

## Chapter 1 BACKGROUND

### Context of NorthWestern's Procurement Plan

Planning for a secure energy future for NorthWestern's electric customers is the ultimate goal of the 2009 Resource Procurement Plan (RPP). The planning process involves the careful consideration of the needs of all stakeholders, forward thinking about an uncertain future, and the incorporation of data and analyses to assess options and appropriate actions. A foundational goal of the plan is to educate and inform through an open and transparent process. A common understanding of both customer and utility needs forms the necessary foundation for the plan to be successfully implemented to the benefit of all stakeholders.

An uncertain future demands that we consider multiple solutions to deliver cost-effective and reliable energy. Knowing that the landscape will likely change over time, NorthWestern believes that a plan covering a 20-year horizon should incorporate a degree of flexibility as an aid to decision making and plan implementation. To avoid potentially costly consequences of actions taken based on a seemingly wide range of plausible futures, NorthWestern has employed all of its expertise, experience, and judgment as the supplier of energy to non-choice customers to deliver a balanced plan. The 2009 Plan is balanced in that it carefully considers costs, risks, and input from both internal and external sources to deliver a road map to both guide future procurement activities and initiatives, and to inform and involve stakeholders.

The Plan seeks to meet multiple objectives over a 20-year planning horizon. These objectives include:

- Stable, cost effective energy prices
- Appropriate levels of price risk
- Reliable sources of supply
- Supply diversity
- Environmental compliance

- Renewable resource acquisition
- Regulatory compliance

Clearly, a balanced approach is necessary if all objectives are to be successfully achieved.

The 2009 Resource Procurement Plan benefits from and relies upon information and analysis contained in the Northwest Power and Conservation Council (NWPPCC) 6<sup>th</sup> Power Plan. This comprehensive work, made public and released during the first quarter of 2010, is the defining regional study for utilities in the Northwest in terms of electric resource planning to meet the forecast energy needs of customers served in the region. The 6<sup>th</sup> Power Plan provides important information and insights about other Northwest utilities, load growth, the power market, and identifies key issues confronting the region's utilities, customers, regulators, and legislative bodies. NorthWestern is confronted with many of these same issues and provides analysis and treatment of the issues throughout this planning document. Consistent with the 6<sup>th</sup> Power Plan, NorthWestern recognizes significant uncertainties that impact its load serving obligation including climate change, market transformation, price risk for electricity and fuel, and emphasis on energy conservation and renewable resources.

### **NorthWestern and Regional Utilities**

While NorthWestern is similar to other utilities in terms of its resource planning, it significantly differs from other utilities in the percentage of market based power supply contracts it has as part of its portfolio as well as the quantity (in terms of percentage of total generation needs) that must be acquired. To be successful, the resource planning process must strike a balance amongst a host of objectives. Balance is achieved by carefully considering the goal of supplying low-cost, stable priced energy while minimizing the potential economic and environmental risks associated with supply alternatives.

Most regional utilities are engaged in energy savings programs and renewable resource acquisitions that in many instances address their ongoing incremental future resource needs, frequently reflective of only their estimated future load growth. NorthWestern's future resource

needs are much greater. Between now and 2014, NorthWestern will need to replace roughly 21 percent of the supply in the electric portfolio. Using the recently updated Demand Side Management (DSM) assessment described more fully in Chapter 2, NorthWestern continues to employ a strategy and work plan to achieve energy savings through a disciplined and aggressive DSM energy conservation program. Although NorthWestern commissioned and now provides an updated DSM assessment, the acquisition of cost-effective energy savings measures has been an ongoing priority with demonstrated success that is on par with other leading North American investor owned utilities.

It is NorthWestern's goal to acquire long-term sources of renewable energy, either owned by the utility or from new on-system renewable energy projects that supply a fully bundled renewable product (energy and renewable energy credits) to help meet energy needs and fully satisfy RPS requirements. NorthWestern demonstrates in this Plan that it is maintaining an orderly and cost-effective planned acquisition schedule for new renewable energy sources to meet the annual RPS obligation. However, because of high relative costs and limited availability of compliant resources, meeting the Community Renewable Energy Project (CREP) obligations has been and continues to be problematic. In the absence of renewable resources sufficient to meet the community renewable energy project section of the Renewable Resource Standard, NorthWestern will explore alternative sources to satisfy the mandated levels of renewables in its supply portfolio on behalf of its customers. Prior to taking such actions NorthWestern will discuss the issues with its Electric Technical Advisory Committee (ETAC).

Compared to other Northwest utilities, NorthWestern Energy possesses unique attributes that must be considered in the resource planning process. Since it was determined to be the default supplier or supplier of last resort, NorthWestern has operated mostly without the benefits of owning and operating its own electric generation resources. Historically, this has meant reliance on the market and purchases through contracts that have provided the majority of the supply portfolio over the last decade. Although NorthWestern and its Supply customers have been well-served through purchase power agreements and the careful management of the portfolio, it also

means that hydro resources, base load, and flexible generation owned by other utilities and generators are only available at prevailing market or index rates.

### **Vertically Integrated Utility Value**

Consistent with statutory and regulatory policies, NorthWestern is taking prudent steps toward recreating a vertically integrated utility that provides ratepayers electric supply derived in part from ratebased resources. With the 222 megawatts of Colstrip Unit 4 and more recently, the Mill Creek Generating Station, the utility is putting into place resources that will serve the needs of Montana customers and the utility for decades to come. NorthWestern also has long-term power purchase contracts including Basin Creek, Judith Gap, Turnbull Hydro, and Qualifying Facilities providing additional long-term benefits to ratepayers. NorthWestern is currently evaluating the acquisition of additional on-system wind power projects, with a preference towards ratebasing, as a timely and economic addition to the Supply portfolio.

Resources that are owned and under the direct control of the utility may offer operational advantages compared to purchase power agreements, market purchases, and contracted sources. The termination value – the value attributed to a ratebased resource due to the replacement power at the end of the project life being priced at cost as compared to market, is one such advantage. Flexibility is also a key attribute of an owned and controlled resource. The ability to dispatch or otherwise use a resource according to changing needs can provide both short-term and long-term economic and operational benefits. Coordination of plant outages and generation fleet optimization are also advantages derived by single operator and ownership. Utility rate-of-return expectations may differ from that of other owners and offer savings to customers in terms of utility management of a portfolio of assets that is optimized as a group rather than being utilized on a stand-alone basis. Clearly, owned resources can offer the opportunity to supply cost-based rather than market-based supply. During times of high-priced market excursions, cost-based resources offer price protection and insulation from at least some of the market volatility impacts. Finally, owned and dedicated resources directly address resource adequacy and reliability over extended periods of time through proper cost management and through regulatory oversight.

However, in part due to the ongoing national economic climate, the current short to medium-term power market is selling at advantageous prices. Thus NorthWestern in many instances is faced with distinct acquisition choices: short to medium-term pricing advantages of PPAs versus long-term benefits (but initially higher costs) of equity purchases. NorthWestern believes that there is justification for some premium value being associated with ratebasing generation assets, but welcomes stakeholder and regulatory input on this issue.

### **Planning for Growth and Evaluating Resource Needs**

Load growth in the NorthWestern service territory is expected to be modest (less than 1% per year) during the 20-year planning horizon. One reason for the low rate of growth is the anticipated DSM savings offset to annual load increases from company sponsored energy savings programs.

Over the next twenty years (2010-2029) the total Supply load obligation is expected to be on the order of 148 million megawatt-hours (MWh) excluding the cumulative energy saved through utility sponsored energy savings programs. Based on the resources that are currently in the Supply portfolio, it is estimated that the portfolio will need approximately 52 million MWh of additional supply to meet this obligation. Although this estimate includes certain assumptions about contract renewals, it clearly defines the magnitude of resource acquisition contemplated in the Plan (see Table 1).

The 5-year resource picture is somewhat different than the 20-year resource planning horizon. NorthWestern projects the need for approximately 7 million MWh of additional energy acquisition through 2014 out of a forecasted load of 34 million MWh. This means roughly 80% of the resource needs of Supply customers (26 million MWh) will be met with current contracts and resources for the next five years (see Table 2). Note that heavy load purchases (the energy needed during hours of maximum customer usage) comprise about 73 percent of the total forecast acquisition requirements. In NorthWestern's opinion this volume of purchases is both manageable and appropriate based on its experience in providing reliable and cost-effective

energy supply to its retail customers and the continuation of an active market. Additionally, if the impacts of the current economic recession linger for a period of time, the resulting impact to load over the next several years could result in lowered supply requirements.

Table 1

<b>20-Year Supply Position</b>	
<b>Heavy/Light Load</b>	<b>MWh (million)</b>
Heavy Load Forecast Load	95.0
Light Load Forecast Load	53.0
Total:	148.0
Heavy Load Secured Energy	57.6
Light Load Secured Energy	38.2
Total:	95.8
Heavy Load Needed Purchase	37.4
Light Load Needed Purchase	14.8
Total:	52.2
Secured Energy as % of Forecast Load:	65%

Table 2

<b>5-Year Supply Position</b>	
<b>Heavy/Light Load</b>	<b>MWh (million)</b>
Heavy Load Forecast Load	21.6
Light Load Forecast Load	12.0
Total:	33.6
Heavy Load Secured Energy	16.3
Light Load Secured Energy	10.0
Total:	26.3
Heavy Load Needed Purchase	5.3
Light Load Needed Purchase	2.0
Total:	7.3
Secured Energy as % of Forecast Load:	78%

Note: Tables 1 and 2 include forecast energy savings from DSM in the Secured Energy values.

## Comparisons to Activities and 2007 Action Plan

In its 2007 Plan, NorthWestern set forth a list of action items that it proposed to be implemented over the three year action time period. NorthWestern's activities in compliance with the Action Plan are discussed below.

### 2007 RPP Action Plan Items

The following 9 action items were listed by NorthWestern as specific steps it would undertake to implement the 2007 Plan:

- ✓ 1. During 2008, NorthWestern will actively explore opportunities and discuss supply options with market participants for mid to long-term contract power delivery beginning in 2012 or later.

*Refer to the energy Requests For Proposals (RFP's) discussed below for our success in securing additional power delivery.*

- ✓ 2. To comply with the Renewable Portfolio Standard, NorthWestern in 2008 will issue an RFP for renewable resources to meet its 2010 CREP obligation. NorthWestern understands that this obligation is subject to a cost threshold test.

*Refer to the renewable RFP and Requests For Information (RFI) discussed below for contracts secured and ongoing negotiations for additional renewable resources.*

- ✓ 3. To diversify the renewable resource portfolio, renewable supply sources other than wind will be identified and where appropriate, solicited.

*Refer to the renewable RFP results below for the Hydro project selected.*

- ✓ 4. During the first half of 2008, NorthWestern will complete its internal evaluation of developing rate-based regulation resources and make a decision on the best way to proceed for obtaining these necessary resources.

*Refer to the use of the Mill Creek Generating Station as a regulation asset which is discussed later in this chapter.*

- ✓ 5. Given the new higher updated avoided cost, a review of potential DSM measures will be conducted to determine whether new measures are appropriate to include in DSM programs. A new electric DSM assessment is to be completed by end of 2009.

*Refer to Chapter 2 for a full DSM discussion.*

- ✓ 6. NorthWestern will continue to evaluate key planning issues and resource planning refinements and will seek appropriate input and advice from ETAC on any proposed changes to this planning environment.

*NorthWestern's collaboration with ETAC is detailed within the section on Development of the 2009 Plan later in this chapter.*

- ✓ 7. NorthWestern will work with appropriate parties and seek to determine whether geographical diversity of wind plant locations provides capacity benefits and if so, attempt to quantify these benefits.

*NorthWestern has initiated an industry wide process recognized as the Wind Integration Working Group that will be discussed later in this chapter.*

- ✓ 8. NorthWestern is prepared to begin the process leading to a system wide demand response study.\*

*Refer to Energy Efficiency Chapter 2 for all relevant DSM discussions.*

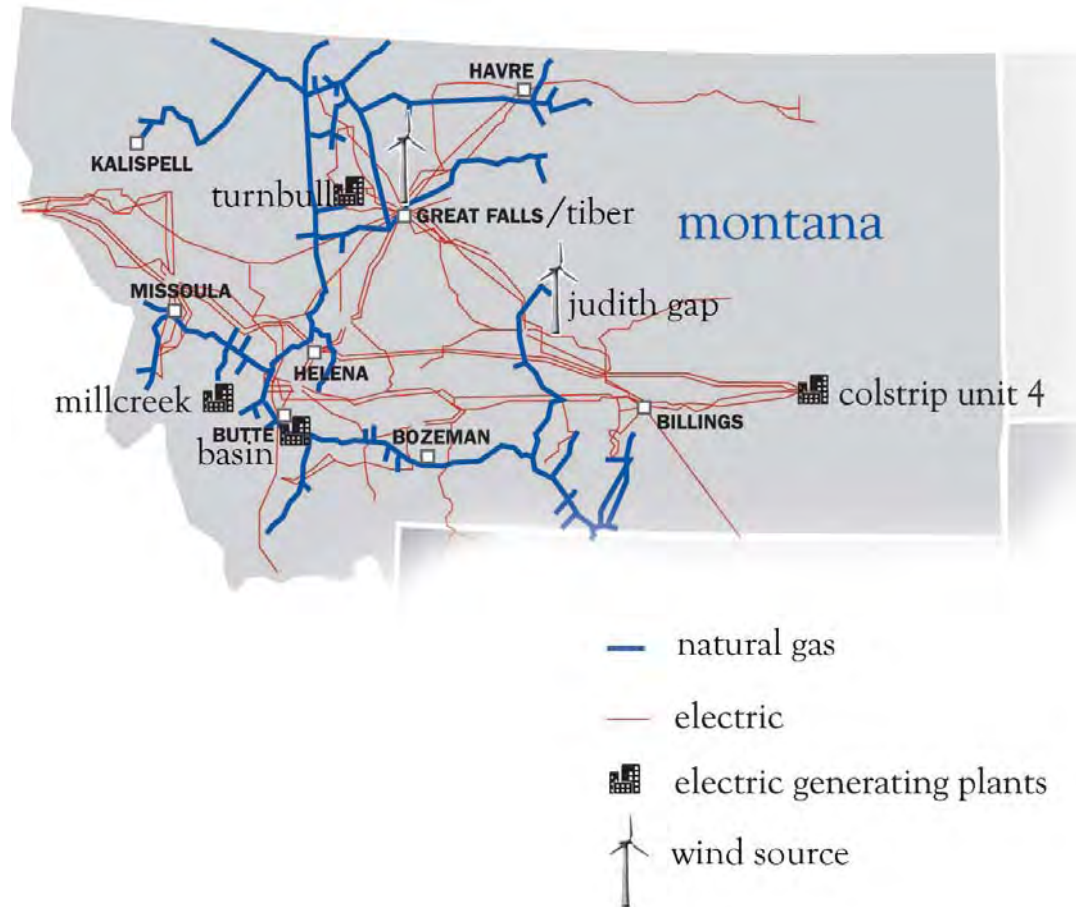
- ✓ 9. To facilitate greater price stability, NorthWestern is prepared to implement the short-term financial hedging strategy described in Appendix 1.
  - *NorthWestern's day ahead and real time traders have implemented its hedging strategy in their daily work. Refer to Chapter 10, Action Plan for further discussion. Also refer to the real time (hourly) scheduling discussion later in this chapter.*

Since the 2007 Plan was published, NorthWestern successfully acquired additional sources of electricity supply (see Figure 1). These are discussed below.

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\* Implementation requires MPSC review and affirmative comment.

Figure 1: NorthWestern’s Electric Supply Sources



### Colstrip Unit 4

On June 27, 2008, NorthWestern filed before the MPSC an Application for Approval of its Interest in Colstrip Unit 4 (CU4) as an Electricity Supply Resource. The MPSC found that rate-basing NorthWestern’s interest in CU4 is consistent with the statutory requirement at § 69-3-201, MCA, which is that the utility provide adequate service at just and reasonable rates.

CU4 is a 740-MW coal-fired generating plant located in Rosebud County in Montana. NorthWestern has a 30 percent interest in the plant, giving NorthWestern the equivalent of 222 MW of owned generation. CU4 is operated in conjunction with a sister unit, Colstrip Unit 3 (CU3), as a single project that is governed by a Joint Ownership and Operation Agreement, a

reciprocal sharing agreement with PPL Montana, owner of an undivided 30 percent share of CU3. This provides for a reciprocal sharing of the costs and output of each of the units by PPL Montana and NorthWestern and is equivalent to owning a 15 percent share of each Unit 3 and Unit 4 combined. From January 2009 through December 2010, 111 MW of NorthWestern's share of CU4 has been sold to another utility. Beginning January 2011, the full 222MW will be available for NorthWestern Energy Supply.

### **Mill Creek Generating Station**

On May 20, 2009, NorthWestern received a Final Order in Docket D2008.8.95 approving in part, the rate basing of the Mill Creek Generating Station (MCGS) as a 150 MW natural-gas fired electric generation project to provide regulating resources for its transmission and supply functions.

NorthWestern lacks regulating resources within its transmission control area. Regulating resources encompass several kinds of electrical production activities that are intended to balance loads and resources of the entire system every minute of every day. Currently NorthWestern contracts for these resources from outside its control area, but because of long-term availability and pricing concerns, NorthWestern is constructing MCGS to provide regulating resources into the future. A by-product of this facility is that energy supply is expecting 7 MW of firm resource priced at the Mid-C (Mid-Columbia) index price discounted by \$7 per MWh. This project will be available for service in January 2011.

### **Energy RFP – October 2008**

During October of 2008 NorthWestern issued an RFP to acquire firm base load energy (with contingency reserves) with a preference for fixed price offers for terms of 5, 7, or 10 years with delivery beginning July 1, 2010.

The RFP was sent to over 75 Western Systems Power Pool (WSPP) member organizations along with other parties who had previously expressed interest in selling energy to NorthWestern from either existing or proposed electric resources. On October 21, 2008, NorthWestern received

responses from 11 entities. NorthWestern ultimately determined that a 25 MW fixed price product for 10 years provided the best value. The end date of (2020) on this product was also beneficial when looking at the other resources in our portfolio.

### **Energy RFP-May 2009**

During May of 2009, NorthWestern issued another RFP to acquire firm base load or heavy load hour energy (with contingency reserves) for fixed price offers for various beginning and end dates compatible with resource needs. Products specifically requested to be bid were:

- Product #1; 7/1/2010 through 6/30/2017, 25 MW for each “heavy load” hour,
- Product #2; 7/1/2010 through 6/30/2017, 25 MW for every hour (7x24),
- Product #3; 7/1/2013 through 6/30/2017, 25 MW for each “heavy load” hour,
- Product #4; 7/1/2013 through 6/30/2017, 25 MW for every hour (7x24).

The May 2009 Electric RFP resulted in three contracts: one beginning July 1, 2010, for 25 MW of on-peak (heavy load) energy for 7 years; another beginning July 1, 2013, for 25 MW of on-peak (heavy load) energy for 4 years; and the last beginning July 1, 2009 for 25 MW of flat energy for an 18 month term.

### **Renewable RFP-August 2008**

An RFP for Community Renewable Projects was issued on behalf of NorthWestern on June 23, 2008. This RFP was to satisfy the goal, as specified by state law, to procure projects of this type totaling about 45 MW of installed nameplate capacity by the end of 2010.

The RFP was distributed to 52 potential developers, electric industry media as well as in-state news outlets, and was posted to both NorthWestern and third party websites. NorthWestern also prepared and distributed a notice in the form of a bill stuffer included in monthly customer bills. Initial review of the proposals demonstrated that all of the proposals except for one were clearly more expensive than other energy supply opportunities NorthWestern had identified in the market.

Following further review and a lengthy negotiation period, NorthWestern Energy entered into a 20-year contract with Turnbull Hydro with service beginning in May 2011. Turnbull Hydro is a small hydro generation project consisting of 2 projects – Upper and Lower, located on an existing irrigation canal in Teton County. In total this project consists of 13 MW of nameplate capacity. Since the canal is used only during the growing season, the power generation typically occurs from late May to early September. The Commission, through a declaratory ruling, has determined that this resource meets the Community Renewable Standard in Montana statute.

### **Renewable RFI-August 2009**

During August of 2009 NorthWestern issued an RFI for 25 to 75 MW of renewable generation, with an emphasis on generation that would comply with the statutory definition of Community Renewable Energy Project provisions. To facilitate a greater number of participants, NorthWestern issued an RFI which at least initially, required a response that contains less information and therefore is less costly in terms of dollars and time for potential project developers. NorthWestern has narrowed the candidate list to four projects but because of other regulatory proceedings, continues to be in discussion with the parties at the time this Plan was completed.

### **Real-time (Hourly) Scheduling**

From 2002 through 2008, NorthWestern outsourced the real-time scheduling function. In late November 2008 NorthWestern was notified that its third party scheduler was going out of business. NorthWestern determined that the most efficient outcome was to bring the real-time function in-house. And, most importantly, the situation with the third party real-time service provider created a very unique opportunity to do so because that third party had a team of experienced professionals who were currently performing real-time services for NorthWestern and were residing in Butte.

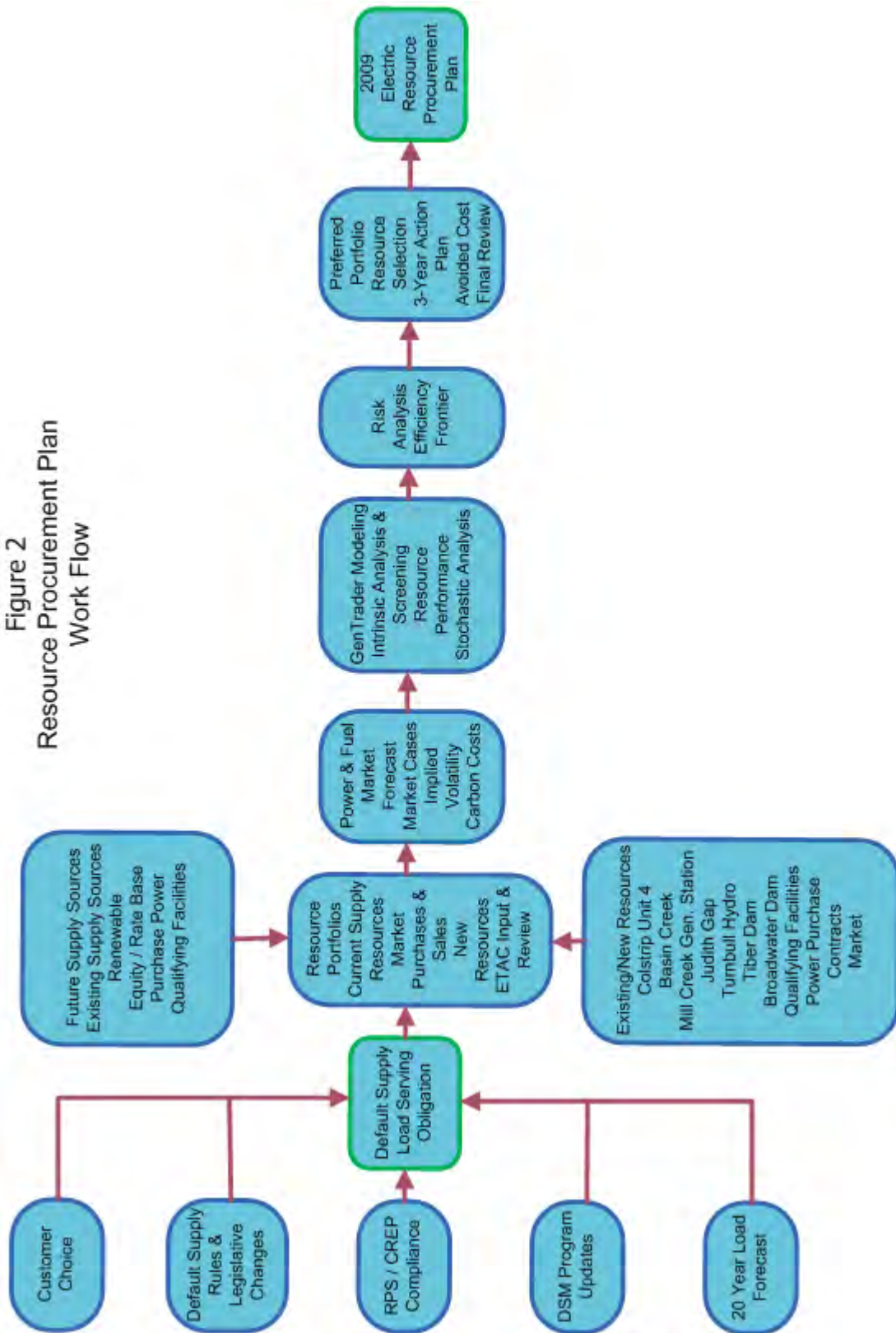
While this function has only been in-house since late December of 2008, the results have proven very favorable. Benefits worth noting include: lower total costs associated with scheduling; direct access to, and communication with personnel conducting term and day-ahead transactions,

which has provided very valuable market information; a much greater ability to develop and implement daily and weekly procurement strategies, and much more efficient overall procurements across the term, day-ahead, and hourly scheduling functions. An expected longer term benefit of this action is that, as NorthWestern brings additional generation into the portfolio, the real time function will allow the utility to optimize resources more efficiently.

## **Development of the 2009 Electric Supply Resource Procurement Plan**

The 2009 Electric Supply Resource Procurement Plan details NorthWestern's systematic efforts to plan for the procurement of a portfolio of electric resources consistent with statutes and Montana Public Service Commission rules. Consistent with the Electric Utility Resource Planning and Procurement Rules (ARM Title 38, Chapter 5, Subchapter 82) (the "Guidelines"), this Plan details NorthWestern's plan to provide an adequate, reliable supply of electricity that is both stably and reasonably priced. Figure 2 below provides an illustration of NorthWestern's planning process.

Figure 2  
Resource Procurement Plan  
Work Flow



The basic analytical steps involved in developing this Plan are:

- Forecasting the load to be served over the next twenty years;
- Decreasing the load-serving obligation using the up-to-date energy conservation estimates for the DSM planning horizon;
- Developing market price forecasts for electricity – modified to reflect the effects of the anticipated imposition of a future CO<sub>2</sub> tax;
- Accumulating a data set of resources and their corresponding characteristics that are used as model inputs;
- Developing no-carbon, base, and delayed CO<sub>2</sub> cost scenarios;
- Creating and evaluating multiple resource portfolio alternatives;
- Identifying and subsequently analyzing key risks to the supply portfolio including electricity and natural gas price risk, and carbon cost risk;
- Analyzing the costs of the various portfolios and selecting the best options (considering the costs and major risk factors inherent in each);
- Selecting and performing a qualitative analysis of the best portfolios; and,
- Creating an Action Plan with items for NorthWestern to undertake over the next three years and beyond.
- Perform planning activities in an open and transparent process with the Electric Technical Advisory Committee (ETAC)

While this Plan provides significant guidance to the utility, it is intended to also provide the MPSC and stakeholders an opportunity to understand the critical issues associated with the ongoing development of the electric portfolio.

ARM 38.5.8203, states that the Guidelines will provide the basis for Commission review of resource acquisitions. Thus this Plan, coupled with Commission comments, sets a basis or framework for evaluating NorthWestern's procurement actions and provides expectations of cost recovery so long as NorthWestern's actions are consistent with the Plan and the Commission's comments. Future actions may in some cases deviate from what is explicitly set forth in this Plan. In those instances where NorthWestern pursues resources or other supply alternatives that

have not been considered in this Plan, NorthWestern will fully document the reasons why such deviations occurred.

### **MPSC Comments on the 2007 Plan**

The MPSC issued written comments identifying concerns regarding Northwestern Energy's compliance with A.R.M. 38.5.8201-8229 as item number D within its December 12, 2008 response to Docket N2007.11.138 as the following Findings Of Fact:

- ✓ 108. NorthWestern should improve its compliance with ARM 38.5.8210 with respect to evaluating future peak demand. NorthWestern's 2009 plan should continue to document the results of its residential and commercial class load studies and progress toward integrating the results into load forecasting techniques.

*Peak load forecast analysis is incorporated into this Plan and detailed in Chapter 3, Status of Portfolio.*

- ✓ 109. In future supply plans, NorthWestern should address how different portfolios affect the supply function's contingency reserve requirements and reserve-related costs.

*The contingency and reserve-related costs are discussed in this Plan in Chapter 3, Status of Portfolio.*

- ✓ 110. In future plans NorthWestern should provide all relevant cost information for each generic or specific resource used in its candidate resource portfolios, including the assumed fuel costs for coal-fired, natural gas-fired and biomass plants.

*The detail costs associated with resources modeled in this Plan are shown in Chapter 5, Description of Resources and in Chapter 3 of Volume 3.*

- ✓ 111. NorthWestern should continue to discuss with its advisory committee proper analytical approaches for evaluating possible utility-owned resources against market alternatives.

*ETAC involvement and summaries are located in Chapter 1, Background and in Volume 3.*

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- ✓ 112. NorthWestern appears to have trouble applying its GenTrader® portfolio planning tools to real-world resource decisions. Consequently, the PSC is concerned that resource planning within Docket No. N2007.11.138 39 is, as MCC suggests, merely a technical exercise. NorthWestern should respond to this concern in its 2009 plan.

*GenTrader's® application to planning and evaluation is discussed in Chapter 7, Portfolio Modeling.*

- ✓ 113. NorthWestern should revisit its assessment of possible future CO<sub>2</sub> costs in light of studies by LBNL, ICF International and Synapse Energy Economics, as discussed above in paragraphs 96-100.

*This Plan's CO<sub>2</sub> assessment is detailed in Chapter 4.*

- ✓ 114. Before issuing an RFP for consultant services to study AMI, NorthWestern should provide it to the PSC for its review and approval. NorthWestern should work with PSC staff to schedule a public meeting with the PSC on the topic of AMI and the scope of a system-wide evaluation of potential costs and benefits of broad deployment of AMI in the NorthWestern service area.

*Discussion of AMI is provided within Chapter 2, Energy Efficiency.*

- ✓ 115. NorthWestern should fully integrate its new DSM assessment into its 2009 plan. NorthWestern should provide the PSC a report by November 15, 2009, describing the status of the DSM assessment and progress integrating the results of the assessment into the 2009 plan.

*Per MPSC direction, the new DSM assessment has been fully incorporated into this Plan's Chapter 2, Energy Efficiency and in all portfolio modeling.*

- ✓ 116. NorthWestern should correct the calculation of its future renewable energy credit requirements and describe its progress in acquiring the required amounts of community renewable energy.

*The Renewable Resource Standard MCA §69.3.2004 is discussed within Chapter 3, Status of Portfolio and our Community renewable energy project status discussion is found within Chapter 4, Environmental Issues.*

- ✓ 117. To the extent NorthWestern seeks approval to engage in financial swaps, it should make the request in its next annual electricity supply cost recovery application. NorthWestern

should highlight its use of any financial swaps in its next annual electricity supply cost recovery application, including the relative proportion of financial swaps and physical swaps and any counter party credit problems.

*Physical and financial aspects of hedging and swaps are discussed in Chapter 10, Action Plan.*

- ✓ 118. NorthWestern should file an update to its QF-1 tariff schedule as soon as practicable.

*NorthWestern filed an updated QF-1 Tariff in December 2008 and the MPSC provided a new QF-1 Order on May 6, 2010. QF-1 Tariff discussions are within Chapter 3, Status of Portfolio.*

- ✓ 119. NorthWestern should provide all members of its advisory committee (and perhaps the public) a complete draft of its 2009 plan and a meaningful opportunity to comment before filing the plan with the PSC. NorthWestern should indicate in its November 15, 2009, status report discussed in paragraph 103 whether it needs additional time to accommodate this process.

*The ETAC was provided a completed copy of the 2009 RPP for comment prior to submittal to the MPSC. The 2009 RPP will be made available for public review on the NorthWestern Energy corporate website.*

### **Wind Integration Working Group**

In the fall of 2009 interested and affected parties were invited by NorthWestern to participate in a collaborative process to address the issue of integrating wind energy onto the utility transmission system. Rather than working independently of wind project developers, interest groups, regulators, and those with a vested interest in renewable energy, NorthWestern reached out to invite participation in a forum with the goal of defining utility requirements to integrate intermittent generation to meet the specific needs within NorthWestern's balancing authority. A third party facilitator was hired to guide the process and to recognize and incorporate the concerns, opinions, and input from all participants in the study scoping and design.

Project developers and NorthWestern have been party to contested cases before the Montana Public Service Commission in the last several years to debate and defend widely differing positions related to the amount of regulating reserves and costs associate with wind energy

production. While the principle of cost causation has been affirmed by the Commission through orders in these cases, the issue of the amount of required regulating reserves needed for new wind development projects has continued to be a contentious subject. In light of the scope of previous wind integration studies performed on NorthWestern's system, the Wind Integration Working Group (WIWG) has, through an open and collaborative process, defined a scope of investigation that the participants believe will answer questions about wind integration regulation allocation and requirements questions.

GENIVAR Consultants Limited Partnership (GENIVAR), who performed a wind power variability study in 2008 for NorthWestern, was selected to perform the currently proposed study. Based on the depth and quality of their previous work and knowledge of the operation of the NorthWestern high voltage transmission system through prior modeling, GENIVAR was a logical choice to perform the study of additional wind resources and required regulating reserves.

The WIWG has conducted multiple meetings in both Butte and Helena during 2009 and 2010, and provided webinar access to meetings for anyone who could not or did not attend in person. The following key project milestones have been achieved as of May 2010:

1. The scope of study has been defined and agreed to by project participants including GENIVAR.
2. A description of data requirements from the transmission utility and wind project data contributors has been finalized, and wind data from 7 Montana counties representing 9 projects has been secured from project developers for use in the study.
3. Evaluation of wind data has been conducted by GENIVAR in anticipation of modeling.

A modeling subgroup of WIWG was formed to address topics and issues relating to wind data, modeling scenarios, and modeling parameters and inputs. Work by this group led to the creation of two sets of modeling scenarios; a primary set and a secondary set. The primary scenarios

described in Table 3, are the scenarios that NorthWestern has agreed to fund and authorize GENIVAR to model and analyze. NorthWestern and other WIWG participants believe the modeling results of the primary scenarios will provide a substantial amount of data and information to reach conclusions about regulating reserve requirements over a range of plausible and different wind development scenarios. NorthWestern has not committed to funding the secondary scenarios until the results of the primary scenarios have been fully evaluated and understood. The secondary scenarios are comprised of variations of scenarios 3, 4, and 5 as outlined in the table below, however they are not included because they may change depending on the results of the primary scenario modeling.

In addition to the primary and secondary simulations, additional cases have been defined including the analysis of wind curtailment. Using primary scenario 4b (see table below), wind generator output will be limited according to a defined set of conditions. The purpose of the curtailment evaluation is to assess the effectiveness of controlling wind output to reduce the amount of regulating reserves that would otherwise be necessary. This type of simulation requires the use of the GENIVAR model to assess the interaction between loads and resources and the impacts to regulating needs.

Table 3

Wind Integration Working Group						
Primary Modeling Scenarios						
No.	Evaluation Modeled	Details Proposed	Project Locations			
1	Existing system data including wind, load, and other generation					
2	Uses Scenario 1 with existing data but removes all wind					
3	Add 50 MW wind to existing system	Scenario 3-a: one 50 MW project located near Judith Gap	Wheatland 1			
		Scenario 3-b: one 50 MW project located distant from Judith Gap	Madison			
		Scenario 3-c: four 10 MW and five 2 MW projects diversified from each other and Judith Gap	10 MW at: Glacier Chouteau Madison Park	2 MW at: Judith Basin Meagher 1 Wheatland 1 Teton Meagher 2		
4	Add 150 MW wind to existing system	Scenario 4-A: one 150 MW project located distant from Judith Gap	Glacier			
		Scenario 4-b: one 50 MW, two 25 MW, and five 10 MW projects diversified from each other and Judith Gap	50 MW at: Madison	25 MW at: Teton Meagher 2	10 MW at: Chouteau Meagher 1 Glacier Wheatland 1 Park	
5	Add 450 MW wind to existing system	two 150 MW, one 50 MW, three 25 MW, and two 12.5 MW projects diversified from each other and Judith Gap	150 MW at: Glacier Madison	50 MW at: Park	25 MW at: Wheatland 1 Teton Meagher 1	12.5 MW at: Meagher 2 Chouteau

Additional information concerning the activities of WIWG, GENIVAR, and the scope of work contemplated by the group can be found in Volume 3 Chapter 1. Under the current study schedule, the results of modeling the primary wind scenarios may be available by the end of the 3<sup>rd</sup> quarter of 2010. This schedule will not allow the 2009 Plan to be informed by the results of the GENIVAR study. NorthWestern intends to utilize the conclusions and output of the GENIVAR work to determine its future need for regulation, appropriate allocation of regulation for wind projects, and use this information for future rate making purposes.

### **ETAC Overview**

NorthWestern works closely during the two-year planning cycle with its Electric Technical Advisory Committee (“ETAC”) and wants to publicly acknowledge the participants for their input and time over the past two years. ETAC membership includes representatives of stakeholder entities that are active participants in electric utility issues in Montana. Current members include representatives of the MPSC Staff, the Montana Consumer Counsel (“MCC”), Northwest Power and Conservation Council, Montana Department of Environmental Quality, Renewable Northwest Project, Montana Environmental Information Center, District XI Human Resource Council, Northwest Energy Coalition and the Natural Resources Defense Council. While during these meetings the individuals represent only their own views and professional judgment, their input has been valuable.

Meetings are held throughout the planning cycle, with agendas prepared by NorthWestern’s planning staff with input including subject matter provided by ETAC members. During this past planning cycle, ETAC has met 21 times, either in face-to-face meetings or via conference calls. Included in Volume 3, Chapter 1 is a memorandum from the Committee facilitator providing a summary of the Committee’s activities during the past two years along with the individual meeting notes or summaries.

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## Delay in Filing 2009 Resource Procurement Plan

NorthWestern is required to file a biennial Electric Resource Procurement Plan by December 15<sup>th</sup> of each odd numbered year ARM § 38.5.8226(1). During the 3<sup>rd</sup> and 4<sup>th</sup> quarters of 2009 NorthWestern prepared basic information for use in the resource planning process. Specifically, NorthWestern commissioned Lands Energy Consulting to prepare updated forecasts of electricity and fuel prices while NorthWestern staff prepared generating resource data and other modeling input data in anticipation of commencing portfolio modeling once DSM inputs were finalized and made available to the Supply Group.

The filing of the 2009 Plan was delayed for several reasons. In its comments on the 2007 Plan, the Commission directed NorthWestern to fully incorporate the results of the updated DSM assessment, to be completed in 2009, into the Plan. Originally anticipated for completion in the fall of 2009, the DSM assessment was delayed and not completed until December 2009. This delay prevented the incorporation of updated cost and energy savings projections into the Plan until early in 2010 when portfolio modeling was able to incorporate the updated and revised DSM energy savings and cost values. With this critical input to the resource portfolio models, NorthWestern was able to move forward with the evaluation of resource and supply portfolio alternatives. Delaying the Plan to have a robust DSM analysis included was the appropriate action to take and agreed to by the stakeholders.

In November 2009, NorthWestern advised the Commission of the status of the DSM assessment and the impact on completing and filing the Plan. In its letter to the Commission, NorthWestern clearly articulated the need for additional time to complete the planning work and to prepare and submit the Plan. When NorthWestern advised the Commission of the delayed filing of the Plan it also requested and received approval for a delayed submission date of April 30, 2010.

In February 2010 Kenfield Wind Park I, LLC and KWP-LC7, LLC (collectively “Kenfield”) filed a 120-day petition with the Commission seeking a Qualifying Facilities contract. This petition and the resulting associated volume of data requests caused substantial additional delay in the completion of the procurement planning work. Many of the NorthWestern staff directly

involved in the preparation of the resource plan were needed to work on the Kenfield docket in direct conflict with work on the resource plan. Work on the Kenfield docket has continued unabated into the second half of May 2010.

### **Chapter 1 in Summary**

The 2009 Plan brings together and analyzes all of the elements necessary to formulate how NorthWestern can efficiently meet the energy supply needs of retail customers. In meeting these needs, NorthWestern must consider and strike a balance amongst multiple objectives. These objectives include appropriately managing the costs and risks associated with energy prices, assuring supply reliability, incorporating cost-effective energy savings programs, and meeting renewable energy and environmental objectives. NorthWestern Energy is focused on successfully meeting these and other energy supply objectives through a transparent planning process so all stakeholders can be fully informed on how we are achieving energy procurement goals and objectives and how we have planned for our future performance.