



February 25, 2014

Ms. Kate Whitney
Montana Public Service Commission
1701 Prospect Avenue
P.O. Box 202601
Helena, MT 59620-2601

RE: Docket No. D2013.12.85
PPLM Hydro Assets Purchase
MCC Set 5 Data Requests (152-185)

Dear Ms. Whitney:

Enclosed for filing is a copy of NorthWestern Energy's responses to MCC Set 5 Data Requests. A hard copy will be mailed to the most recent service list in this Docket this date. The Montana Public Service Commission and the Montana Consumer Counsel will be served by hand delivery this date. These data responses will also be e-filed on the PSC website and emailed to counsel of record.

Should you have questions please contact Joe Schwartzberger at 406 497-3362.

Sincerely,

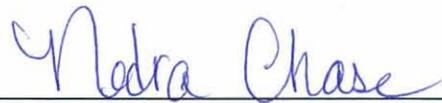
Nedra Chase
Administrative Assistant
Regulatory Affairs

NC/nc
CC: Service List

CERTIFICATE OF SERVICE

I hereby certify that a copy of NorthWestern Energy's responses to MCC Set 5 (152-185) Data Requests in Docket D2013.12.85, the PPLM Hydro Assets Purchase, has been hand delivered to the Montana Public Service Commission and to the Montana Consumer Counsel this date. They will be e-filed on the PSC website and served on the most recent service list by mailing a copy thereof by first class mail, postage prepaid. They will also be emailed to counsel of record.

Date: February 25, 2014



Nedra Chase
Administrative Assistant
Regulatory Affairs

**Docket No D2013.12.85
Hydro Assets Purchase
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NorthWestern Energy
Docket D2013.12.85
PPLM Hydro Assets Purchase

Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-152 RE: Net Present Value of Portfolio Costs
Witness: Travis E. Meyer

Please provide the table related to Exhibits TEM-1 and TEM-2, shown on page TEM-19 of your testimony, assuming a zero carbon price in all time periods. Please also include copies in MS Excel format of the exhibits showing the adjustment described above with all worksheets and links intact.

RESPONSE:

NorthWestern does not have such a document and has not performed this analysis.

Consistent with the decision reflected in the Notice of Commission Action dated February 20, 2014, NorthWestern is not creating a new document or performing new analysis.

NorthWestern Energy
Docket D2013.12.85
PPLM Hydro Assets Purchase

Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-153 RE: Net Present Value of Portfolio Costs
Witness: Joseph M. Stimatz

Please provide the chart “Net Present Value of Portfolio Costs, 2015-2043,” shown at the bottom of page JMS-42 of your testimony, adjusted to reflect a zero carbon price (and no random uncertainty for this zero price) in all time periods.

RESPONSE:

NorthWestern does not have such a document and has not performed this analysis.

Consistent with the decision reflected in the Notice of Commission Action dated February 20, 2014, NorthWestern is not creating a new document or performing new analysis.

NorthWestern Energy
Docket D2013.12.85
PPLM Hydro Assets Purchase

Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-154 RE: Exhibits and Charts
Witness: Joseph M. Stimatz

Please provide all supporting workfiles used and linked to the file "Resource Comparison Charts and Table p. JMS-38.xlsx" included in the Witnesses' Electronic Supporting Data CD provided on December 23, 2013, including but not limited to the following files: "Market Purch & Sales_CCCT 2018.xlsx," "Market Purch & Sales_NO NEW ASSETS.xlsx," "Market Purch & Sales_HYDRO.xlsx," "Curve Calculator 6-7-13.xlsx," etc.

RESPONSE:

See the files in the folder labeled "MCC-154" on the attached CD.

NorthWestern Energy
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Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-155 RE: Exhibit TEM-1
Witness: Travis E. Meyer

Please provide all data, calculations and workfiles used in estimating the yearly “Mid Columbia forward price curve with basis Adjustments” shown on line 5, tab “Carbon Tax & MidC Curve” of the file “Exhibit__(TEM-1).xlsx included in the Witnesses’ Electronic Supporting Data CD provided on December 23, 2013.

RESPONSE:

Please see the Excel file MCC-155 & 156 (Exhibit 1 & 2 forward price curve).xls in the folder labeled “MCC-155 & 156” on the CD attached to MCC-154. In particular, see Columns AI and AJ on tab “GHG15 Forwards.”

NorthWestern Energy
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Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-156 RE: Follow-up PSC-010
Witness: Travis E. Meyer

Response to PSC-010 (b) states that the market curve included in Exhibit__(JMS-2), specifically columns S-U, was the data used to calculate the market curve illustrated in row 39 of Exhibit__(TEM-2). Please provide more details, including examples, as to how the monthly data from those three columns in Exhibit__(JMS-2) was used to calculate the yearly prices in Exhibit__(TEM-2).

RESPONSE:

Please see the Excel file MCC-155 & 156 (Exhibit 1 & 2 forward price curve).xls in the folder labeled "MCC-155 & 156" on the CD attached to MCC-154. In particular, see Columns AL through AT on tab "GHG15 Forwards."

NorthWestern Energy
Docket D2013.12.85
PPLM Hydro Assets Purchase

Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-157 RE: Follow-up PSC-011
Witness: Joseph M. Stimatz

Attachment 2 provided in response to PSC-011 (b) claims to show the market price forecast for electricity (Mid-C) represented on Exhibit JMS-2. However, the settlement prices shown here are not the same as those used on Exhibit JMS-2 for “Mid-C No Carbon.” Please explain what adjustments were made to each of the future prices in order to estimate the “Mid-C No Carbon” prices shown on Exhibit JMS-2. Also please indicate how the future prices on Exhibit JMS-2 were estimated after December 2020.

RESPONSE:

The response to Data Request PSC-011b does not “claim to show the market price forecast for electricity (Mid-C) represented on Exhibit JMS-2” nor does PSC-011b request it. PSC-011b reads: “Provide the primary-source documentation that supports the market price forecast for electricity and natural gas prices represented on Exh. JMS-2.”

The attachment provided in response to PSC-011b includes three tabs showing primary-source documentation that supports the Mid-C price curves NorthWestern used in the DCF analysis. NorthWestern used two sources for Mid-C price quotes: the broker Tradition Financial Services (“TFS”) and the Intercontinental Exchange (“ICE”). The tab “TFS Quotes” shows the Mid-C on-peak prices quoted by TFS on June 7, 2013. The tab “ICE Peak” shows the Mid-C on-peak settlement prices from ICE the on the same day, and the tab “ICE Off Peak” shows the Mid-C off peak settlement prices from ICE on that day.

The workbook named MCC-157_ElectricForwardPricingCurve20130607.xls (“Electric Curve”) on the attached CD illustrates the methodology NorthWestern used to develop its forward curve estimates from the primary sources (TFS and ICE). Note that the Electric Curve workbook is used as a part of other processes at NorthWestern, and as such it contains other tabs and information that were not used in the analysis of the Hydros. The range AH27:AI110 on the “Curves” tab contains the on-peak and off-peak Mid-C curves used in the analysis and depicted in Exhibit__(JMS-2) for the period of January 2014 through December 2020. The values in those columns were derived as follows.

NorthWestern Energy
Docket D2013.12.85
PPLM Hydro Assets Purchase

Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-157 cont'd

NorthWestern's approach to developing forward price curves is to use quotes for the shortest time increment available for any period. Thus, if monthly quotes are available for a given month, they are used in the price curve; if only quarterly quotes are available, they are used; and if only annual quotes are available, they are used. If both TFS and ICE quote a given period, the quotes are averaged. In this instance, TFS provided quarterly quotes through Q2 2014, while ICE provided quarterly quotes through 2020. The TFS and ICE quotes were averaged for Q1 and Q2 2014, and the ICE settlement prices were used beyond that point.

For the analysis of the Hydros, prices for periods beyond 2020 were estimated using an escalator of 2.1%. For example, the on-peak price of \$55.45 for January 2021 was determined by multiplying the price from January 2020 by 1.021 ($\$54.31 \times 1.021 = \55.45). The escalator was determined using the 20-year average of the Implicit Price Deflator. This primary source data was also provided in response to PSC-011 (b). (Note that in the Electric Curve workbook attached to this response, an escalator of 3% is used, so the prices in periods beyond 2020 are higher than those used in the analysis of the Hydros.)

This MCC-157 electronic file is being provided on a separate CD because the following four tabs contain copyright-protected information: Prebon, TFS Quotes, ICE Peak, and ICE Off Peak. NorthWestern is relying on the "fair use" exemption of federal copyright law to provide this information for purposes of this docket only. No copies should be made, nor should the parties receiving this information use the copyrighted material for any purposes other than for this docket.

NorthWestern Energy
Docket D2013.12.85
PPLM Hydro Assets Purchase

Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-158 RE: Stochastic Modeling
Witness: Gary Dorris

For each of the three portfolios, please provide more details on how the price of CO₂ is accounted for in the Risk Premium segment of the Net Present Value of Portfolio Cost, as shown on the chart presented on page JMS-42 of your testimony.

RESPONSE:

The process for including the price of CO₂ in the risk premium is the same for each of the three portfolios. As described starting on page 6-50 of Volume 1, Chapter 6 of the 2013 Electricity Supply Resource Procurement Plan (2013 Plan), the risk premium associated with a given portfolio in a given year is the weighted average of costs exceeding the expected value of cost. The larger the spread of costs realized in the PowerSimm simulations, the larger the calculated risk premium. The modeled variability in the price of CO₂ in future simulations acts to widen the distribution of likely future costs; for example, see the difference between the shapes of the 2020 cost distributions (with zero CO₂ price) and 2021 cost distributions (with simulated CO₂ prices) on page 4-12 of Volume 2, Chapter 4 of the 2013 Plan. CO₂ price directly impacts portfolio costs in each simulation, and these portfolio costs are summarized as described above to calculate the risk premium. Portfolios that are more exposed to CO₂ price risk (e.g. Current and Current + CC) have distributions with thicker upper tails than the Hydro portfolio, which is reflected in the larger risk premium for these portfolios.

NorthWestern Energy
Docket D2013.12.85
PPLM Hydro Assets Purchase

Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-159 RE: Stochastic Modeling
Witness: Joseph M. Stimatz

Please provide the yearly forward/forecast electricity market prices resulting from the stochastic simulation of Ascend's modeling process, and used in the estimation of the Net Present Value of Portfolio Cost shown on the chart presented on page JMS-42 of your testimony. Do these prices incorporate the carbon adder and NWE system Basis adjustments in the same way as in Exhibit JMS-2? If so, please break down these components, if not, please explain why not and provide a breakdown of the components.

RESPONSE:

Please see the Excel file in the folder labeled "MCC-159" on the CD attached to MCC-154 for the mean Mid-C prices resulting from the stochastic simulation, as well as the carbon prices and basis used in the analysis. The incorporation of carbon pricing and the NorthWestern system basis differed slightly from the application used in the DCF analysis and shown in Exhibit__(JMS-2).

As described in the response to Data Request PSC-075, the methodology of applying the carbon price to the electricity market price used in the stochastic analysis differed slightly from what was used in Exhibit__(JMS-2). The stochastic modeling used a fixed 0.6 factor multiplied by the cost per ton to determine a cost per megawatt hour ("MWh"). The carbon prices per MWh in Exhibit__(JMS-2) were determined by applying a factor determined from the market implied heat rate rather than a fixed factor. See the Stimatz Direct Testimony on pages 26-27 for a complete description of this calculation methodology.

The NorthWestern system basis was also applied in a slightly simplified way in the stochastic analysis. The stochastic analysis used the monthly on-peak and off-peak basis calculated from NorthWestern's forward curves rather than a basis calculated based on simulated market prices for each individual hour of the simulations.

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Montana Consumer Counsel (MCC)
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Data Requests served February 11, 2014

MCC-159 cont'd

NorthWestern and Ascend used the simplified methods described above because to apply the carbon pricing and basis in exactly the same manner as was used in the DCF analysis would have required a separate calculation of both the carbon factor and basis for each of the 8,760 hours of each of the 30 years of the modeling horizon for each of the 100 stochastic simulation runs. The use of the simplified application methodology does not have a material impact on the net present value calculations and does not change the interpretation of the results.

NorthWestern Energy
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Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-160 RE: Stochastic Modeling
Witness: Gary Dorris

On page 6-13 of NWE's 2013 Electricity Supply Resource Procurement Plan it is said that the volatility of the price of CO₂ is an important driver of the overall uncertainty in portfolio costs. Please list the other important drivers of uncertainty and provide an estimate of the percent contribution that the price of CO₂ adds to the Risk Premium segment of the Net Present Value of Portfolio Cost, as shown on the chart presented on page JMS-42 of your testimony.

RESPONSE:

There are many important drivers of uncertainty in NWE's future portfolio costs. All major drivers are listed in Table 6-1 of the 2013 Plan, including:

- Regional power market prices (Mid-C)
- Regional gas market prices (AECO)
- Regional coal market prices (PRB)
- Load growth
- Weather (which impacts load and price)
- Hydro generation levels
- Wind generation levels (related to weather)

Ascend estimated the impact that an uncertain CO₂ price had on the size of Risk Premium, relative to a CO₂ price equal to the expected value each year with no uncertainty between simulations, based on preliminary analysis performed prior to filing the 2013 Plan. Taking out the uncertainty in CO₂ price modeling and setting CO₂ equal to its expected value (i.e. the annual NWE CO₂ price forecast) for every simulation decreases the risk premium by approximately the following amounts:

- Current: 30%
- Current + CC: 32%
- Current + Hydro: 41%

(i.e. the variability in CO₂ price accounts for approximately 30% of the size of the risk premium for the Current portfolio, and so on.)

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Data Requests served February 11, 2014

MCC-160 cont'd

	Current	Current + CC	Current + Hydro
RP w/ simulated CO2	\$451M	\$380M	\$247M
RP w/ fixed CO2	\$316M	\$258M	\$144M
% difference in RP	30%	32%	42%

NorthWestern Energy
Docket D2013.12.85
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Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-161 RE: Environmental Compliance
Witness: William Rhoads

In reference to page 101 of Exhibit WTR-2.1, Erosion Litigation at Kerr: What responsibility for erosion claims remain with NWE after ownership is transferred to the Tribes? What is the estimated cost of these claims?

RESPONSE:

None. N/A.

NorthWestern Energy
Docket D2013.12.85
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Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-162 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 101 of Exhibit WTR-2.1, please explain why the Tier II reports on Hebgen Lake hazardous materials as well as inspections of oil-filled equipment and associated containment devices have not been made available. Why is it unknown whether hazardous spills have occurred since 2008?

RESPONSE:

The availability of certain documentation in late 2012, during early review efforts, is a matter of timing. As the due diligence process proceeded more information became available. On-site review in August 2013 indicated Tier II reporting was not required at the Hebgen Development and that containment for temporary storage of oil was adequate and maintained.

NorthWestern Energy
Docket D2013.12.85
PPLM Hydro Assets Purchase

Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-163 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 101 of Exhibit WTR-2.1, please explain why Hebgen Lake water flow plans and required annual reports since 2008 have not been made available.

RESPONSE:

The referenced portion of Exhibit __ (WTR-2.1) refers to documents available from PPLM in late 2012. As the due diligence process proceeded more information became available to confirm compliance with FERC license requirements. The license for the Missouri-Madison Project does not require water flow plans and annual reports. The license imposes the flow restrictions described in WTR-2.1 and requires that the owner file a Madison River Flushing Flow Plan every five years. The license also requires the owner to undertake an annual process to determine if flushing flows are necessary for that year. PPLM filed an interim flushing flow plan in 2002 and subsequent plans in 2003, 2008, and 2013. These plans are available on the FERC website. The FERC Order approving PPLM's 2008 filing is available on FERC's website (124 FERC ¶ 62,207). Similarly the FERC Order approving PPLM's Revised Five-Year (2013-2018) Madison River Flushing Flow Plan is available on FERC's website (143 FERC ¶ 62,165).

NorthWestern Energy
Docket D2013.12.85
PPLM Hydro Assets Purchase

Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-164 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 103 of Exhibit WTR-2.1, please explain why required Hebgen Lake annual fisheries reports have not been made available.

RESPONSE:

The availability of certain documentation in late 2012, during early review efforts, is a matter of timing. As the due diligence process proceeded more information became available to confirm compliance with FERC license requirements. According to PPLM staff, the annual fisheries reports are presented and discussed with the resource agencies. The Five-Year Fisheries Plan incorporates the annual results. In the August 2013 timeframe, the new Five-Year plan was being prepared. As is reported in CB&I's Due Diligence Report Supplementing Independent Engineer's Report dated September 6, 2013, (Exhibit__(WTR 2.3)), we concluded that there is an effective framework in place to implement license regulatory requirements via Management Plans and Memorandums of Understanding with the resource agencies.

NorthWestern Energy
Docket D2013.12.85
PPLM Hydro Assets Purchase

Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-165 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 104 of Exhibit WTR-2.1, please explain why the Hebgen Lake vegetation and wildlife protection plan and annual reports have not been made available for review.

RESPONSE:

The reference portion of Exhibit __ (WTR-2.1) refers to documents available from PPLM in late 2012. As the due diligence process proceeded more information became available. PPLM filed a vegetation, wetland, and wildlife mitigation plan for the Hebgen Development rehabilitation project on August 20, 2010. The FERC Order Approving Hebgen Outlet Works Vegetation, Wetland, and Wildlife Mitigation Plan is available on the FERC website (133 FERC ¶ 62,081). No annual reports are due until the dam outlet structural rehabilitation project is complete.

NorthWestern Energy
Docket D2013.12.85
PPLM Hydro Assets Purchase

Montana Consumer Counsel (MCC)
Set 5 (152-185)

Data Requests served February 11, 2014

MCC-166 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 104 of Exhibit WTR-2.1, please explain why the required annual cultural compliance reports for Hebgen Lake have not been made available for review.

RESPONSE:

The availability of certain documentation in late 2012, during early review efforts, is a matter of timing. As the due diligence process proceeded more information became available. Review of FERC Correspondence in August 2013 confirmed compliance with FERC license Article 425 reporting requirements (see Attachment for an example of the annual letters).

PPL Montana, 45 Basin Creek Road, Butte, Montana 59701



bcc: File **PPL MONTANA, LLC**
FERC Ease
e-mail: GDC/JHJ/JCC/CAH

PPLM-2188-3036

Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street
Washington, D.C. 20426

March 25, 2013

RE: Project 2188 Article 425 Annual (2012) Report filing per Programmatic Agreement on Cultural Resources

Dear Secretary Bose:

Article 425 of the September 17, 2000 Project 2188 Order Issuing New License directs PPL Montana to implement the Programmatic Agreement on Cultural Resources (Agreement). This Agreement requires filing an annual compliance report with the Commission and the Montana State Historic Preservation Officer (SHPO). PPL Montana's 2012 Article 425 report is herein enclosed.

By copy of this letter, PPLM is also filing this 2012 report with the Montana SHPO.

Sincerely,

A handwritten signature in black ink, appearing to read "Jon H. Jourdonnais", written over a faint, larger version of the same signature.

Jon H. Jourdonnais
Manager Hydro Regulatory and Environmental Compliance

cc: James Shive, Legacy Consulting Services
Mark Baumler, Montana State Historic Preservation Officer
Carrie Harris, PPLM
Dave Kinnard, PPLM
Gordon Criswell, PPLM

**MISSOURI-MADISON HYDROELECTRIC PROJECT
FERC PROJECT No. 2188
CULTURAL RESOURCE MANAGEMENT
ANNUAL REPORT ON COMPLIANCE
ARTICLE 425
CULTURAL RESOURCE MANAGEMENT
For 2012**

by

James J. Shive
Cultural Resource Manage
Legacy Consulting Services
Butte, Montana

for

PPL-Montana
Butte, Montana

March, 2012

INTRODUCTION

Article 425 of the Federal Energy Regulatory Commission (FERC) of the license for FERC Project 2188 directs PPL Montana (PPLM) to implement the *Programmatic Agreement on Cultural Resources* (Agreement). The Agreement provides for filing an annual report with the FERC and the Montana State Historic Preservation Officer (SHPO) on implementation of the Agreement. This document provides the report for the calendar year 2012. The report was prepared by Legacy Consulting Services (LCS), which provides CRM support services to PPLM. The report includes actions proposed as part of the FERC license for the Project, for which some type of CRM studies or actions were required and pursued.

The following abbreviations may appear in this report.

PPLM = PPL-Montana

FERC = Federal Energy Regulatory Commission

DRNC = Montana Department of Natural Resources and Conservation

FWP = Montana Department of Fish, Wildlife and Parks

SHPO = Montana State Historic Preservation Office

USFWS = US Fish and Wildlife Service

GNF= Gallatin National Forest

BDNF = Beaverhead-Deerlodge National Forest

DEVELOPMENT	IMPLEMENTATION OF THE GENERAL PLAN FOR CRM
Rainbow	Historic American Engineering Record studies and recording began in 2012 for the historic plant operating facilities. These include the water intake and delivery systems and structures, as well as the historic powerhouse. The work is being conducted as part of the retirement of the facilities from active generation uses. Work is scheduled to be completed in 2013.
Black Eagle Transmission Upgrade	PPLM-Montana proposed to upgrade a portion of the 100kV electric transmission line, originating at the Black Eagle Hydroelectric Facility and connecting to the existing transmission system at the NorthWestern Energy Riverview electric transmission substation, located west of the town of Black Eagle, Montana. In addition, a portion of this project included the under-building of an All-Dielectric Self-Supporting Aerial (ADSS) fiber-optic communications cable on existing and new 100kV wood pole structures. All work on replacement of the transmission line, ADSS under-build, and in the immediate vicinity of Black Eagle was to be performed within the existing easement boundaries or property owned by PPLM. Access roads and materials laydown or marshalling areas located on non-PPLM owned lands were included in resource inventory as well. PPLM sponsored a cultural resources inventory of the proposed line replacement corridor. Three properties were re-recorded in that inventory. These properties are Black Eagle Hydroelectric Facility Unit (24CA288) of the Great Falls Hydroelectric Generating Facilities Historic District (district); the Great Falls Smelter/Reduction Works (24CA268), and the Black Eagle Zinc No. 2 Line Tap (24CA1590). Property 24CA288 was identified as contributing to the significance and integrity of the district in 1991. Properties 24CA268 and 24CA1590 are assessed in the inventory report ineligible for listing in the National Register of Historic Places. The project had no effect on properties listed as eligible for NRHP listing.
Ryan Turbine Upgrades and Black Eagle Substation Relocation	PPL Montana filed a license amendment with the FERC for the replacement of 3 turbine runners at the Ryan Development and the replacement and relocation of the generator step-up transformer(s) at the Black Eagle Dam. In review of the license amendment application, FERC requested PPLM to consult with SHPO and obtain concurrence from the SHPO that no cultural properties would be adversely affected. The reason the subject projects require a FERC license amendment is Ryan will realize a generation capacity increase of 3 MW's and Black Eagle will add 0.46 acres into the FERC Project Boundary for the new substation site. PPLM consulted with the SHPO under the requirements of the Cultural Resource Management Plan (CRMP) for the Project. The plan for replacements constituted Replacements-In-Kind (RIK) for plant equipment, in that duplicated the existing units in configuration and the replacement units use non-original (stainless steel to replace cast steel) for the new units. The

	<p>existing Black Eagle substation is not included as a contributing element of the Black Eagle Unit of the Great Falls Hydroelectric Facilities Historic District. However, the proposed relocation of the substation was reviewed under the CRM Plan for Project 2188, since it would involve physically relocating the substation to a new location, north of the tailrace. It was determined that the lands on which the substation is proposed for construction were inventoried as part of the 1990s relicensing of Project 2188 and no cultural resources were identified on those lands. Hence, no further work was necessary to implement the CRM Plan. The SHPO concurred with the findings on February 29, 2012.</p>
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FISHERIES AND WILDLIFE CONSERVATION ACTIONS

MADISON RIVER CORRIDOR

No proposals were made in 2012 that included any land-disturbing actions.

MISSOURI RIVER CORRIDOR

Proposal Title	Agency(s)	CRM Review
Habitat Project Consultant Assistance	PPL Montana	<i>Cultural resource surveys will be conducted and SHPO clearance will be obtained prior to the initiation of any ground disturbing activities on habitat improvement projects funded by MoTAC.¹ No such projects were done in 2012.</i>
Elkhorn Creek Fish Barrier	Montana Fish, Wildlife & Parks	<i>A cultural survey was completed in 2011²</i>
Missouri River Riparian Fencing off site water – Sterling Ranch	Montana Fish, Wildlife & Parks	<i>A cultural survey was completed in 2011 which identified no impacts to cultural or archaeological resources. SHPO concurred with this finding.³</i>
Dugas Farms Conservation Easement Project	Montana Fish, Wildlife & Parks NRCS	<i>Both FWP and NRCS exercised due diligence in this proposal, including MEPA and NEPA compliance, which requires consulting cultural resource professionals within their agencies or with the MT SHPO office to conduct cultural resource inventories/reviews on such projects. Both agencies ensure</i>

¹ As reported by Applicant

² As reported by FWP.

³ As reported by FWP.

		surveys are conducted and results reported in advance of closing an easement. Currently this easement project does not include any ground disturbing activities. However, farming on a portion of the easement will continue as it has in the past by the landowner. If any ground disturbing activities become part of this proposal, FWP will conduct a cultural survey. That survey would be made available to PPL-MT's cultural resource consultant to comply with requirements of Cultural resource Management by the company. ⁴
Tenmile Creek fish passage	Montana Fish, Wildlife & Parks	A cultural survey will be complete prior to any ground breaking activities ⁵ .
Novotny Ranch Riparian Fencing Project		A cultural resources inventory was conducted in July, 2012. No cultural properties were identified.

RECREATION-LAND MANAGEMENT

Project Name	Sponsor	CRM Review
North Shore Trail Rainbow and Ryan Segments	PPL Montana	An inventory of the proposed trail route and adjacent areas was conducted in early 2012. One cultural property, 24CA1614 was identified but found ineligible for NRHP listing, in consensus with the SHPO.
Cochrane – Reclamation of Abandoned Gun Club Range	PPL Montana and FWP	PPLM and FWP proposed the reclamation of an abandoned gun range in the vicinity of Cochrane. An inventory of the gun range property to be reclaimed was undertaken. No cultural properties were identified. SHPO concurred on the findings of the inventory on 9-14-2012.

⁴ As reported by agency applicants

⁵ As reported by Applicant

<p>Ryan Island Recreation Area</p>	<p>PPL Montana and FWP</p>	<p>PPL Montana (PPLM) proposed to enter into an agreement with the Montana Department of Fish, Wildlife and Parks (FWP) in which FWP would take over operation and maintenance of the Ryan Island Park, located at the Ryan Hydroelectric Development of the Missouri-Madison Hydroelectric Project (Project). Also, PPLM proposed to close the existing bathrooms building at Ryan Island, converting that into needed storage space and install a double, sealed-vault toilet to replace the current toilets. A review of these proposals was made in accordance with the provisions of the Cultural Resource Management (CRM) Plan for the Project. Ryan Island Park is included in the Ryan Unit of the Great Falls Historic Hydroelectric Facilities District. The SHPO concurred that the addition of the selected style of vault toilet, to replace the exiting bathrooms, would have no adverse effect to the historic context of Ryan Island. The SHPO also requested: <i>We would like to hear from FERC regarding PPL's proposed transfer of cultural resource management of Ryan Island Park to FWP. SHPO sees potential for this arrangement working well under the condition that FWP cultural resources personnel, consult with our office. Please provide us with a draft version of the agreement document for our review and comment.</i> However, PPLM has not transferred authority for management of Ryan Island and may not do so in the future. PPLM has noted the SHPO comment for future reference.</p>
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PLANT OPERATIONS AND MAINTENANCE

Project Description	Plant	CRM Review
Structure Maintenance	Madison	Normal maintenance of structures, no alternations to design
Res/Dam/Waterway Maintenance	Madison	Dam in not a contributing element to the historic district
Prime Mover & Generator Maintenance	Madison	Normal maintenance of structures, no alternations to design
Accessory Electric Equip Maintenance	Madison	Normal maintenance of structures, no alternations to design
Misc. Power Plant Equip Maintenance	Madison	Normal maintenance of structures, no alternations to design
Road Repair	Madison	Normal maintenance required with no changes to route or features.
Paint Flowline	Madison	Routine maintenance.
Facility Roof/Structural Repairs	Various	Routine maintenance, with no changes to the configuration of any roof.
Res/Dam/Waterway Maintenance	Black Eagle	Normal maintenance of structures, no alternations to design
Prime Mover & Generator Maintenance	Black Eagle	Routine equipment maintenance.
Accessory Electric Equip Maintenance	Black Eagle	Routine equipment maintenance.
Power Plant Equip Maintenance	Black Eagle	Routine equipment maintenance.
Roads/RR/Bridges Maintenance	Black Eagle	Normal maintenance required with no changes to route or features.
Screen Raking	Black Eagle	Routine equipment maintenance.

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Set 5 (152-185)

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MCC-167 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 107 of Exhibit WTR-2.1, please explain why it is not known whether the Madison Dam is in compliance with lead contamination requirements. Please explain what efforts were made to determine whether the Madison Dam is or is not in compliance with lead contamination requirements. Please explain the liability that NWE may have to employees and/or others if lead contamination at this facility is or becomes a serious problem.

RESPONSE:

It was not known at the time of the report. However, during the onsite visits the Lead-Based Paint Policy was specifically discussed. PPLM indicated that policies and procedures are in place for activities where suspected lead-based paint may be damaged or disturbed. Based on available information, this is currently not a serious issue. Policies and procedures are in place for future activities.

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MCC-168 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 107 of Exhibit WTR-2.1, please explain why it is not known whether identified asbestos issues at Madison Dam have or have not been removed or otherwise abated. Please explain what efforts were made to determine whether asbestos issues at Madison Dam have been removed or abated.

RESPONSE:

The availability of certain documentation in late 2012, during early review efforts, is a matter of timing. As the due diligence process proceeded more information became available. Interviews with PPLM personnel in August 2013 indicated PPLM is familiar with the 2000 Asbestos Survey documenting the location of asbestos containing material at Madison, is aware that asbestos requires abatement if damaged or disturbed, and has managed the issue accordingly.

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MCC-169 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 107 of Exhibit WTR-2.1, please explain why required water quality reports for the Madison Dam have not been made available for review.

RESPONSE:

The reference portion of Exhibit__ (WTR-2.1) refers to documents available from PPLM in late 2012. The reference also refers to the Pulse-Flow Protocol required by Article 413 of the Missouri-Madison Project. As the due diligence process proceeded more information became available to confirm compliance with FERC license requirements. FERC granted final approval of PPLM's Pulse Flow Protocol on December 21, 2004. The Order required PPLM to file a performance report on the Pulse-Flow Protocol every five years. PPLM filed its performance report in July 2009. FERC approved the performance report and modifications to the Pulse-Flow Protocol on December 23, 2009 (129 FERC ¶ 62,222). The next report is due in 2014.

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MCC-170 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 110 of Exhibit WTR-2.1, please explain why the required annual fisheries and cultural compliance reports for Madison Dam were not made available for review.

RESPONSE:

The availability of certain documentation in late 2012, during early review efforts, is a matter of timing. As the due diligence process proceeded more information became available to confirm compliance with FERC license requirements. According to PPLM staff, the annual fisheries reports are presented and discussed with the resource agencies. The Five-Year Fisheries Plan incorporates the annual results. In the August 2013 timeframe, the new Five-Year plan was being prepared. As is reported in CB&I's Due Diligence Report Supplementing Independent Engineer's Report dated September 6, 2013, (Exhibit__(WTR 2.3)), we concluded that there is an effective framework in place to implement license regulatory requirements via Management Plans and Memorandums of Understanding with the resource agencies. Review of FERC Correspondence in August 2013 confirmed compliance with FERC license Article 425 reporting requirements (see the Attachment provided in response to Data Request MCC-166 for an example of the annual Cultural Resource letters).

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MCC-171 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 114 of Exhibit WTR-2.1, please explain why the flow excursion plan and required annual and quarterly reports on flow excursions at Hauser Dam (including 79 excursions caused by PPLM) have not been made available for review. What are the possible penalties and liabilities for these flow excursions?

RESPONSE:

The availability of certain documentation in late 2012, during early review efforts, is a matter of timing. As the due diligence process proceeded more information became available. It is not expected that there would be any penalties or liabilities from flow excursions that occurred in 2011.

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MCC-172 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 119 of Exhibit WTR-2.1, please explain why hazardous material spill inspections for Holter Dam have not been made available and why it is unknown whether such spills have occurred since 2008.

RESPONSE:

The availability of certain documentation in late 2012, during early review efforts, is a matter of timing. As the due diligence process proceeded more information became available. On-site observations at the Holter Development and discussions with PPLM personnel in August 2013 found no significant concerns with management of hazardous materials. There was no visible evidence that oil-filled equipment or containment were lacking proper maintenance. Reportable spills and responses were discussed during the due diligence efforts that took place in August 2013.

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MCC-173 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 123 of Exhibit WTR-2.1, Holter Dam: Please provide the estimated potential cost or cost range for resolving the Missouri-Madison shoreline and bank erosion problems at the nine sites where significant erosion has taken place.

RESPONSE:

Potential cost for erosion is not known. The nine sites were discussed with PPLM during the August 2013 due diligence. Remedial action is required for erosion on state or federal trust lands and on private lands where cultural sites might be impacted. At the request of the BLM, PPLM was going to implement a 6-inch drawdown during the ice off in 2014 in an attempt to reduce erosion. Results are pending.

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MCC-174 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 130 of Exhibit WTR-2.1, Black Eagle Dam – Other Requirements: Is this (the 2009 report) the most recent information available on Black Eagle erosion and on plans to address erosion at Black Eagle sites? If more recent information exists, please report it.

RESPONSE:

Erosion was discussed with PPLM in August 2013. PPLM was in the process of completing the assessment of erosion for the Missouri-Madison Project. However, the indication for the Black Eagle Development is that the two previously identified sites with moderate erosion activity were not of material concern.

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MCC-175 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 130 of Exhibit WTR-2.1, you report that it is likely that the Black Eagle Dam will be included in the final boundary definition of the Superfund site. Please provide a complete explanation of the potential range of costs and facilities impacts that may result from Black Eagle's inclusion in the Superfund site.

RESPONSE:

Shaw did not quantify costs or impacts. Please see the responses to Data Requests PSC-031 and PSC-080 for NWE's assessment of the Anaconda Copper Mining and Refinery site.

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MCC-176 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 145 of Exhibit WTR-2.1, Cochrane Dam – Other Requirements : You appear to report that the last Cochrane erosion plan was approved by MDHES in 1994, but neither that plan nor associated reports over the past twenty years have been made available for review. Is that a correct reading of your report? Why have these materials not been made available for review?

RESPONSE:

The availability of certain documentation in late 2012, during early review efforts, is a matter of timing. As the due diligence process proceeded more information became available. Appendix A of the 2188 License requires submittal of an erosion evaluation plan if operations at the Cochrane Development as described in the original license application change. Such changes have not occurred so no erosion evaluation plan is warranted.

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MCC-177 RE: Environmental Compliance
Witness: Gary Wiseman

In reference to page 147 of Exhibit WTR-2.1, you report extensive asbestos issues in facilities at Ryan Dam. However, you state that it is unknown whether action has been taken on matters of asbestos removal or abatement. Please explain why this is unknown and detail all steps taken to obtain this information.

RESPONSE:

The report describes the details, but these are not extensive asbestos issues. The availability of certain documentation in late 2012, during early review efforts, is a matter of timing. As the due diligence process proceeded more information became available. Interviews with PPLM personnel in August 2013 indicated PPLM is managing asbestos issues, is familiar with the 2000 Asbestos Survey documenting the location of asbestos containing material at the Ryan Development, and is aware that asbestos requires abatement if damaged or disturbed.

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MCC-178 RE: Pro forma Assessment
Witness: Gary Wiseman

In reference to page 189 of Exhibit WTR-2.1, please provide all support (data, calculations, etc.) justifying the projection that projected regulatory expenses will decline from about \$30 million annually to about \$7 million annually between 2013/2014 and 2016/2017.

RESPONSE:

The decline in projected regulatory expenses is mainly that Kerr expenses will no longer be paid after the expected transfer of the project to the CSKT in September 2015. Kerr regulatory expenses include significant cost for rental charges payable to the CSKT under provisions of the FERC license for the use and occupancy of Tribal lands. In 2014, the rental charge is approximately \$19.9 million and the Fish/Wildlife Implementation Strategy payment is approximately \$2.1 million.

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MCC-179 RE: Findings / Conclusions
Witness: Gary Wiseman

In reference to page 194 of Exhibit WTR-2.1, you state that there is concern for potential groundwater contamination at Black Eagle. What is the range of potential cost exposures associated with this concern?

RESPONSE:

Potential cost exposure is unknown. This relates to a petroleum sheen observed on the water in a drilled hole for the new substation. It is believed that the issue may be related to a release from the nearby Superfund site. By letter of February 12, 2013, MDEQ advised PPLM that the nature and extent of the petroleum contamination will be determined by remedial investigation of the Superfund site. MDEQ is to advise the schedule for this investigation.

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MCC-180 RE: Findings / Conclusions
Witness: N/A

In reference to page 194 of Exhibit WTR-2.1, please provide the Company's assessment of the Mattson Case litigation concerning shore erosion and flood damage due to reservoir operations.

RESPONSE:

On February 21, 2014, NorthWestern objected to this data request because it seeks privileged information. Privileged information is not discoverable. NorthWestern has attached a privilege log detailing the document withheld due to a claim of privilege.

Priv No.	Doc Type	Date	Description	From	To	CC	Bcc	Privilege Type
PRIV_400012	Memorandum	6/27/2013	Providing legal advice re: Environmental	Brown, Andrew; Stastny, Kristin	Grahame, Heather; Olson, Timothy			Attorney / Client; Work Product

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MCC-181 RE: Findings / Conclusions
Witness: Gary Wiseman

In reference to page 195 of Exhibit WTR-2.1, Capital Expenses: Is it possible that unforeseen events could cause required annual capital expenditures to be significantly higher than \$8.5 million per year after 2017?

RESPONSE:

Unforeseen events are possible in a given future year, but not expected every year. In a given year incrementally higher capital expenditures might be needed to remediate an event or condition, but budget adjustments are possible to fund activities on a priority basis and limit the capital budget variance for that year.

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MCC-182 RE: Findings / Conclusions
Witness: Gary Wiseman

In reference to page 195 of Exhibit WTR-2.1, Please state the potential range of significant costs for the potential design consideration items listed at the bottom of page 195. Please confirm that these potential costs are not included in the \$8.5 million post 2017 capital expenditures estimate.

RESPONSE:

As stated in the report, the four listed potential design items are identified, but are considered a minimal risk of failure. It is unknown if they will create additional significant costs in the next 20 years of operation. The four items are discussed below.

Mystic flow line is exposed to the environment and is susceptible to rock falls.

The potential future cost is unknown since it would depend on the extent and/or severity of the event that may occur. This is not included in the post 2017 capital estimate.

Hebgen spillway could be damaged by uplift during an extreme precipitation event.

The spillway is planned to be rehabilitated in 2016. This will resolve this item. See the response to Data Request PSC-018a for associated capital costs. This is not included in the post 2017 capital estimate since the activity will have been completed.

Holter flashboards are subject to failure and there is a need for self-releasing stanchions.

Please see the response to Data Request MCC-124. The flashboard stanchions have been remediated. This is not included in the post 2017 capital estimate since the activity has been completed.

Black Eagle intake wall is leaking and may eventually need a buttress.

The potential future cost is unknown since it would depend on the extent and/or severity of issues that may develop. This is a local and limited condition that has long been known and has exhibited limited change. It is routinely monitored and is considered manageable. This is not included in the post 2017 capital estimate.

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MCC-183 RE: Shaw Hydro Agenda
Witness: Gary Wiseman

In reference to pages 202-205 of Exhibit WTR-2.1, please provide the responses to each question on the Newfoundland list of questions.

RESPONSE:

Responses to the referenced questions are in the Mustang-Newfoundland Q&A Log which is Document No. MCC_009_00000261 provided on CD in the updated response to Data Request MCC-009.

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MCC-184 RE: PPLM data room
Witness: William Rhoads

Please provide the information in the PPLM data room with a corresponding topical index.

RESPONSE:

On February 21, 2014, NorthWestern objected to the portion of this data request that seeks the information in the PPLM data room. NorthWestern will respond, if necessary, after the Commission has ruled on the objection.

The data room index was provided in response to Data Request PSC-036b.

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MCC-185 RE: Carbon pricing
Witness: Dave Fine

Near the top of your testimony on page JMS-28 you state that NWE's approach to price forecasting for carbon was similar in the 2011 plan and Spion Kop acquisition but you note, "Some details, such as the methodology for estimating basis, the year in which an escalation factor is applied, and the source and application of the carbon price have been modified,..." Please specify individually the details listed above and any others that were different for the 2011 plan and Spion Kop. Please list exactly what methodologies, sources, implementation year and any other numbers, such as carbon prices, were used to price forecast carbon in the 2011 plan and Spion Kop.

RESPONSE:

Referring specifically to carbon pricing in the 2011 Plan and Spion Kop, the carbon penalty forecast was based on the Northwest Power and Conservation Council's 6th Power Plan carbon penalty forecast, which was converted from constant 2006 dollars into nominal terms and incorporated into the Plan starting in 2015. The 2011 Plan base case carbon forecast is presented below:

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MCC-185 cont'd

Carbon Forecast - 2011 Plan			
\$/ton			
Year	NPCC Forecast \$/ton (2006\$)	Inflation Index @ 2.5%	2011 Plan Base Case
2012	\$0.00	1.1014	\$0.00
2013	\$0.00	1.1289	\$0.00
2014	\$8.05	1.1572	\$0.00
2015	\$10.39	1.1861	\$9.55
2016	\$13.00	1.2157	\$12.63
2017	\$15.14	1.2461	\$16.20
2018	\$16.93	1.2773	\$19.34
2019	\$19.15	1.3092	\$22.17
2020	\$21.70	1.3419	\$25.70
2021	\$24.23	1.3755	\$29.85
2022	\$26.76	1.4099	\$34.16
2023	\$29.15	1.4451	\$38.67
2024	\$31.79	1.4813	\$43.18
2025	\$34.59	1.5183	\$48.27
2026	\$36.85	1.5562	\$53.83
2027	\$39.32	1.5952	\$58.78
2028	\$41.23	1.6350	\$64.29
2029	\$43.29	1.6759	\$69.10
2030	\$45.67	1.7178	\$74.36
2031	\$46.72	1.7608	\$80.41
Levelized			\$24.67

For the 2011 Plan and Spion Kop, the application of carbon penalty prices to the market price forecast was performed in the same manner as described in the Prefiled Direct Testimony of Joe Stimatz beginning on page JMS-26.