<tr>
<td>Two Dot Wind Farm LLC</td>
<td>QF-1/REC</td>
<td>Wind</td>
<td>9.7</td>
<td>31,000</td>
</tr>
<tr>
<td>Spion Kop</td>
<td>Owned/REC</td>
<td>Wind</td>
<td>40</td>
<td>162,000</td>
</tr>
<tr>
<td>Greenfield Wind LLC*</td>
<td>PPA/REC</td>
<td>Wind</td>
<td>25</td>
<td>93,000</td>
</tr>
<tr>
<td><strong>Turnbull Hydro LLC</strong></td>
<td>PPA/CREP</td>
<td>Hydro</td>
<td>13</td>
<td>28,000</td>
</tr>
<tr>
<td>Flint Creek Hydroelectric LLC</td>
<td>QF-1/REC</td>
<td>Hydro</td>
<td>2</td>
<td>10,000</td>
</tr>
<tr>
<td>Lower South Fork LLC</td>
<td>QF-1/REC</td>
<td>Hydro</td>
<td>0.5</td>
<td>1,000</td>
</tr>
<tr>
<td>Sleeping Giant Power LLC*</td>
<td>QF-1/PPA</td>
<td>Hydro</td>
<td>8</td>
<td>43,000</td>
</tr>
<tr>
<td>Community Renewable Energy Resources (in <strong>bold</strong>)</td>
<td></td>
<td></td>
<td></td>
<td>25.1</td>
</tr>
</tbody>
</table>

* Project under contract - construction not complete
FERC Open Access Transmission Tariff (OATT) Generation Interconnection

- FERC Order 2003 and Order 2006 - Large and Small Generator Interconnection Procedures (LGIP/SGIP)
- Boom and Bust…
500 kV AC line from Townsend MT to Midpoint Substation near Twin Falls ID

Approximately 450 miles depending on final route
- 70+% on State and Federal Public Lands expected

1500 miles of alternatives reviewed

Public Siting and Review began in 2007

MFSA Application filed in July 2008

1500 MW Path Rating

Project cost approximately $1 billion
The purpose of the MSTI Project was:

- To provide a pathway for delivering renewable energy generated in Montana to areas throughout the western United States. MSTI will connect proposed new sources of clean energy, particularly wind power, to areas that need more electricity. MSTI is a response to customers’ request for new transmission capacity
- To strengthen the high-voltage transmission system in the western United States by helping to relieve current constraints and improving reliability

The MSTI Project was being pursued because:

- The Western US needs new sources of electricity
- New sources of renewable energy produced in Montana need a pathway to communities that need the energy
- Congestion on the western electric grid needs to be addressed
• May 2006 to June 2008 – Pre-Regulatory Applications
  – Engineering and Environmental Studies
  – Over 35 Gov’t Consultations and Public Scoping Meetings

• June 2008
  – Filed MFSA Application and Federal SF299 Applications
  – BLM and MT DEQ Co-lead Agencies Responsible for the EIS
  – 10 Different Cooperating Agencies
  – Over 50 Various Permitting & Regulatory Authorities Required

• June 2008 to August 2012 – Public Outreach
  – Over 20 Agency Sponsored Scoping Meetings
  – 120+ NWE Sponsored Public Meetings and Briefings
May 2010 – Jefferson County Montana filed suit against the MT DEQ for ‘failure to adequately consult with the county’
  - District Court ruled in favor of Jefferson County
  - MT DEQ appealed the decision

October 2011 - Montana Supreme Court unanimously overturned the lower court’s decision
  - 18 month Project Delay

January 2012 – Idaho State BLM Office decides an entirely new set of route alternatives are required to be studied to avoid Sage Grouse Habitat

- 50 months of analysis
- 3 ADEIS documents
- No DEIS ever produced
MSTI Project Shelved

- In August 2012 NWE called a “Time-Out” with the BLM, MDEQ and associated agencies and informed them to cease all activity on the EIS process, which eventually led to NWE writing off the $24 million in development costs incurred for the Project.

- This decision was the result of:
  - The ever changing scope, schedule delays to complete the EIS and the significant cost of these delays to the Project
  - Lack of cooperation and coordination between agencies and with other entities – BLM, MDEQ, USFS, DOE, INL, USDA Sheep Experiment Station
  - MFSA is outdated and statute not compatible with today’s new transmission development world making it difficult for NWE to demonstrate purpose and need and commercial viability
  - Sage grouse issue created more delays and uncertainty with the decision on possible listing under the ESA not being made until 2015
  - Declining renewable energy market in MT- energy developers unable to secure customers, lack of national renewable energy standard, PTC uncertainty, restrictions on out of state renewables allowed by some western states
• Items Below Impact Renewable Development As Well...

• Lack of coordinated and comprehensive regulatory process
  – Difficulty in satisfying competing federal, state, and local needs
  – Need centralized siting process for interstate transmission that serves regional and/or national interests

• State level market protection (at the time Project was abandoned)
  – Mainly CA – preference to in-state renewable projects for job growth
  – Restrictions placed on out of state wind even if lower cost

• Need federal policy support for ITC and PTC
  – Without clarity renewable initiatives don’t make near term financial sense
  – Short horizon on Treasury grants and wind tax credits expire YE 2013

• Uncertainty increasing from state economic challenges, budget issues, political change
  – Potential impacts – reduction or delay of RPS standards, incentive phase outs

• Montana Issues
  – Eminent domain legislation (likely an on-going issue in Montana)
• Marketing

Issues

1. Slower energy demand growth in the west
2. MT renewable energy developers unable to secure customers
3. Lack of national renewable energy standard, PTC uncertainty
4. Restrictions on out of state renewables allowed by some western states
5. During 2009 NWE conducted a Transmission Road Show to several western states to promote the value of Montana’s wind resources and encourage development
• Siting, Permitting, and Environmental Issues

1. BLM
   a. EIS process was continually delayed because of open ended scoping process, which pushed out the project schedule and increased costs
   b. Better cooperation needed among other entities – MDEQ, USFS, DOE, INL, Sheep Experiment Station
   c. Better communication and coordination with other stakeholders. Idaho sage grouse example
   d. Many consultants and agency resource staff with little electric transmission experience

2. MDEQ
   a. MFSA is outdated and statute not compatible with today’s new transmission development world making it difficult for NWE to demonstrate purpose and need and commercial viability
   b. Need better coordination of MFSA and MEPA
   c. Better coordination and cooperation needed with federal agencies
   d. Scoping process was open ended with new alternate routes and LRO’s added after process was supposed to be done
   e. Jefferson County lawsuit against MDEQ concerning inadequate consultation delayed the project an additional 18 months even though the MDEQ eventually prevailed

3. Idaho
   a. Lack of state siting process - requires approval from all counties
   b. Sage grouse issue created more delays and uncertainty with the decision on possible listing under the ESA not being made until 2015
• Public Outreach

Issues

1. Despite our attempt to inform the public about the MSTI Project through numerous open houses, meetings with elected officials, and presentation to community groups in all the impacted counties, many people still criticized NWE and the agencies for not keeping them informed about the Project.

2. The 3rd Party MSTI Review Project validated previous work done by NWE on permitting and siting and is generally viewed as a method that could be used by siting authorities to help bring community involvement into the siting process in a collaborative way.

3. Looking back, it may have been beneficial to have the MSTI Review Group involved earlier in the Project to assist in resolving stakeholder issues.
Public Opposition

Issues
1. Several landowner opposition groups were formed in Montana including: Concerned Citizens Montana, MoveMSTI, Keep It Rural, Save Scenic Jefferson Valley Coalition, and Friends of Southwest Montana. In Idaho, the Power County MSTI Citizens Task Force was formed along with opposition groups in other counties.

2. Local residents impacted by the project felt that MSTI should be on public, not private land and property rights should be respected with existing energy corridors utilized to minimize health and environmental impacts. Additional concerns included EMF’s, view shed, noxious weeds, eminent domain, property values, and wildlife habitat.
NorthWestern Energy continues to make significant investments to upgrade our transmission system to add capacity and improve reliability. Two such projects are: Jack Rabbit – Big Sky 161kV Line and Carbon - Stillwater 100kV line and substation upgrades. With a total capital investment of over $90M, these are two of several projects in our maintenance capex program that are necessary to meet customer needs and load growth in our service territory.
• Project Budget / Schedule
  o Within our Montana Service Territory
    – Growing load in Big Sky, MT
  o 36 Miles in Length
  o 69 kV upgrade to 161 kV
    – Mostly in same ROW
  o Estimated Cost of Project - $47 Million
  o Spent on Project thru 2014 - $28.9 Million
  o Construction Started: Fall of 2012
  o Finish: Expected in the Late 2016
Permitting

- About 2/3 private, 1/3 Federal Lands
- Gallatin National Forest (GNF) - Special Use Permit (SUP) – acquired on November 26, 2013. Started on SUP the first quarter of 2008.
  - While this process was ultimately successful, it took over 6 ½ years to complete
  - Strong relationship with GNF
- Storm Water Pollution Prevention Plans (SWPPP) acquired for timber clearing and line construction.
Jack Rabbit – Big Sky 161kV
NWE has provided Interconnection Service to Naturener’s:

- Glacier Wind 1 - 100 MW – August 2008
- Glacier Wind 2 – 105 MW – July 2009
- Rimrock – up to 300 MW (first temporarily directly to NWE to facilitate commissioning while MATL was completed – July 2012)

And

- The Montana Alberta Transmission Line (MATL) – energized in late 2013
  - Providing permanent interconnection for Rimrock
• NWE has provided Transmission Service to Naturener’s:
  – Glacier Wind 1
  – Glacier Wind 2
    o Over 800,000 MWH of Transmission Service provided by NorthWestern in last 18 months
  – Rimrock – up to 300 MW (first temporary directly to NWE to facilitate commissioning while MATL was completed

And

– The Montana Alberta Transmission Line (MATL)
  o Providing permanent interconnection for Rimrock
    – About 240,000 MWH of Transmission Service provided by NorthWesten in last 18 months
Delivering a bright future

NorthWestern Energy