

Service Date: February 16, 2012

DEPARTMENT OF PUBLIC SERVICE REGULATION  
BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MONTANA

IN THE MATTER OF the Application of	)	REGULATORY DIVISION
NORTHWESTERN ENERGY for Approval to	)	
Purchase and Operate the Spion Kop Wind	)	DOCKET NO. D2011.5.41
Project, for Certification of the Spion Kop Wind	)	
Project as an Eligible Renewable Resource, and	)	ORDER NO. 71591
for Related Relief	)	

**FINAL ORDER**

**APPEARANCES**

**For the Applicant:**

NorthWestern Energy

Al Brogan, 208 North Montana Avenue, Suite 205, Helena, Montana 59601

**For the Intervenor:**

Montana Consumer Counsel

Robert A. Nelson, 111 North Last Chance Gulch, Suite 1B, Helena, Montana 59601

Natural Resources Defense Council

Charles E. Magraw, 501 8th Avenue, Helena, Montana 59601

**Before:**

TRAVIS KAVULLA, Chairman

GAIL GUTSCHE, Vice Chair

W.A. GALLAGHER, Commissioner

BRAD MOLNAR, Commissioner

JOHN VINCENT, Commissioner

**Commission Staff:**

Leroy Beeby, Utility Rate Analyst

Eric Eck, Chief, Revenue Requirements Bureau

Scott Fabel, Utility Rate Analyst

Sarah Norcott, Staff Attorney

Jim Paine, Staff Attorney

Will Rosquist, Chief, Economics & Rate Design Bureau

### PROCEDURAL HISTORY

1. On May 31, 2011, NorthWestern Energy (NWE) filed an application with the Public Service Commission (Commission) seeking approval of the Spion Kop Wind Project (Spion Kop) as an electricity supply resource.
2. On June 9, 2011, the Commission issued a Notice of Application and Intervention Deadline.
3. The Montana Consumer Counsel (MCC), Natural Resources Defense Council (NRDC), Invenergy Wind Development Montana, LLC (Invenergy), and Sagebrush Energy (Sagebrush) sought general intervention. The Commission granted general intervention to MCC, NRDC, and Invenergy. In Order No. 7159e, issued August 3, 2011, the Commission granted limited intervention to Sagebrush, restricted in scope to the confidential treatment of its information in the case, but denied its request for general intervention. Lee Newspapers sought limited intervention concerning confidential treatment of information in the case, which was granted by the Commission in Order No. 7159 issued July 12, 2011. General Electric Energy requested limited intervention related to its confidential information in the case, which was granted by Notice of Commission Action issued August 11, 2011.
4. The Commission issued Procedural Order No. 7159d on July 22, 2011.
5. On September 1, 2011, the Commission issued Order Nos. 7159g and 7159h, both of which required NWE to re-file certain testimony that had previously been redacted as confidential.
6. On October 27, 2011, Invenergy withdrew as an intervenor in the docket.
7. On November 4, 2011, NWE submitted a Motion to Strike and Brief in Support seeking to strike certain documents and parts of documents from the evidentiary record as a result of Invenergy's withdrawal, including Invenergy's testimony and certain data requests and responses and other material. On December 8, 2011, the Commission issued Order 7159k, which granted NWE's motion.
8. On November 14, 2011, NWE and MCC submitted a Stipulation along with a Motion to Approve the Stipulation between NWE and MCC.
9. On November 23, 2011, the Commission issued a Notice of Public Hearing, which established a hearing date of December 14, 2011, in Helena. The hearing was held December 14 and 15, 2011.

10. NWE, MCC and NRDC submitted post-hearing briefs.

### **APPLICATION**

11. NWE requested approval of the Spion Kop wind project as an electricity supply resource. Specific aspects of the Application are discussed in more detail by NWE's witnesses. NWE described Spion Kop as an electricity generation project with three elements: (1) purchased assets comprised of a 40-MW wind powered electric generation facility to be built in Judith Basin County by Spion Kop Wind, LLC (SKWLLC); (2) Associated Facilities, including a transmission line from the substation to an existing transmission line, and the transmission tap; and, (3) contingent power purchase agreements (PPAs) that may become effective in lieu of a portion of the purchased assets under certain circumstances.

12. Pursuant to an Asset Purchase Agreement (APA) between NWE and SKWLLC, SKWLLC will construct the wind project, which will consist of 25 GE 1.6-MW turbines, and will transfer the completed facilities by December 31, 2012, to NWE for a purchase price of \$77,880,000 (\$1,947/kW for each kW of nameplate capacity). NWE will build the Associated Facilities (a substation, the transmission line from the substation to an existing transmission line, and the transmission tap) at an estimated cost of \$6.9 million. Costs for engineering, overhead and meteorological towers are estimated at \$1,291,268. NWE projected its total capital investment for Spion Kop to be \$86,115,035.

13. NWE also requested certification of Spion Kop as an eligible renewable resource.

### **SUMMARY OF TESTIMONY**

#### **NWE Prefiled Direct Testimony**

##### **John D. Hines**

14. John Hines, NWE's Vice President of Supply, said NWE requests that the Commission issue an order: a) approving NWE's application as in the public interest; b) finding that acquiring Spion Kop and constructing the Associated Facilities are consistent with the requirements in § 69-3-201, MCA, the objectives in § 69-8-419, MCA, and the Commission's rules; c) approving acquisition of Spion Kop for \$1,947/kW; d) authorizing NWE to adjust the estimated cost of the Associated Facilities and estimated debt costs to actual costs in a compliance filing within 90 days of the closing date; e) approving a first-year revenue

requirement of \$6,970,646 and a second-year revenue requirement of \$9,511,878, both subject to adjustments in the compliance filing; f) authorizing NWE to recover a pro rata portion of the revenue requirement if less than 40 MW of the project is owned by NWE on the commercial operation date; g) authorizing NWE to recover expenses for power purchased from Spion Kop, under certain conditions, at a rate of \$53.78/MWh for 25 years; h) authorizing NWE to make a supplemental filing after the project is constructed to reflect any additional purchased wind turbines; and, i) certifying Spion Kop as an eligible renewable resource.

15. Hines testified that Spion Kop has an estimated total capital cost of \$86.1 million, including \$6.9 million for associated substation and transmission facilities to be constructed by NWE. He said Spion Kop would provide power and renewable energy credits (RECs) to NWE's electricity supply portfolio. Hines stated that NWE will not acquire the project unless it receives pre-approval from the Commission.

16. Hines testified that NWE's decision to acquire Spion Kop is consistent with the results of NWE's 2007 and 2009 resource procurement plans. Both plans' preferred resource portfolios contained new wind generation and prescribed competitive solicitations as the mechanism to acquire it. Spion Kop was selected as the result of a NWE's 2009 competitive solicitation.

17. According to Hines, renewable generation resources help to minimize total portfolio risk and may also minimize long-term total costs. Among the risks minimized by renewable resources, Hines listed safeguarding the supply portfolio from the risks of wholesale market price volatility, greenhouse gas emissions-related costs, fossil fuel price volatility, and REC price uncertainty. He said NWE calculated that adding 150 MW of new wind resource would reduce upside portfolio risk by about 14 percent, which it valued at \$200 million over the 20-year planning horizon.

18. Hines said that of the seven resource alternatives against which NWE compared Spion Kop, the only one with lower costs involved relying on wholesale market purchases and not meeting renewable energy standards. He testified that Spion Kop's \$53.78/MWh, 25-year levelized cost, is \$11/MWh less than the next best offer NWE received in response to its market solicitation and more than \$15/MWh less than the current QF-1 tariff.

19. Hines pointed out that Montana law currently requires NWE to provide 10 percent of the retail electricity it supplies from eligible renewable resources. In 2015 that requirement

increases to 15 percent. Beginning in 2012, NWE must also acquire 45 MW from community renewable energy projects (CREPs). Hines stated that NWE will fail to comply with the 10 percent standard sometime in 2013 or 2014 if it does not acquire additional renewable energy. He said the Spion Kop project would help NWE meet the 10 percent and 15 percent standards, but would not help NWE comply with the CREP requirement because the project is too large.

20. Regarding the cost cap provisions of the renewable energy standards, Hines reiterated that Spion Kop's long-term cost is less than all alternatives NWE evaluated except the market alternative. He contended that comparing Spion Kop to that market alternative is an apples-to-oranges comparison because the market alternative did not include RECs, which he valued at over \$7/MWh, and because a 25-year fixed-price market alternative is not actually available.

21. Hines described how, based on the results of its 2007 and 2009 resource plans, NWE used a competitive process to obtain information on possible renewable resources, consistent with § 69-8-419, MCA, and the Commission's resource procurement guidelines (ARM 38.5.8201-8229). NWE hired Lands Energy Consulting to oversee the process. NWE ultimately short-listed two 25-MW wind generation projects: Spion Kop and Invenergy's Big Otter project. Later, in February 2011, NWE terminated negotiations with Invenergy after determining that aspects of that project posed unacceptable risks. NWE then negotiated a larger project with Spion Kop, taking advantage of economies of scale to reduce total project costs but foreclosing the possibility of using it to comply with CREP requirements.

22. Hines explained that NWE's request for different first- and second-year revenue requirements is due to the availability of 50 percent bonus tax depreciation, which must be applied in the first year of operation.

23. Hines testified that, although NWE expects the project to be commercially operational in late 2012, if unexpected events occur the APA provides for a PPA for part of the project capacity, with a prorated cost of service adjustment for the rate-based capacity. As mentioned above, the PPA rate would be \$53.78/MWh for 25 years.

24. Hines contended that NWE's application in this case satisfies the requirements for pre-approval. First, he asserted that approving Spion Kop is in the public interest because it helps meet customers' energy needs, adds fuel and technology diversity to the mix of resources NWE uses to meet those needs, and, therefore, reduces risks related to fuel and market price

volatility and environmental risk. He stated that as a rate-based resource, Spion Kop enhances long-term rate stability and advances the state's policy goal to use more renewable energy.

25. Second, he testified that approving Spion Kop would promote reasonably adequate service and facilities at just and reasonable rates pursuant to § 69-3-201, MCA. He said the project relies on modern, proven technology and that the wind resource was evaluated by an experienced third party. He asserted that Spion Kop was selected from a competitive process that was managed by another experienced, independent third party.

26. Third, he said that approving Spion Kop would be consistent with the statutory resource planning objectives of § 69-8-419, MCA, particularly the objectives related to adequate, reliable service at the lowest long-term total cost, management and mitigation of risks, and efficient resource planning that evaluates the full range of cost-effective supply- and demand-side alternatives.

27. Fourth, he said that NWE complied with all applicable Commission pre-approval filing requirements.

### **Steven E. Lewis**

28. Steven E. Lewis is a principal of Lands Energy Consulting, which managed NWE's 2009 Request For Information (RFI) process. Lewis stated that NWE chose to use an RFI process as a means to foster a broader response from the industry than might be expected from a full-blown Request For Proposals (RFP) process. Lands Energy's responsibilities included: preparing and distributing the RFI documents and soliciting participation, receiving and reviewing the proposals sent in response to the RFI, screening the proposals, including an initial screening, determination of a shortlist, and determination of a finalist's pool. Lewis said he worked with NWE in the selection of Invenergy's Big Otter project and Sagebrush's Mission Creek and Norris Hill projects for additional due diligence and contract development and assisted in the detailed review of these projects and the reinstatement of Spion Kop into discussions.

29. According to Lewis, Lands Energy prepared and distributed the NWE RFI in August 2009. The RFI sought 25-75 MW of renewable resource capability, which could be CREP-qualified or not, and, although the RFI said equity purchase proposals were preferred, it also said long-term PPA proposals would be considered. Responses were sought in a consistent format to

facilitate an apples-to-apples comparison of the proposals. The information summary included price, size and location of project, expected energy output, status of interconnection process, information on the amount of wind data that had been collected and other factors.

30. Lewis stated the RFI was broadly distributed. Lands Energy received 40 responses, with many including both PPA and equity purchase options for their projects. He said the responses were predominantly proposals for wind projects, although there were two solar proposals, two biomass proposals, and one small hydro-electric project proposal. Lands Energy's initial screening grouped the proposals into five tiers based on their relative merit in price and non-price categories. Lewis said Tier 1, which was entirely made up of wind projects, contained the most competitive proposals, while Tier 5 contained proposals that were not competitive. This initial screening recommended that only Tier 5 proposals be dropped fully from consideration.

31. After re-evaluating the proposals, Lands Energy moved the Tier 2 and 3 proposals into either Tiers 1 or Tier 4, creating a clear dividing line between those proposals that merited further consideration and those that did not. In November 2009, the 14 shortlisted parties were presented with a list of additional questions and were asked to submit a price for an equity purchase by NWE. According to Lewis, after reviewing the additional information, Lands Energy pared the number of shortlisted projects to four wind proposals: the Big Otter project offered by Invenergy; the Greycliff project offered by Greycliff Wind, LLC, a subsidiary of National Wind, LLC; the Mission Creek Project offered by Sagebrush Energy; and various project sites offered by Compass Wind Projects, LLC.

32. Lewis said that NWE accepted Lands Energy's recommended list of finalists and, at this point in the process, NWE took over the lead role in discussions with the remaining respondents.

33. Lewis testified that NWE began negotiations with Sagebrush regarding its Norris Hill and Mission Creek sites, and with Invenergy regarding its Big Otter site. Eventually, NWE halted discussions with Sagebrush because of unresolved migratory bird issues with Norris Hill and neighbors' viewshed concerns with Mission Creek. Because of the removal of those projects from consideration, NWE decided to open discussions with Compass Wind, one of the other finalists.

34. Lewis testified that NWE's RFI and the subsequent review process met the requirements of § 69-8-419 2(d), MCA, which requires that NWE use open, fair, and competitive procurement processes, and with the Commission's administrative rules.

**Steven R. Jones - DNV**

35. Steven R. Jones, a manager at the wind power consulting firm DNV Renewables-USA (DNV), provided testimony on DNV's evaluation of the RFI responses and of Spion Kop.

36. According to Jones, DNV has performed about 200 wind resource and energy assessments in the last four years. He explained that every wind resource / energy assessment involves uncertainties that are commonly communicated by calculating a "central estimate" that has a 50/50 chance of being exceeded, called the P50 estimate. The degree of difference between the P50 estimate and the other probability values is an indication of the level of uncertainty in an analysis. The probability values can be estimated for a variety of time periods, such as averaged over the lifespan of the project, 10 years, or 1 year. Shorter time periods have more volatility for any given P value. The P50 value is typically used in the base case evaluation of expected revenues and expenses.

37. He said DNV's role in the evaluation and possible NWE acquisition of Spion Kop was generally to identify risks, inconsistencies and other aspects of the proposed project which were outside typical industry practice. DNV provided an assessment of expected energy generation using wind resource data collected at three meteorological towers, one installed in March 2010 and two more installed in October 2010. DNV produced its initial assessment in March 2011 based on wind data collected through January 2011, and later updated the report to reflect data through April 13, 2011. According to Jones, the updated report estimated an average long-term P50 estimate of approximately 138,000 MWh, and a long-term P95 of approximately 118,000 MWh. Jones said the long-term P50 estimate equates to an expected annual capacity factor of 39.5% for Spion Kop.

38. Jones said other wind projects that responded to the RFI had longer periods of wind data collection for their sites, but Jones said at the time NWE decided to acquire Spion Kop, it had to weigh the risk associated with a shorter period of wind data collection against other factors such as the expiration of the PTC, attractive purchase prices and terms from suppliers, and the need to timely meet the RPS requirements. According to Jones, winds measured at



Spion Kop indicate sufficient wind resource and expected energy generation for a commercially successful facility. Jones said the GE 1.6-82.5 model turbine selected by NWE and Compass Wind for Spion Kop is a suitable choice. The turbines include a 10-year full service agreement with GE.

39. According to Jones, the cost to NWE to buy Spion Kop is reasonable as it is close to the middle of the range of fully-installed wind project costs that he said typically are \$1,500/kW to \$2,500/kW. Regarding maintenance and operation of Spion Kop, Jones explained that NWE contracted with GE to provide those services for \$1,462,500 per year for 10 years. The Full Services Agreement (FSA) includes GE's commitment to keep the turbines operational a certain amount of time. DNV has estimated Spion Kop's operation and maintenance costs for in year 11 onwards at an annual average cost slightly below that of the NWE/GE contract. DNV also estimated the cost of operating, maintaining, and repairing everything other than the turbines (the "balance of plant"), which will be NWE's responsibility from the start of operations. Jones concluded that the known and estimated costs for Spion Kop are within DNV's expected range for the project size and location and he believes NWE used reasonable assumptions to model Spion Kop life cycle costs.

#### **Bleau J. LaFave**

40. Bleau LaFave, NWE's director of South Dakota Supply Planning and Development, negotiated the APA with Compass Wind, the parent of SKWLLC.

41. LaFave explained NWE's discussions with Compass about a 25-MW wind project began in November 2010 after elimination of the Sagebrush project. He said NWE was also discussing a 25-MW project with Invenergy, but NWE ended those negotiations in February 2011. At that time, NWE evaluated its options and decided to pursue the expansion of Spion Kop from 25 MW to 40 MW. LaFave said reasons for moving to a 40-MW project included being able to increase the amount of generation capacity while adhering to the timeline required to keep the PTCs, obtaining a reduced purchase price from \$2,051/kW to \$1,947/kW and a reduced maintenance cost per turbine from \$63,250 to \$58,500 per year. LaFave asserted the savings from the larger project helped make it a more competitive renewable resource.

42. LaFave said the APA sets forth the terms and conditions for SKWLLC's delivery of the completed project to NWE by December 31, 2012. SKWLLC will enter agreements with GE

for turbine supply (TSA); for engineering, procurement, and construction (EPC) of the balance of plant facilities; and for operation and maintenance of the turbines (the FSA). All three agreements will be assigned to NWE upon commercial operation of the project.

43. Regarding the FSA with GE, LaFave said NWE chose this 10-year maintenance agreement at the recommendation of DNV based on a desire to minimize risk to NWE and its customers. The FSA cost is \$58,500 per turbine in year one which will escalate at various published indices estimated at 2.5 percent per year for modeling purposes.

44. LaFave said the total cost for maintenance of the balance of plant is estimated to be \$292,000 in year one, with subsequent years' costs adjusted for normal escalation. The total cost is comprised of \$150,000/year in balance of plant maintenance and standby power costs, \$130,000/year in management costs, and \$12,000/year in landowner maintenance costs.

45. According to LaFave, the Guaranteed Commercial Operation Date (GCOD) in the APA is December 31, 2012 because, under current law, federal PTCs are only available to new wind projects that achieve commercial operation by that date. LaFave explained if the project is not fully completed by December 31, 2012, the APA provides NWE with several options in order to maximize the benefits it receives.

46. First, if Congress extends the eligibility deadline for PTCs beyond December 31, 2012, then SKWLLC would have until September 30, 2013, to achieve commercial operation of at least 24 MW (15 turbines), at which date NWE would buy all of the completed turbines at the price of \$1,947/kW, subject to an adjustment for appropriate penalties for missing the GCOD, including a REC damages adjustment, a pro rata adjustment, and a bonus depreciation damages adjustment.

47. Second, if at least 24 MW are commercially operational by the GCOD, NWE would purchase all of the completed turbines no later than December 31, 2012. NWE and SKWLLC would enter into a PPA for NWE to purchase power from the turbines remaining to be built that are commercially operational by September 30, 2013. Turbines not completed by the GCOD would be subject to the pro rata adjustment and REC damages adjustment in accordance with the APA. NWE and SKWLLC would also enter into a shared facilities agreement for the Associated Facilities. Costs for these facilities would be prorated accordingly.

48. Finally, if SKWLLC does not complete at least 24 MW by the GCOD either because of a force majeure event or SKWLLC's breach of the APA, NWE would have three options.

First, under the “combined purchase and PPA” option, NWE could purchase all the turbines that have achieved commercial operation by the GCOD at \$1,947/kW, and utilize a PPA to purchase power from any other turbines that achieve commercial operation by September 30, 2013.

Second, under the “PPA-only” option, NWE could enter into a PPA for the power from any turbines completed by the GCOD, plus any additional turbines that would be completed by September 30, 2013. Turbines not completed by the GCOD would be subject to the appropriate late penalties and NWE and SKWLLC would enter into a shared facilities agreement for the Associated Facilities. Third, under the “purchase only” option, NWE could purchase the project from SKWLLC as constructed as of the GCOD, including any turbines completed by that date. The purchase price and adjustments under this option are described in APA.

49. LaFave said the APA provides that if NWE’s actions cause SKWLLC to fail to complete at least 24 MW by the GCOD, then the parties will determine whether to proceed with the project, which may include further proceedings before the Commission.

50. LaFave explained the three penalties in the APA associated with the delivery after the GCOD date. The REC damages adjustment reduces NWE’s payment to SKWLLC by the amount of anticipated annual REC penalties NWE will be assessed for failure to meet the RPS. The pro rata adjustment, which penalizes SKWLLC depending on how many turbines it fails to place in service by the GCOD, can subsequently be offset if SKWLLC completes any remaining turbines. The bonus depreciation damages adjustment reduces NWE’s payment to SKWLLC by an amount to address the loss to NWE if the turbines are not in service by the date required for NWE to qualify for the bonus depreciation.

51. LaFave stated that Compass is following the guidance of state and federal wildlife agencies on pre-construction studies to address species of concern in this area, including working to mitigate impacts to big game winter range and developing avian and bat protection plans. He said Compass had an environmental site assessment done, which did not identify any environmental concerns with the project. According to LaFave, Compass has entered into comprehensive agreements with each of the four landowners who will have facilities located on their property. Any required permits and governmental approvals associated with the project will be obtained as necessary. LaFave said the estimated costs associated with landowners and environmental studies include initial annual right-of-way costs of \$12,280, royalty fees of \$217,488, property insurance for \$125,000, and wildlife study costs of \$112,000.

**Todd A. Guldseth**

52. Todd Guldseth, a planner in NWE's Energy Supply Group, testified about the effect of Spion Kop on supply costs, Spion Kop's cost compared to other resources, and the consistency of the Spion Kop acquisition with NWE's resource procurement plans.

53. Guldseth estimated Spion Kop's effect on electricity supply tracker costs by comparing May 2011 tracker costs without Spion Kop to May 2011 costs with Spion Kop's fixed cost of service included. He said the result is a decrease of \$0.70/MWh in market purchase costs, no change in Colstrip 4 fixed and variable costs, no change in DGGs fixed costs, and an increase of \$0.03/MWh in DGGs variable costs to provide the incremental 7-8 MW of regulation required to integrate Spion Kop and for increased fuel expense that is partly offset by increased revenue credits. Guldseth noted there is no variable cost component to Spion Kop. Guldseth provided the following table to illustrate the total electric supply rate with and without the impact of Spion Kop's fixed cost of service.

<b>Illustrative Average Supply Rate Comparison With &amp; Without Spion Kop Based on May 2011 - April 2012 Electric Tracker Filing</b>			
<b>Electric Supply Rates: (\$/MWh)</b>	<b>May 2011 Forecast</b>	<b>2013 Spion Kop</b>	<b>2014 Spion Kop</b>
Market Purchases & Other Supply Costs	\$37.59	\$36.89	\$36.89
Colstrip Unit 4 Fixed	\$12.67	\$12.67	\$12.67
Colstrip Unit 4 Variable	\$3.61	\$3.61	\$3.61
Dave Gates Generation Station Fixed	\$4.58	\$4.58	\$4.58
Dave Gates Generation Station Variable	\$1.83	\$1.86	\$1.86
Spion Kop Fixed Cost of Service	n/a	\$1.18	\$1.61
<b>Energy Supply Total:</b>	<b>\$60.28</b>	<b>\$60.78</b>	<b>\$61.21</b>
<b><i>\$ Difference from May 2011 Forecast:</i></b>		<b><i>\$0.50</i></b>	<b><i>\$0.93</i></b>
<b><i>% Difference from May 2011 Forecast:</i></b>		<b><i>0.8%</i></b>	<b><i>1.5%</i></b>

54. Guldseth said that NWE expects DGGs' production will increase by 2 aMW due to the increased regulation need, and the resulting increased fuel expense offset by the increased energy revenue credit will result in a net annual DGGs variable cost increase of \$180,987. Dividing that amount by forecasted sales volumes results in the \$0.03/MWh variable cost rate increase.

55. Guldseth compared the levelized cost of Spion Kop to the levelized cost of alternative energy resources in the following table.

<b>Total Cost of Alternative Energy Resources</b>					
(All 25-year levelized \$/MWh except Hypothetical Wind and 2009 RFI PPA are 20-year)					
Resource Type	Energy	RECs	Sub-Total Energy + RECs	Integration	Total Comparative Cost
1. Market + RECs	\$83.89	\$7.48	<b>\$91.37</b>	\$0.00	<b>\$91.37</b>
2. Sensitivity Market Scenario + RECs	\$68.04	\$7.48	<b>\$75.52</b>	\$0.00	<b>\$75.52</b>
3. Market Only	\$83.89	\$0.00	<b>\$83.89</b>	\$0.00	<b>\$83.89</b>
4. Sensitivity Market Scenario Only	\$68.04	\$0.00	<b>\$68.04</b>	\$0.00	<b>\$68.04</b>
5. QF-1 Option 3: Wind Only Rate	\$61.73	\$7.48	<b>\$69.21</b>	\$14.99	<b>\$84.20</b>
6. Hypothetical Wind in 2009 RPP	\$59.34	\$7.48	<b>\$66.82</b>	\$14.99	<b>\$81.82</b>
7. 2009 RFI Second Lowest PPA	\$57.40	\$7.48	<b>\$64.88</b>	\$14.99	<b>\$79.87</b>
8. Spion Kop Wind Project	\$46.29	\$7.48	<b>\$53.78</b>	\$14.99	<b>\$68.77</b>
1. 25- year flat energy rate based on 2009 RPP Base Case Delay Carbon market price forecast - carbon penalty begins 2017 This is a buy market energy and market RECs scenario to satisfy RPS. 2. 25-year flat energy sensitivity scenario based on 2009 RPP Base Case Delay Carbon market price forecast revised with November 2010 forward electric and gas prices. This is a buy market energy and market RECs scenario to satisfy RPS. 3. 25- year flat energy rate based on 2009 RPP Base Case Delay Carbon market price forecast - carbon penalty begins 2017 RECs are not purchased and RPS is not achieved. 4. 25-year flat energy sensitivity scenario based on 2009 RPP Base Case Delay Carbon market price forecast revised with November 2010 forward electric and gas prices. RECs are not purchased and RPS is not achieved. 5. Current QF-1 Tariff Option 3 rate of \$69.21, set by the PSC and based on the 2007 RPP, includes energy and RECs. This rate is currently the subject of an open PSC proceeding. 6. Pricing for Hypothetical Wind included in 2009 RPP was based on PPA pricing information obtained in the 2009 RFI. 7. Levelized PPA price of second lowest proposal submitted in 2009 RFI. \$64.88 includes energy and RECs. 8. Spion Kop levelized rate of \$53.78 includes energy and RECs.					

56. Guldseth concluded that Spion Kop has a lower total cost than six of the seven alternatives and is very close to the lowest cost resource. He pointed out that the lowest cost alternative, which is the 25-year Sensitivity Market Scenario without RECs resource, has a total cost that is \$0.73/MWh less than Spion Kop, but it does not achieve RPS compliance and is not readily available for a term of 25 years in the current electricity market.

57. Guldseth testified that Spion Kop not only compares favorably with alternative resources from a cost standpoint, it also has characteristics that shield it from potential risks over the long-term. He stated the addition of Spion Kop as an owned wind resource will provide a hedge from 1) long-term power market volatility through its 25-year fixed-pricing, 2) environmental regulations because of its clean fuel and REC value, 3) volatile fuel prices, 4) contract renewal risks because of the value of ownership, and 5) operating risk, because the FSA with GE mitigates much of the operating risk over the first 10 years of operation.

58. Guldseth added that an ownership benefit offered by Spion Kop is mitigation of the risk of an energy or RPS shortfall at the end of its projected life in 25 years. NWE will have the options to continue operating Spion Kop if its condition is adequate to do so, recapitalize the project if its condition is inadequate to serve customers, sell the project, or just sell the energy and RECs.

59. Guldseth stated that it is evident that selecting energy resources of only one or two types can leave a supply portfolio exposed to considerable risk, and that an owned wind resource provides diversity from more traditional thermal resources and market purchase contracts.

60. Regarding how the acquisition of Spion Kop comports with NWE's resource procurement plans (RPPs), Guldseth asserted it is consistent with NWE's overall approach toward wind generation in its 2007 and 2009 plans. Guldseth stated the Spion Kop acquisition is consistent with the three-year action plan in the 2009 RPP, in which NWE said it intended to increase the geographic diversity of its wind portfolio, conduct an RFI in 2009 that compared the value of owned wind resources to contracted ones, use PPA and equity acquisitions to meet resource requirements, conduct competitive solicitations to continue to comply with RPS requirements, and consider carbon risks when acquiring resources. Guldseth explained the additional modeling conducted by NWE to test Spion Kop's effect on the 2009 RPP's preferred portfolios.

61. Guldseth stated that NWE's resource planning process complies with § 69-8-419(1), MCA, which requires NWE to plan for future electricity supply resource needs, manage its electricity supply portfolio, and procure new electricity supply resources as needed. He asserted that NWE's RPP process satisfies the five objectives of § 69-8-419(2), MCA. Guldseth said NWE's acquisition of Spion Kop also is consistent with the requirements in ARM 38.5.8121(2)(a).

62. Guldseth summarized that Spion Kop provides 25-year fixed-cost energy, RECs that will help achieve RPS requirements, shelter from potential GHG regulations, protection from volatile fuel markets, and ownership value beyond the initial 25-year period, all at a levelized cost that is lower than the current long-term QF-1 Option 3, Wind Only rate of \$69.21/MWh. He said that, although there are economic and operational challenges associated with wind resources, when combined with all the other NWE energy supply resources, owning Spion Kop will enhance NWE's entire energy supply portfolio.

**Michael R. Cashell**

63. Michael R. Cashell, NWE's Vice President of Transmission, described the need for and required amount of regulating reserves for Spion Kop wind integration purposes, explained that DGGS is capable of providing regulation service for integration of Spion Kop and at what incremental cost, and addressed NWE's rationale for constructing the Associated Facilities.

64. According to Cashell, intermittent or variable energy resources (VERs), such as wind generation, create more variation in loads and generation than other types of generation. NWE determines the amount of regulating reserve needed to reliably integrate Spion Kop into its transmission system and balancing authority area by relying on its past experience. Cashell said NWE has needed to purchase regulation capacity equal to approximately 18 percent of the VERs' nameplate capacity (currently 139 MW) to integrate them into the system. Cashell stated that NWE also relied on information from the preliminary report of the GENIVAR study, titled the Technical Memorandum. GENIVAR, an engineering firm, modeled the NWE system with the addition of various levels of VERs in multiple geographic locations under numerous development scenarios. Based on NWE's operating history with the Judith Gap wind farm and the other wind generators on the NWE system, and on the GENIVAR Technical Memorandum, NWE estimated that the regulation need would be approximately 18 percent of the project nameplate capacity. Spion Kop's nameplate capacity is 40 MW, so the expected requirement for incremental regulating reserves to integrate the facility is approximately 7 to 8 MW, according to Cashell.

65. Cashell testified that the regulating reserve for Spion Kop will be provided from DGGS, which he said will result in an incremental cost estimated to be \$0.03/MWh of forecasted electricity annual supply load due to the increased DGGS operation.

66. Cashell asserted it is normal practice for a vertically integrated utility that adds a new generation resource to build all of the facilities needed to connect that generation. NWE's construction of the Associated Facilities (transmission facilities) is consistent with the normal utility practice. Cashell said NWE has the expertise and experience to construct these facilities in a compressed time frame.

67. Cashell explained that interconnection of a resource that is larger than 20 MW is governed by FERC's Large Generator Interconnection Procedures, which require NWE to conduct sequential studies that were not complete at the time of Cashell submitted this

testimony. For that reason, Cashell said he could not precisely predict the potential costs of network upgrades at this time, but NWE does not expect they will be substantial.

**Emmett O. Riordan**

68. Emmett O. Riordan, NWE's Director of electric transmission engineering and planning, testified about the transmission and interconnection facilities associated with Spion Kop that NWE will build. Riordan said the three separate components that must be completed are a generation gathering substation, a 4.2-mile 100 kV transmission line to carry the power to the existing NWE 100 kV transmission line, and an interconnection switchyard to tie the generation transmission line into the NWE transmission system (collectively the Associated Facilities). According to Riordan, the total estimated cost of all three components is \$6.9 million. Riordan estimated that, prior to issuance of a PSC decision in this case, NWE will spend \$885,920 to complete the site preparation and engineering that must be done in order to meet the construction schedule. Riordan said the construction schedule calls for construction of the Associated Facilities to be completed before August 1, 2012.

**Patrick J. DiFronzo**

69. Patrick J. DiFronzo, NWE's Regulatory Affairs Manager, explained the Spion Kop revenue requirement and how it was derived. His Exhibit\_\_(PJD-01) is the revenue requirement based on the first year of operation showing the 50 percent bonus tax depreciation for 2012. DiFronzo provided explanations of the various line items in the exhibit.

70. DiFronzo's Exhibit\_\_(PJD-02) presented the second year revenue requirement. DiFronzo explained that NWE proposed an updated revenue requirement and rates for the second year because bonus tax depreciation causes different depreciation rates between the first and second years of operation. He said tax depreciation for the second year of operation is 16 percent for generation and 4.75 percent for transmission property, which is comparable to the standard tax depreciation percentage. DiFronzo provided explanations of individual items of his second-year revenue requirement exhibit.

71. According to DiFronzo, NWE proposes that electric supply rates be adjusted in the appropriate electric supply tracker to include the Spion Kop revenue requirement as of the date of commercial operation. He proposed using the forecasted loads in the current monthly tracker



filing when Spion Kop is first placed into rates, then, in the second year, using the updated forecasted loads from the second year's current monthly tracker filing. DiFronzo proposed using these same forecasted loads to compute rates until such time there is an updated revenue requirement approved by the Commission.

72. Exhibits\_\_(PJD-03 and -04) showed illustrative rates for the first and second year's total revenue requirement. Exhibits\_\_(PJD-05 and 06) showed illustrative customer rate impacts for the first and second year's total revenue requirement for Spion Kop. The typical bill impact for the first year for an average 750 kWh residential customer was estimated at \$0.37 per month, which is an increase of 0.47 percent. The second-year bill impact for the average residential customer was estimated at \$0.70 per month, which is an increase of 0.88 percent.

73. DiFronzo said Spion Kop will cause DGGs' variable costs to increase by an estimated \$180,987 because of the additional need for regulating services.

74. DiFronzo said annual property tax adjustments for Spion Kop will be addressed in NWE's property tax tracker filings. All other changes in the Spion Kop cost of service will be included in future Spion Kop revenue requirement filings.

#### **Wayne M. Hitt**

75. Wayne M. Hitt, NWE's Director of corporate taxes, provided testimony supporting all income- and property-tax related items included in each of the first two years' revenue requirement determinations for Spion Kop. He noted that, while bonus tax depreciation is applicable in Spion Kop's first year of service and will significantly reduce the first-year revenue requirement, standard accelerated tax depreciation applies to Spion Kop in the second and subsequent years. He said this causes an increase in the revenue requirement in the second year. According to Hitt, the benefit from bonus tax depreciation also significantly reduces the overall Spion Kop revenue requirement over its operating life.

76. Hitt explained that 50 percent bonus tax depreciation for assets acquired in calendar year 2012 was authorized pursuant to a 2010 federal law that will expire December 31, 2012. Hitt said NWE expects Spion Kop to qualify for 50 percent accelerated bonus tax depreciation, which yields accelerated tax depreciation rates of 60 percent and 52.5 percent for wind and transmission property, respectively, in the first year's revenue requirement. He said these rates

are applied to the applicable tax depreciable basis, which will yield a tax depreciation deduction of approximately \$51.5 million in the first year's revenue requirement.

77. According to Hitt, tax depreciation for the second year's revenue requirement was computed using the second year standard accelerated tax depreciation rates of 16 percent and 4.75 percent for wind and electric transmission, respectively, applied to the applicable tax depreciable basis, yielding a tax depreciation deduction of approximately \$13.6 million in the second year's revenue requirement.

78. Hitt explained that, in accordance with the Commission's long-established tax accounting treatment, the Montana income tax benefits of the accelerated bonus tax depreciation will flow through to customers in the form of a reduction in the first year's revenue requirement of approximately \$2.5 million.

79. Hitt noted that customers will continue to benefit from bonus tax depreciation beyond the first year of operation of Spion Kop because the federal deferred tax benefits related to bonus tax depreciation are subject to normalization requirements that will reduce rate base, and therefore customer's rates, in future years.

80. Regarding PTCs, Hitt explained they are federal income tax credits that only apply to certain renewable electric generation property, including wind generation. To qualify for PTCs, the wind project must be placed into service no later than December 31, 2012. Hitt said that the federal income tax benefits of tax credits that are not subject to mandatory normalization under the Internal Revenue Code will flow through to customers in the form of a reduction in total revenue requirement of approximately \$5 million per year for the years 2013 through 2022.

81. Hitt said that Rate Base in DiFronzo's exhibits had been adjusted to reflect the accumulated tax deferrals related to Accelerated Tax Depreciation and Net Operating Loss deferred tax asset.

82. Hitt explained NWE's computation of current income taxes and briefly described the wind generation facility impact fee required by Montana law, the energy producers' license tax, and property taxes related to Spion Kop.

### **Brian B. Bird**

83. Brian B. Bird, NWE's Chief Financial Officer and Treasurer, proposed a capital structure for Spion Kop of 52 percent debt and 48 percent equity, which is the same as the capital

structure authorized by the Commission for the Montana transmission and distribution operations in NWE's most recent general rate case (Docket No. D2009.9.129, Final Order No. 7046h).

84. According to Bird, NWE intends to finance Spion Kop through a combination of long-term first mortgage bond financing, borrowings under NWE's unsecured corporate revolver, available discretionary cash flows and potential funds from an equity offering. He said NWE plans to issue 10-year first mortgage bonds to finance the acquisition of this project anytime between the receipt of PSC pre-approval and the completion of the project.

85. Bird recommended the cost of debt be set at 5 percent for this filing, to be updated to actual cost of debt in NWE's compliance filing to be filed upon completion of the project.

86. Bird recommended a cost of equity of 10.25 percent. He said that would be consistent with the Petitioners' April 12, 2011 settlement offer in Cause No. DDV-2100-79, Montana First District Court, Lewis and Clark County, which the PSC voted to accept in its April 26, 2011 work session. Bird testified that the equity risk associated with Spion Kop is similar to the equity risk for electric and natural gas transmission and distribution assets in Montana.

87. Bird said his recommendations result in an overall rate of return of 7.52 percent.

### **Intervenor Testimony**

#### **John W. Wilson – MCC**

88. Dr. John W. Wilson, MCC's economic consultant, questioned NWE's assertion that Spion Kop offers the lowest cost renewable resource available to NWE when it appears that NWE did not consider the possibility of the expanding the Judith Gap wind farm, which is NWE's largest existing wind resource.

89. Wilson contended that the rate of return and capital structure for Spion Kop should reflect the lower investor risk associated with a pre-approved project. Wilson recommended a 40 percent equity and 60 percent debt capital structure and a 9.5 percent ROE. He suggested that Spion Kop should be rolled into NWE's next general rate case. Wilson agreed with NWE that the actual updated cost of debt should be reflected in NWE's compliance filing.

**Rebuttal Testimony - NWE****Steven E. Lewis**

90. Lewis testified that NWE's RFI stated that the diversification of NWE's renewable portfolio that was being sought might take the form of adding wind resources from a different wind regime than Judith Gap; however, Lewis contended this in no way precluded proposals from projects in the Judith Gap wind regime. Lewis said that he was not asked if the RFI excluded any project and that he never told anyone that wind projects within the Judith Gap wind regime were precluded.

**NWE/MCC STIPULATION**

91. NWE and MCC agreed upon and requested Commission approval of the following items in the event that the Spion Kop project is built and included in NWE's rate base: an ROE for Spion Kop of 10 percent and actual debt cost; capital structure of 52 percent debt and 48 percent equity; and inclusion of Spion Kop in NWE's next full general rate case so that its cost of capital and capital structure can be determined on a consolidated basis with NWE's electric utility operations.

**ANALYSIS AND FINDINGS OF FACT**

92. Based on the following analyses and findings, the Commission approves the acquisition of Spion Kop as an electricity supply resource pursuant to § 69-8-421, MCA.

93. A finding and/or decision by the Commission in this Order is not precedent for a Commission finding/decision in the currently pending CREP waiver docket (D2011.6.53).

**Statutory analysis of Spion Kop**

94. Section 69-8-421, MCA, provides in pertinent part that if the Commission approves an application for an electricity supply resource, the Commission must find that the procurement of the resource is "in the public interest" and "consistent with the requirements in [§] 69-3-201, the objectives in [§] 69-8-419, and commission rules." After reviewing the applicable statutes and the Commission rules in combination with the evidence contained in this case, the Commission finds that Spion Kop is consistent therewith and therefore satisfies § 69-8-421, MCA. The following is an analysis of each of the applicable statutes as well as the Commission rules.

Is the procurement of Spion Kop in the public interest?

95. In order for the Commission to grant approval of electricity supply resources that a utility seeks an ownership interest in, the Commission must find that the approval is in the public interest. § 69-8-421(6)(c)(i), MCA. The utility must present evidence to the Commission showing that the acquisition of the resource is in the public interest. *See* ARM 38.5.8228 (requires a utility seeking pre-approval to file certain documents justifying its request); see also Order No. 6505e, ¶B2 in Docket No. D2003.8.109 (finding that the party seeking a change bears the burden). The Commission has found that acquisition of a resource under § 69-8-421, MCA, is in the public interest if the benefits outweigh the risks to ratepayers. *See* In the Matter of an Application by NorthWestern Corporation for Approval of its Interest in Colstrip Unit 4, Order No. 6925f, ¶ 217, and In the Matter of the Application for Approval to Construct and Operate the Mill Creek Generating Station, Order No. 6943a, ¶ 211.

96. NWE presented testimony at the hearing regarding the benefits the Spion Kop project will have if built and included in its generation assets. Hines testified that Spion Kop mitigated the following risks that will benefit NWE's customers:

- (1) reducing reliance on market purchases and therefore reducing exposure to market price risk;
- (2) reducing exposure to fuel price uncertainty;
- (3) reducing exposure to the costs of potential environmental regulation;
- (4) reducing exposure to the risk of increased cost of complying with Montana's Renewable Portfolio Standard within the statutory cost cap;
- (5) providing resource diversity;
- (6) providing relative price stability for a portion of the electricity supply portfolio plus the terminal value of the project; and
- (7) enhancing the financial health of the utility leading to a lower cost of capital.

*See* NWE's Initial Brief, pp. 11-12 (citing to Ex. NWE-1, p. 26 and Tr. Vol. 1, pp. 22-23, 28-29, and 60-63).

97. NWE asserts in its opening brief that the only risk to its customers from the acquisition of the Spion Kop project is that it "will not achieve its predicted annual production of 138,000 MWh over the long term." *See* NWE's Initial Brief, p. 13. Evidence in the record contends that Spion Kop has a 50 percent chance of exceeding the annual production of 138,000 MWh. Tr. Vol. 1, p. 216. Hines testified that even if Spion Kop does not reach its estimated annual production, the cost to ratepayers would still be less than the alternatives. Tr. Vol. 1, p. 108. NWE did not support this statement with facts in the record to show that the statement is true.

98. The Commission has determined that in fact if Spion Kop does not produce as estimated it may not be the lowest cost alternative option in all cases (see the discussion below on economic evaluation of Spion Kop and alternative resource options). As discussed below, a comparison of the costs of Spion Kop to the alternatives is not a simple matter. There is no guarantee that Spion Kop will produce as suggested. However, based on the economic analysis and range of alternatives, the benefits of Spion Kop and the risks that it mitigates allow the Commission to find that approval is in the public interest.

Is the procurement of Spion Kop consistent with the requirements in § 69-3-201, MCA?

99. Section 69-3-201, MCA, requires that a utility provide reasonably adequate service and facilities at just and reasonable rates. NWE presented sufficient evidence to satisfy the requirement that it provide reasonably adequate service with the procurement of Spion Kop as an electricity supply resource. NWE submitted testimony and exhibits at the hearing showing that Spion Kop “uses modern, proven technology, will be constructed and operated in accordance with industry standards, and the wind output has been evaluated by a third party with substantial experience in this field.” Ex. NWE-1, p. 27. NWE’s witness Jones, the consultant from DNV, testified about the type of turbine and the advantages of using a 1.6 MW turbine versus a 1.5 MW turbine. Tr. Vol. 1, pp. 229-232. DNV evaluated the wind resource. DNV was hired by NWE to “identify risks, inconsistencies, and other aspects of [Spion Kop] which were outside of typical industry practice.” Ex. NWE-7, pp. 5-6. The evidence also contains testimony from Jones that, based on the wind data, Spion Kop has a 50 percent chance of exceeding 138,000 MWh of energy produced in a year and a 95 percent chance of exceeding 118,000 MWh/yr. Tr. Vol. 1, p. 216. This evidence was not contradicted by any party. Therefore, the Commission finds that the evidence in the record supports NWE’s conclusion that it would continue to provide reasonably adequate service if Spion Kop were added to its resource portfolio.

100. NWE may only charge rates that are just and reasonable, or as it relates to this docket, the Commission cannot approve the procurement of Spion Kop if NWE will be compelled to charge rates that are unjust and unreasonable. NWE submitted evidence that suggested that the rates which result from the procurement of Spion Kop will be just and reasonable because Spion Kop was a result of a “rigorous competitive solicitation process” and NWE compared Spion Kop to alternative resources which showed that the costs of Spion Kop

were lower than the other alternative resources. Ex. NWE-1, p. 27. Based on the foregoing as well as the subsequent analysis in this Order, the Commission finds that the rates resulting from the procurement of Spion Kop will be just and reasonable.

Is the procurement of Spion Kop consistent with the objectives in § 69-8-419, MCA?

101. The next requirement in § 69-8-421(6)(c)(ii), MCA, is that the procurement of an electricity supply resource must be consistent with the objectives contained in § 69-8-419, MCA. Section 69-8-419(2), MCA, contains five objectives a utility must pursue when fulfilling its duties to plan, manage, and procure electricity supply resources. To wit, it must:

1. Provide adequate and reliable electricity supply service at the lowest long-term total cost;
2. Conduct an efficient electricity supply resource planning and procurement process that evaluates the full range of cost-effective electricity supply and demand-side management options;
3. Identify and cost-effectively manage and mitigate risks related to its obligation to provide electricity supply service;
4. Use open, fair, and competitive procurement processes whenever possible, and
5. Provide electricity supply service and related services at just and reasonable rates.

Section 69-8-419(2)(a-e), MCA. The Commission finds that NWE has successfully shown that the procurement of Spion Kop is consistent with the multiple and sometimes competing objectives found in the statute. Each of the objectives is analyzed in turn below.

102. The first objective contains language similar to § 69-3-201, MCA; however, it requires NWE to pursue the provision of supply service at “the lowest long-term total cost.” § 69-8-419(2)(a), MCA. As discussed above, Spion Kop allows NWE to continue to provide adequate and reliable service to its customers. The Commission further finds that NWE has sufficiently shown that Spion Kop will contribute to a portfolio of resources designed to pursue the lowest long-term total cost of service while simultaneously pursuing other statutory

objectives. This matter is discussed in greater detail in the section below labeled “Economic evaluation of Spion Kop and alternative resource options.”

103. The second objective requires the utility to conduct efficient planning processes that evaluate cost-effective supply and demand side management options. § 69-8-419(2)(b), MCA. NWE filed with the Commission procurement plans in 2007, 2009, and 2011.<sup>1</sup> Both the 2007 and 2009 plans included wind in the preferred portfolios and were developed consistent with Montana statutes and the Commission rules. Ex. NWE-1, p. 8. All of the preferred portfolios in NWE’s 2011 plan include Spion Kop and three of the six preferred portfolios add additional wind resources during the planning horizon.<sup>2</sup> Each of NWE’s procurement plans which the Commission has commented on have complied with § 69-8-419(2)(b), MCA, by evaluating cost-effective supply and demand side management options. (See Docket No. N2007.11.138; Docket No. N2010.6.57; and Docket No. N2011.12.96.)

104. Next is the objective that the utility must identify risks associated with supplying electricity service and that it must cost-effectively manage and mitigate these risks. § 69-8-419(2)(c), MCA. NWE submitted evidence that it had identified several risks associated with the supply of electricity and that Spion Kop mitigated many of these risks over the long-term. Ex. NWE-9, pp. 12-14. As previously mentioned, NWE provided testimony from its witness, Hines, regarding the risks mitigated by Spion Kop and how this mitigation of risks will benefit NWE’s customers. *See* NWE’s Initial Brief, pp. 11-12 (citing to Ex. NWE-1, p. 26 and Tr. Vol. 1, pp. 22-23, 28-29, and 60-63). No party claimed that NWE had not met this objective. The evidence supports NWE’s compliance with the third objective of § 69-8-419(2), MCA.

105. The fourth objective requires that, when possible, the utility use procurement processes that are open, fair, and competitive. § 69-8-419(2)(d), MCA. NWE submitted evidence that it complied with this objective in selecting the Spion Kop project. Tr. Vol. 1, pp. 162-210 and Ex. NWE-5. Lewis testified that Lands Energy was hired by NWE to conduct and manage the RFI which culminated in the selection of the Spion Kop project. Ex. NWE-5,

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<sup>1</sup> During the hearing, the Commission took administrative notice of all three plans. TR Vol. 1, p. 10 and Vol. 2, p. 158.

<sup>2</sup> The 2011 plan was filed with the Commission on the final day of hearing – December 15<sup>th</sup>. See Docket No. N2011.12.96, Vol. 1, p. 185 and Vol. 2, Chapter 3.



p. 3. Lewis' pre-filed direct testimony (Ex. NWE-5) stated that Lands Energy conducted the initial screening process independent from NWE, although NWE was consulted with regarding the establishment of criteria for Tier 1. Tr. Vol. 1, pp. 166 and 169.

106. After the number of candidates was narrowed down to four, NWE became more directly involved with the process and eventually narrowed the candidates down to two finalists – Invenergy and Sagebrush. Ex. NWE-5, p. 12 and Tr. Vol. 1, pp. 176-177. Compass Wind (owner of SKWLLC) was not selected as one of the final two projects for several reasons. NWE indicated that one of the factors that hurt the Compass Wind project was the fact that it lacked a sufficient amount of on-site wind data. Tr. Vol. 1, p. 207. In October 2010, Sagebrush was eliminated from consideration due to migratory bird flyways and view shed issues at the project sites. Ex. NWE-5, p. 13 and Tr. Vol. 1, p. 252. Compass Wind was then contacted shortly thereafter in an attempt to negotiate a replacement project for the Sagebrush project. Tr. Vol. 1, p. 252. In February 2011, negotiations with Invenergy were terminated due to mine site reclamation issues. Tr. Vol. 1, pp. 252 and 275. NWE then decided to negotiate a larger project with Compass Wind – going from 25 MW to 40 MW. Tr. Vol. 1, p. 253. The other finalist, Greycliff, was not contacted after Invenergy's project was terminated. Tr. Vol. 1, p. 40. NWE did not re-open the competitive solicitation process because it felt there were time constraints that forced it to proceed with the Compass Wind expansion and because NWE had previously selected four viable projects so that it had a fallback option if, for whatever reason, preferred projects failed to complete. Tr. Vol. 1, pp. 41-42, 87, and 253. Of the two fallback projects, Compass Wind and Greycliff, Compass Wind ranked higher. Tr. Vol. 1, p. 192.

107. Cross examination of NWE's witnesses included extensive questioning about NWE's decision to expand the Compass Wind project and the perception that the process seemed unfairly advantageous to Compass Wind. However, after reviewing the evidence *in toto* and in conjunction with the objective in § 69-8-419(2)(d), MCA, the Commission cannot conclude NWE failed to reach this objective. The language of § 69-8-419(2)(d), MCA, requires that the utility use open, fair and competitive processes *whenever possible* (emphasis added). NWE presented evidence, which was not contradicted, that it had initially used a process that appeared to be open and fair to all potential respondents, but due to its inability to finalize an agreement with one of the two top-ranked projects, it had to reassess and decided to re-open negotiations with the next best project from the four finalists, Compass Wind, which it had previously

rejected. Then, when another of the top-ranked projects could not be completed, and given the approaching deadlines, NWE again had to reassess and chose to enlarge the Compass Wind project. Even if attempting to revive the Greycliff project at that time would have been reasonable, that does not mean NWE's decision was not just as reasonable given the uncertainties it faced. Given what appears to be some transparency issues with the RFI process towards the end, if the objective in the statute was worded a little differently, i.e. eliminating the "whenever possible" language, the Commission's finding might be different.

108. Notwithstanding the foregoing finding, the Commission believes that future procurement processes should more clearly specify NWE's objectives and resources sought so that respondents are able to submit appropriately conforming bids and competition between bids is open and fair, as required by the objective discussed above. The Commission believes that the RFI used in this docket could have been clearer regarding NWE's interest in Community Renewable Energy Projects (CREP) versus non-CREP resources. The Commission also believes that NWE might have distorted the procurement process used to ultimately select the Compass Wind project by stating that NWE preferred to own the project versus buying the power from the project under a purchase power agreement. Ex. NWE-5, Exhibit\_(SEL-02), p. 2 (see also Tr. Vol. 1. p. 28).

109. Finally, the last objective in § 69-8-419(2), MCA, provides that the utility must provide electric service at just and reasonable rates. This is the same requirement found in § 69-3-201, MCA, which has already been discussed above. Therefore, based on the previous discussion and the economic evaluation section below, the Commission finds that the procurement of Spion Kop will not result in rates to customers that are unjust and unreasonable.

110. Based on the foregoing discussion, the Commission finds that NWE has successfully shown that the procurement of Spion Kop will be consistent with each of the five objectives found in § 69-8-419(2), MCA, and thus, has satisfied one part of § 69-8-421(6)(c)(ii), MCA.

Is the procurement of Spion Kop consistent with the Commission's rules?

111. In prior pre-approval dockets, the Commission found that particular administrative rules are applicable to the determination of whether procurement of an electricity supply resource is consistent therewith. In Order Nos. 6925f and 6943a, the Commission found the following to be the applicable rules when deciding whether to approve acquisition of an

electricity supply resource: ARM 38.5.8204 (procurement objectives); 38.5.8210 (resource needs assessment); 38.5.8212 (resource acquisition); 38.5.8213 (modeling and analysis); 38.5.8219 (risk management and mitigation); and 38.5.8220 (transparency and documentation). (See ¶ 255 in Order No. 6925f and ¶ 259 in Order No. 6943a). NWE provided testimony and exhibits that demonstrated that it complied with these administrative rules. Ex. NWE-1, pp. 34-36; Tr. Vol. 1, pp. 24-49; and Ex. NWE-9. Again, no party claimed that NWE did not comply with the administrative rules of the agency. Therefore, based on the evidence, the procurement of Spion Kop is consistent with the Commission rules.

#### Can Spion Kop be designated an Eligible Renewable Resource?

112. NWE's Application requests that Spion Kop be certified as an Eligible Renewable Resource pursuant to § 69-3-2003, MCA. An Eligible Renewable Resource is "a facility...located within Montana...that produces electricity from...wind." § 69-3-2003(10), MCA. Spion Kop will be located in Judith Basin County, MT and produces electricity from wind. Therefore, the Commission finds that Spion Kop meets the definition of an Eligible Renewable Resource under the statute.

#### **Economic evaluation of Spion Kop and alternative resource options**

113. Commission rules governing pre-approval applications required NWE's Application to include testimony and supporting work papers showing how its Spion Kop cost estimates compared to the cost of each alternative resource it considered. ARM 38.5.8228(2)(d). NWE satisfied those requirements largely through the testimony and accompanying work papers of its witness Guldseth. Ex. NWE-9. On page 8 of his prefiled testimony, Guldseth compared a 25-year levelized Spion Kop cost estimate to cost estimates for seven alternatives consisting of: various wholesale market forecasts (with and without RECs), then-current QF tariff rates, wind costs modeled in its 2009 resource plan, and the second lowest RFI PPA offer. (See ¶ 55, above) Guldseth also provided the results of GenTrader<sup>®</sup> stochastic portfolio modeling to illustrate how acquiring Spion Kop might affect total portfolio costs and risk exposure.

114. Uncertainty associated with several key variables complicates an assessment of Spion Kop's economic cost effectiveness compared to alternative resources. For Spion Kop, key variables include long-term energy output and integration costs. Long-term wind characteristics,

turbine availability, and turbine performance will determine energy output. The mix and cost of flexible resources in NWE's resource portfolio, development of regional ancillary service markets, scheduling practices, balancing area coordination and/or consolidation, and the development of storage technologies may influence long-term integration costs in addition to the costs of operating DGGs. For alternative resources, such as market purchases and utility-owned generation plants, key variables include future natural gas prices, which influence wholesale electricity market prices and production costs for gas-fueled generation plants, future CO<sub>2</sub> emissions costs, and future REC values (if the alternative resource does not count toward renewable energy standards).

115. Quantitatively comparing the cost of Spion Kop to the cost of particular alternatives requires estimating values for each key variable. When Guldseth compared Spion Kop to alternative market purchases, those comparisons reflected estimates for Spion Kop's annual energy production and integration costs as well as estimates for future natural gas prices, the relationship between natural gas prices and wholesale electricity prices (the market-implied heat rate), future inflation rates, the timing and amount of future CO<sub>2</sub> emission costs, and REC values. Different estimates for these variables produce different comparative costs. The Commission explored the reasonableness of NWE's estimates for key variables in considering whether pre-approving Spion Kop is in the public interest and whether it will contribute to an adequate, reliable electricity supply portfolio that reasonably balances the statutory objectives of minimizing long-term costs and managing and mitigating risks to customers.

116. Guldseth compared a single cost estimate for Spion Kop against seven alternatives. Ex. NWE-9, p. 8. Although these cost estimates and alternatives may reflect the best information available to NWE at the time, more current information is available now in the form of responses to data requests and NWE's 2011 electricity supply resource plan; both which are part of the record<sup>3</sup>. Tr. Vol. 1, pp. 9-10 and Vol. 2, p. 160. The analysis below builds on Guldseth's alternative resource cost comparisons using more current information. The Commission concludes that Spion Kop cost estimates compare favorably to a range of alternative resource cost estimates and that acquiring Spion Kop would help NWE achieve the multiple

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<sup>3</sup> The Commission is permitted to consider all relevant information up to the point the record is closed when making its decision on a pre-approval application. § 69-8-421(6)(b), MCA.

objectives in § 69-8-419, MCA and the Commission's resource planning rules by further diversifying NWE's supply portfolio at a reasonable cost.

117. Using Guldseth's approach, the Commission compared various Spion Kop cost estimates to ten alternative resources representing a range of portfolio strategies, natural gas costs, and CO<sub>2</sub> costs. The ten alternative resources reflect current information and highlight various issues raised by the Commission during the hearing. The Commission also evaluated the ten alternative resources under three REC value scenarios. Altogether, the Commission compared six Spion Kop cost estimates reflecting a range of output and integration cost assumptions to 30 alternative resource cost estimates. Like Guldseth, the Commission calculated 25-year levelized costs for all alternatives, using the 7.40% weighted cost of capital in NWE's revenue requirements model to discount future costs and annualize total present values. All Spion Kop cost estimates are based on NWE's revenue requirements model. See Ex. NWE-9 (TAG-01). Since the tariff rates set to recover Spion Kop revenue requirements will not actually be adjusted annually, as NWE's model assumes, rate revenue per unit of production will be higher than what the model shows, other things being equal. The Commission estimated this difference to be about \$3.00/MWh on a 25-year levelized basis.<sup>4</sup> The Commission chose not to include this difference in the economic analysis for several reasons. First, the Commission is not aware that similar adjustments have been made in prior resource decisions. Second, other things are never equal. And third, the avoided cost-based resource alternatives to which Spion Kop is compared would require a similar adjustment but revenue requirements models for those resources are not available.

118. The Spion Kop cost estimates the Commission analyzed are:

- Average annual output equal to 126,144 MWh/yr (36% capacity factor) and 25-year levelized integration costs equal to \$2.27/MWh, reflecting incremental variable DGGs costs and an 18% integration factor. A 36% capacity factor falls between DNV's P50 and P95 output estimates and assumes DNV over-estimated P50 by about 9%; Jones testified that, on average, DNV's past energy estimates have over-estimated actual energy output by 2 – 3%. Ex. NWE-7, p. 9. The Commission estimated the \$2.27/MWh integration cost using the model NWE provided in data response PSC-003, but used updated gas and electricity prices provided in data response PSC-010b (market sensitivity gas and electricity prices) and allocated the 60 MW pre-wind regulation capacity according to NWE's

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<sup>4</sup> The difference assumes new rates are set in 2013, 2014, 2015, 2017, 2019, 2023, 2027, 2031, and 2035. Rate revenue-based costs included the load growth rates included in NWE's 2011 RPP.

proposals in Docket D2008.8.95 (i.e., 39 MW retail and 21 MW wholesale vs. 42 MW retail and 18 MW wholesale). Using this slightly modified model, the Commission calculated the additional fuel expense less additional revenue credits associated with integrating 40 MW of additional wind generation capacity with DGGs (see also Ex. NWE-9, p. 5 and Tr. Vol. 2, p. 19).

- Average annual output equal to 138,000 MWh/yr (39.4% capacity factor) and 25-year levelized integration costs equal to \$2.27/MWh. This cost estimate reflects NWE's long-term expected output with incremental integration costs.
- Average annual output equal to 145,520 MWh/yr (41.5% capacity factor) and 25-year levelized integration costs equal to \$2.27/MWh. This cost estimate tests a scenario in which Spion Kop outperforms its expected 39.4% capacity factor by about 5.4%, similar to NWE's actual experience with Judith Gap, to date.<sup>5</sup>
- Average annual output equal to 126,144 MWh/yr (36% capacity factor) and 25-year levelized integration costs equal to \$4.32/MWh, reflecting incremental variable DGGs costs and a 34% integration factor. The 34% integration factor is extrapolated from GENIVAR's June 2011 Montana Wind Integration Study and assumes Spion Kop is in the same wind regime as Judith Gap. GENIVAR's study indicates that a new 10 MW wind project in Wheatland County would require additional regulating capacity equal to 1.1 MW (11% of nameplate capacity) to achieve a minimum 92% CPS2 performance. Adding a 50 MW project in Wheatland County would require additional regulating capacity equal to 21 MW (42% of nameplate capacity). These results imply a non-linear relationship, but the precise relationship is not known. The Commission estimated the regulating capacity for 40 MW of additional wind by uniformly increasing the 10 MW regulating capacity requirement (11% of nameplate capacity) by 7.75% for each additional 10 MW of wind capacity between 10 MW and 50 MW. Using this method, 40 MW in Wheatland County requires additional regulating capacity equal to about 34% of nameplate capacity or 13.7 MW.
- Average annual output equal to 138,000 MWh/yr (39.4% capacity factor) and 25-year levelized integration costs equal to \$4.32/MWh. This cost estimate uses NWE's expected output, but puts Spion Kop in the same wind regime as Judith Gap.
- Annual output equal to 145,520 MWh/yr (41.5% capacity factor) and 25-year levelized integration costs equal to \$4.32/MWh. This cost estimate evaluates greater than expected output, and puts Spion Kop in the same wind regime as Judith Gap.

119. The ten alternative resources are:

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<sup>5</sup> NWE's application for pre-approval of Judith Gap stated an expected capacity factor of 37%. (Docket No. D2005.2.14, *In the Matter of the Application of NorthWestern Energy for Advanced Approval of Certain Proposed Electricity Power Supply Purchase Agreements*, Application, p. 4.) For the period 2006-2011 Judith Gap's average annual capacity factor was 39%

- The base case, high case, and low case wholesale electricity market price forecasts from NWE's 2011 resource plan with base case CO<sub>2</sub> emissions costs.
- The base case wholesale electricity market price forecast from NWE's 2011 resource plan with delay case CO<sub>2</sub> emissions costs.
- The base case wholesale electricity market price forecast from NWE's 2011 resource plan with no CO<sub>2</sub> emissions costs.
- A wholesale electricity market price forecast derived from the Northwest Power and Conservation Council's (NWPPCC) August 2011 natural gas price forecast<sup>6</sup>. The Commission derived this electricity price forecast by calculating annual market implied heat rates from the base case electricity and natural gas price forecasts in NWE's 2011 resource plan and applying those heat rates to NWPPCC's natural gas prices to get the implied electricity prices.
- The U.S. Energy Information Administration's (EIA) 2011 Annual Energy Outlook (AEO) natural gas price forecast-based electricity price forecast, with delayed CO<sub>2</sub> emissions costs. NWE provided this forecast in data response PSC-004c. The Commission adopted the EIA 2011 AEO natural gas price forecast as the basis for NWE's avoided costs in Docket No. D2010.7.77, Order No. 7108e.
- An avoided cost estimate based on the blended market-CCCT method adopted by the Commission in Docket No. D2010.7.77, Order No. 7108e (NWE's last QF-1 docket), using the base case wholesale electricity market forecast and CCCT resource costs from NWE's 2011 resource plan, including base case CO<sub>2</sub> emissions costs, and NWPPCC's August 2011 natural gas price forecast. The Commission classified the total avoided cost to energy and capacity costs according to the method in Order No. 7108e and estimated an Option 1(c)-like wind rate that included a 5% capacity value rather than the 15% value used in Order 7108e.
- The avoided cost estimate just described but with no CO<sub>2</sub> emissions costs.
- NWE's existing QF-1 Option 1(a) tariff rate for a wind project with an output profile similar to Judith Gap, net of the existing wind integration tariff rate (\$8.47/MWh) plus the \$2.27/MWh incremental wind integration cost. If NWE or the Commission eliminates the 50 MW "installed capacity limit" from NWE's current QF-1 tariff, this alternative represents the cost of new QF wind capacity added to NWE's portfolio in 2012.

120. The three tables below compare the six Spion Kop cost estimates and the 10 alternative resource cost estimates. Each table assumes a different REC value. Following

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<sup>6</sup> This information was included in NWE's 2011 Resource Procurement Plan, which the Commission took administrative notice of at the hearing.

Guldseth's practice, the Commission added REC costs to the cost of alternative resources so that they contribute equally to NWE's compliance with Montana's statutory renewable energy standards. As Hines indicated, an alternative approach would be to assume that NWE does not comply with renewable energy standards and, instead, sells RECs produced by Spion Kop. Tr. Vol. 1, p. 114. In that case, revenue from REC sales would offset a portion of Spion Kop's total cost resulting in the same relative rankings for Spion Kop and the alternatives. *Id.*

121. The Commission considered three alternative REC values: \$7.48/MWh (NWE's base case), \$12.17/MWh, and \$3.13/MWh. Each alternative REC value reflects a 25-yr levelized value. NWE's \$7.48/MWh base case REC value also approximates the REC value that would be obtained by attributing no value to RECs for the period 2013-2019 and assuming NWE enters a long-term agreement to sell RECs at \$14.00/MWh for the period 2020-2037 (see Tr. Vol. 2, p. 37). The \$12.17/MWh alternative reflects the REC price forecast in NWE's 2011 resource plan. The \$3.13/MWh alternative evaluates a hypothetical scenario in which REC markets disappear in 2019 with the emergence of an explicit CO<sub>2</sub> price. This scenario might happen if state legislatures conclude that external cost considerations that might have warranted renewable energy standards have been sufficiently internalized by the national CO<sub>2</sub> pricing policy.



**Table 1. Total cost of alternative resources assuming \$7.48/MWh REC value**

Spion Kop scenario/alternative resource description \$7.48/MWh REC value	Total comparative cost	Rank
2011 Plan base market, no CO <sub>2</sub>	\$51.05	1
Spion Kop, 41.5% capacity factor, 18% regulation factor	\$51.38	2
Spion Kop, 41.5% capacity factor, 34% regulation factor	\$53.43	3
Spion Kop, 39.4% capacity factor, 18% regulation factor	\$55.42	4
Spion Kop, 39.4% capacity factor, 34% regulation factor	\$57.46	5
2011 Plan low market, base CO <sub>2</sub>	\$58.96	6
Spion Kop, 36% capacity factor, 18% regulation factor	\$62.76	7
2011 Plan - D2010.7.77 a.c. method, NWPCC gas, 18% integrat. factor, no CO <sub>2</sub>	\$62.97	8
Spion Kop, 36% capacity factor, 34% regulation factor	\$64.81	9
Current QF-1 tariff Option 1(a), net of integration tariff	\$64.92	10
2011 Plan base market, base CO <sub>2</sub>	\$67.41	11
2011 Plan base market, delay CO <sub>2</sub>	\$68.67	12
NWPCC Aug. 2011 natural gas-based market	\$73.16	13
2011 Plan - D2010.7.77 a.c. method, NWPCC gas, 18% integrat. factor, base CO <sub>2</sub>	\$76.73	14
EIA 2011 AEO gas forecast-based, delay CO <sub>2</sub> (2009 Plan)	\$79.35	15
2011 Plan high market, base CO <sub>2</sub>	\$87.76	16

**Table 2. Total cost of alternative resources assuming \$12.17/MWh REC value**

Spion Kop scenario/alternative resource description \$12.17/MWh REC value	Total comparative cost	Rank
Spion Kop, 41.5% capacity factor, 18% regulation factor	\$51.38	1
Spion Kop, 41.5% capacity factor, 34% regulation factor	\$53.43	2
Spion Kop, 39.4% capacity factor, 18% regulation factor	\$55.42	3
2011 Plan base market, no CO <sub>2</sub>	\$55.73	4
Spion Kop, 39.4% capacity factor, 34% regulation factor	\$57.46	5
Spion Kop, 36% capacity factor, 18% regulation factor	\$62.76	6
2011 Plan low market, base CO <sub>2</sub>	\$63.64	7
Spion Kop, 36% capacity factor, 34% regulation factor	\$64.81	8
2011 Plan - D2010.7.77 a.c. method, NWPCC gas, 18% integrat. factor, no CO <sub>2</sub>	\$67.66	9
Current QF-1 tariff Option 1(a), net of integration tariff	\$69.60	10
2011 Plan base market, base CO <sub>2</sub>	\$72.10	11
2011 Plan base market, delay CO <sub>2</sub>	\$73.35	12
NWPCC Aug. 2011 natural gas-based market	\$77.85	13
2011 Plan - D2010.7.77 a.c. method, NWPCC gas, 18% integrat. factor, base CO <sub>2</sub>	\$81.42	14
EIA 2011 AEO gas forecast-based, delay CO <sub>2</sub> (2009 Plan)	\$84.04	15
2011 Plan high market, base CO <sub>2</sub>	\$92.45	16

**Table 3. Total cost of alternative resources assuming \$3.13/MWh REC value**

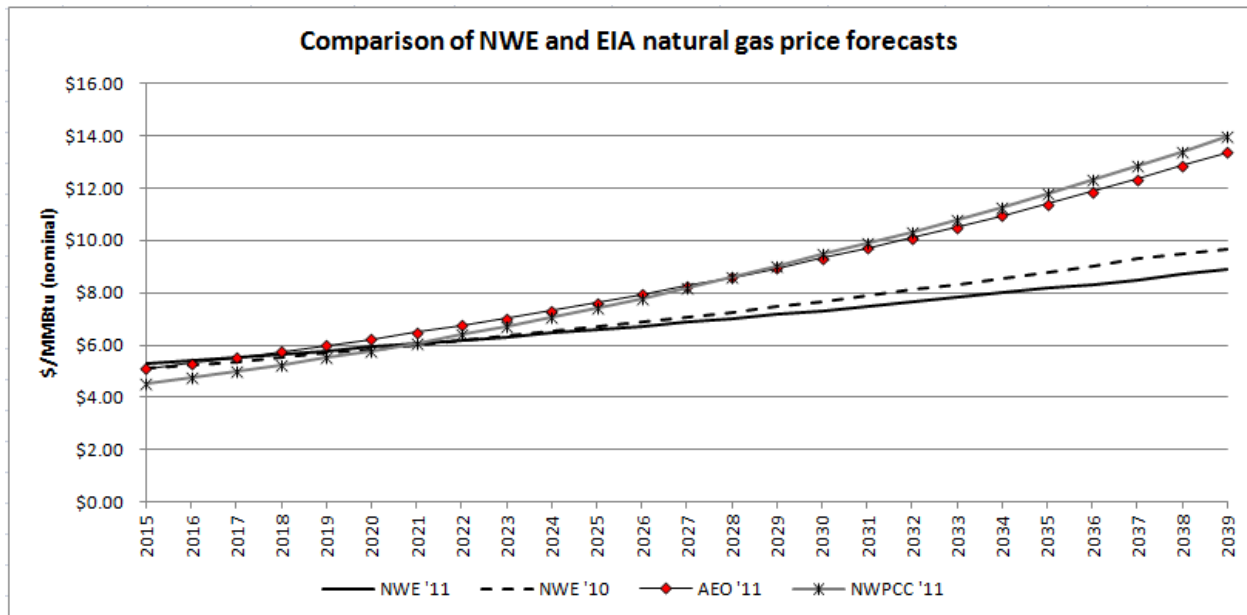
Spion Kop scenario/alternative resource description \$3.13/MWh REC value	Total comparative cost	Rank
2011 Plan base market, no CO <sub>2</sub>	\$46.70	1
Spion Kop, 41.5% capacity factor, 18% regulation factor	\$51.38	2
Spion Kop, 41.5% capacity factor, 34% regulation factor	\$53.43	3
2011 Plan low market, base CO <sub>2</sub>	\$54.61	4
Spion Kop, 39.4% capacity factor, 18% regulation factor	\$55.42	5
Spion Kop, 39.4% capacity factor, 34% regulation factor	\$57.46	6
2011 Plan - D2010.7.77 a.c. method, NWPCC gas, 18% integrat. factor, no CO <sub>2</sub>	\$58.62	7
Current QF-1 tariff Option 1(a), net of integration tariff	\$60.57	8
Spion Kop, 36% capacity factor, 18% regulation factor	\$62.76	9
2011 Plan base market, base CO <sub>2</sub>	\$63.07	10
2011 Plan base market, delay CO <sub>2</sub>	\$64.32	11
Spion Kop, 36% capacity factor, 34% regulation factor	\$64.81	12
NWPCC Aug. 2011 natural gas-based market	\$68.82	13
2011 Plan - D2010.7.77 a.c. method, NWPCC gas, 18% integrat. factor, base CO <sub>2</sub>	\$72.38	14
EIA 2011 AEO gas forecast-based, delay CO <sub>2</sub> (2009 Plan)	\$75.00	15
2011 Plan high market, base CO <sub>2</sub>	\$83.41	16

122. Although cost estimates for the alternative resources based on NWE's 2011 resource plan (see bullets 1-3, ¶ 119) incorporate recent information, they are inconsistent with the Commission's recent Order No. 7108e in Docket No. D2010.7.77. In Order 7108e, the Commission determined that NWE's natural gas price forecast deviated from other industry forecasts for unexplained reasons. The Commission ultimately adopted EIA's natural gas price forecast, noting that all of the active parties had relied on EIA information to support their positions. Order No. 7108e, ¶¶ 58-64. The method NWE used to develop the natural gas market price forecast in its 2011 resource plan is the same method NWE used to develop the natural gas price forecast the PSC rejected in Order 7108e. The chart below compares NWE's 2010 natural gas procurement plan and 2011 electric resource plan base case natural gas price forecasts to forecasts prepared by NWPCC and EIA.<sup>7</sup> In NWE's 2011 plan it recognized that its natural gas price forecast differs from NWPCC's because NWPCC projects real production cost increases over time. However, NWE did not discuss the merits of either forecast for planning purposes or

<sup>7</sup> NWPCC's forecast was released in August 2011. NWE compared its forecast to NWPCC's forecast in its 2011 resource plan, Vol. 1, pp 139-140. The EIA forecast reflects the forecast the Commission adopted in Order 7108e, ¶ 69. The 2010 natural gas procurement plan forecast was provided in data response PSC-004.

otherwise attempt to justify its forecast over NWPCC's. In addition, NWE's 2011 plan is still in the early stages of public and Commission review and comment.

**Chart 1. Natural gas price forecasts**



123. Due to the Commission's recent decision regarding a reasonable natural gas price forecast in Order No. 7108e, and given the absence of record evidence in this case supporting a switch back to NWE's forecast, the Commission attributes somewhat less weight to those resource alternatives based on NWE's 2011 plan natural gas price forecast. In addition, while there is some probability that there will never be a charge for CO<sub>2</sub> emissions, the Commission's resource planning rules encourage NWE to analyze the relative risks of alternative resources and to diversify its resource portfolio to accommodate a broad range of future outcomes because there is also some probability that there will be a charge for CO<sub>2</sub> emissions. ARM 38.5.8219. Therefore, estimated Spion Kop costs need not be less than the estimated cost of alternative resources under a no-CO<sub>2</sub> emissions cost scenario for Spion Kop to be an economically rational addition to NWE's resource portfolio. As long as the additional cost of Spion Kop is less than or equal to the risk it offsets, acquiring Spion Kop is economically rational.

124. The Commission considered Spion Kop cost estimates that assume Spion Kop and Judith Gap are in the same wind regime despite Jones's testimony that on a within-hour basis Spion Kop and Judith Gap are not strongly correlated. Tr. Vol. 2, p. 7. Jones's testimony is

conclusory since it was not supported by work papers verifying the data and calculations. However, there is no evidence that impeaches Jones's credibility as an expert on wind resource assessments. Assuming Jones's results are valid, 10-minute wind speeds at the Spion Kop site would be slightly more correlated with wind speeds at Judith Gap than wind speeds in Madison County and slightly less correlated with wind speeds at Judith Gap than wind speeds in Park County, based on wind speed correlations reported in the GENIVAR study.<sup>8</sup>

125. Ultimately, it is difficult to reduce the cost of Spion Kop and the cost of alternative resources to a simple, apples-to-apples comparison. If approved, Spion Kop would mitigate some risks while exposing customers to others. Alternative resources perform different portfolio functions and expose customers to different risks. Generally, Spion Kop performs well against the set of alternative resources the Commission analyzed, given the significant uncertainty surrounding key variables. As NWE acknowledged in its brief, the primary risk to which customers will be exposed if the Commission pre-approves Spion Kop is that it might not achieve its predicted average annual production. NWE Initial Br. p. 13. However, even at a long-term average annual capacity factor of 36% Spion Kop mitigates fuel price risks, market risks, and environmental risks, as illustrated by the comparative cost of NWPCC and EIA natural gas price forecast-based market alternatives and avoided cost estimates.

126. In addition, the stochastic analyses NWE performed in its 2011 resource plan (with its lower natural gas price forecast) indicate that a portfolio that includes existing wind resources, recent QF wind projects and Spion Kop, is both less costly and less risky than a portfolio that does not include any wind. A portfolio without Spion Kop costs slightly less than a portfolio with Spion Kop, but is riskier. Combining existing resources with Spion Kop and new resources, such as medium-term, fixed-price market purchases or a combined cycle gas plant, further reduces risk, but may involve higher costs. Importantly, NWE's stochastic analysis only evaluates market price volatility risks; CO<sub>2</sub>-related risks are not captured.

127. The near-term impact on consumers from pre-approving Spion Kop is relatively minor, as the table below shows. In some later years, Spion Kop is likely to exert downward pressure on rates.

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<sup>8</sup> GENIVAR, *NorthWestern Energy Montana Wind Integration Study*, June 2011, p. 31.

**Table 4. Estimated residential customer bill impacts**

<b>Illustrative residential total monthly bills with and without Spion Kop based on 750 kWh/month</b>			
	<b>Current<sup>1</sup></b>	<b>2013</b>	<b>2014</b>
<b>Spion Kop @ 36% capacity factor</b>	\$80.81	\$81.21	\$81.52
<i>\$ Difference from May 2011 forecast</i>		\$0.40	\$0.71
<i>% Difference from May 2011 forecast</i>		0.5%	0.9%
<b>Spion Kop @ 39.4% capacity factor</b>	\$80.81	\$81.16	\$81.47
<i>\$ Difference from May 2011 forecast</i>		\$0.35	\$0.66
<i>% Difference from May 2011 forecast</i>		0.4%	0.8%
<b>Spion Kop @ 42.7% capacity factor</b>	\$80.81	\$81.10	\$81.42
<i>\$ Difference from May 2011 forecast</i>		\$0.29	\$0.61
<i>% Difference from May 2011 forecast</i>		0.4%	0.8%

<sup>1</sup> May 2011 supply tracker avg. rate forecast plus December 2011 residential distribution rates

128. NWE's ability to test the feasibility and economic cost effectiveness of strategically curtailing wind production as part of a comprehensive approach to meeting balancing area regulation service needs would be an added, but difficult to quantify, benefit of acquiring Spion Kop. Tr. Vol. 1, p. 78. NWE's existing contracts with wind producers (Judith Gap and QFs) do not provide for strategic curtailment as a tool for addressing regulation requirements.

129. The Commission's resource planning and procurement rules encourage NWE to assemble a portfolio of electricity supply resources using portfolio management principles. A fundamental portfolio management principle is that a diverse mix of resources is less risky than a single resource.<sup>9</sup> Accordingly, the Commission's rules encourage NWE to assemble and maintain a diverse mix of electricity supply resources with respect to underlying fuels, technologies, environmental impacts, ownership structures and time commitments. ARM 38.5.8201-8226. NWE's 2007, 2009 and 2011 resource plans concluded that planned quantities of wind resources mitigate portfolio risk at a reasonable cost. Spion Kop's capacity, along with the wind capacity provided by five recent QF contracts, is in the range of planned wind capacity included in those resource plans.<sup>10</sup>

<sup>9</sup> Synapse Energy Economics, Inc. *Portfolio Management: How to Procure Electricity Resources to Provide Reliable, Low-Cost, and Efficient Electricity Services to All Retail Customers*, October 2003.

<sup>10</sup> The preferred portfolios from NWE's 2007 and 2009 resource plans contained 150 MW of additional wind capacity. NWE's 2009 action plan anticipated acquiring 50-75 MW of additional wind through competitive solicitations.

130. Based on the above economic analysis of cost estimates for Spion Kop and a range of alternatives, the Commission finds that acquiring Spion Kop can contribute to just and reasonable rates over the long-term and an electricity supply portfolio that is consistent with the goals and objectives of §69-8-419, MCA, and the Commission's resource planning and procurement rules. However, through a power purchase agreement, NWE typically purchases energy at a set unit price. The risk of a wind generating facility under-performing relative to expectations rests, then, with the independent power producer. Conversely, rate basing a wind generating facility shifts underperformance risks to rate payers.

131. Spion Kop was not one of the two finalists NWE selected in its RFI process and, as NWE witness Lewis testified, this was due to, in part, the lack of site-specific wind speed data. Tr. Vol. 1, p. 207. On-site wind speed data were more abundant for many of the other projects responding to the RFI. Ex. NWE-5 (SEL-07).

132. Therefore, this Order requires NWE to file annual compliance filings showing Spion Kop's net capacity factor and total energy output. If, at the end of three years, the average annual total energy output is less than 118,000 MWh, representing a "P" value that is greater than P95 (Ex. NWE-7, pp. 10-11), then NWE must reduce the then-tariffed applicable rates by reducing the underlying Spion Kop cost of service by the percentage amount that the actual average annual energy output is less than 118,000 MWh. Going forward, all future rates must reflect the same cost of service adjustment. If the average annual total energy output, inclusive of the first three years, subsequently reaches 138,000 MWh, the cost of service adjustment will terminate. This adjustment requires NWE to shoulder a portion of the risk of persistent and substantial underperformance by Spion Kop. If the performance is negatively affected by an extraordinary mechanical incident, the lost energy output associated with the loss of service would not count against the performance standard, but NWE bears the burden to demonstrate to the Commission that such losses were as a result of extraordinary circumstances. An extraordinary mechanical incident is a mechanical incident outside the range of incidents evaluated by DNV in its Wind Resource and Energy Assessment, the results of which are summarized in Ex. NWE-18.

**Stipulation on Revenue Requirements**

133. NWE initially requested an ROE of 10.25 percent and a capital structure of 52 percent debt and 48 percent equity. MCC proposed a 9.5 percent ROE and a capital structure of 60 percent, debt 40 percent equity, and that Spion Kop be included in NWE's next full general rate case.

134. NWE and MCC proposed to resolve their differences in this docket by agreeing in their Stipulation to: an initial ROE for Spion Kop of 10 percent; NWE's actual debt cost; an initial capital structure of 52 percent debt and 48 percent equity; and, inclusion of the Spion Kop project in NWE's next general rate case so that its cost of capital and capital structure can be determined on a consolidated basis with NWE's Montana electric utility operations.

135. The initial ROE proposed in the Stipulation is less than NWE's present authorized ROE for its regulated Montana electric utility, and is 25 basis points less than the initial ROE of DGGGS. The ROE of 10 percent is reasonable based on a comparison to the recent ROE findings in general rate cases for NWE and Montana-Dakota Utilities Co. The reduction of the ROE from NWE's original request of 10.25 percent to 10 percent reduces the overall cost of capital for the project from 7.52 percent to 7.40 percent. This reduces the first-year revenue requirement by \$172,425 to \$6,798,221, and reduces the second-year revenue requirement by \$161,599 to \$9,350,279.

136. The agreed-upon capital structure is the regulated capital structure of NWE. The capital structure is slightly more debt intensive than both Colstrip Unit 4's and DGGGS's initial 50/50 capital structure. Since the capital structure in the Stipulation is the same as the regulated capital structure determined by this Commission in NWE's last general rate case, use of that capital structure is reasonable.

137. The proposal by MCC and NWE to include Spion Kop in its next general electric rate case is meant to ensure that, from that point forward, the ROE and capital structure of NWE will be reflected as the ROE and capital structure of Spion Kop.

138. The Commission finds the Stipulation is a reasonable settlement of cost of capital and capital structure issues in the docket and approval of it is in the public interest.

## CONCLUSIONS OF LAW

1. The Commission has provided adequate and proper public notice of all proceedings, and an opportunity to be heard to all interested parties in this docket. § 69-3-104, MCA.

2. The Commission supervises, regulates, and controls public utilities pursuant to Title 69, Chapter 3, MCA. § 69-3-102, MCA.

3. Public utilities are required to provide reasonably adequate services and facilities at just and reasonable rates. § 69-3-201, MCA.

4. NorthWestern Energy is a public utility subject to the jurisdiction of the Commission. § 69-3-101, MCA.

5. NorthWestern's Application in this docket is reviewed by the Commission with the requirements found in § 69-8-421(6)(c), MCA.

6. Pursuant to § 69-8-421(6)(c), MCA, the Commission finds that the Application is in the public interest and that procurement of the Spion Kop Wind Project is consistent with § 69-3-201, MCA, the objectives in § 69-8-419, MCA, and the Commission's administrative rules mentioned in paragraph 110 above.

7. Any conclusions of law that are properly findings of fact are hereby adopted as such.

## ORDER

### NOW THEREFORE IT IS ORDERED:

1. Approval of the Application is in the public interest;
2. Acquisition of Spion Kop as well as construction of the Associated Facilities is consistent with the requirements found in § 69-3-201, MCA, the objectives in § 69-8-419, MCA, and the Commission's rules;
3. Acquisition cost of the wind turbine generation for Spion Kop is \$1,947/kW;
4. NWE must file a compliance filing within 90 days of the closing date. The compliance filing must adjust the estimated costs of the Associated Facilities to the actual costs and adjust the estimated cost of debt to the actual cost of debt;
5. NWE is authorized to recover for the first year of commercial operation the amount of \$6,798,221, as adjusted by the compliance filing;



6. NWE is authorized to recover for the second year of commercial operation the amount of \$9,350,279, as adjusted by the compliance filing;
7. NWE is authorized to recover a pro rata share of the total revenue requirement if less than 40 MW of the project is owned by NWE on the closing date;
8. If less than 40 MW of the project is owned by NWE on the closing date, NWE is authorized to recover purchased power expenses for power purchased from Spion Kop Wind, LLC in the electric supply tracker at a 25-year levelized rate of \$53.15 per MWh;
9. If less than 40 MW of the project is owned by NWE on the closing date, NorthWestern is authorized to make a supplemental filing after completion of the project to reflect any additional purchased wind generation turbines;
10. The Stipulation is approved;
11. Pursuant to the terms of the Stipulation, NWE must include Spion Kop in its next full general rate case. If this condition is not satisfied by December 31, 2014, NWE must make an updated filing that adjusts the fixed costs of Spion Kop. This filing must be made every two years for the first ten years of commercial operation, i.e. in 2015, 2017, 2019, 2021, and 2023. Once Spion Kop is included in a full general rate case, NWE no longer has to comply with this requirement; and,
12. Consistent with paragraph 132 above, NWE must file annual compliance filings showing Spion Kop's net capacity and total energy output.
13. Spion Kop is certified as an eligible renewable resource.

DONE AND DATED THIS 14<sup>th</sup> day of February, 2012, by a vote of 3 to 2.

BY ORDER OF THE MONTANA PUBLIC SERVICE COMMISSION

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TRAVIS KAVULLA, Chairman

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GAIL GUTSCHE, Vice Chair

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W. A. GALLAGHER, Commissioner (Dissenting)

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BRAD MOLNAR, Commissioner (Dissenting)

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JOHN VINCENT, Commissioner

ATTEST:

Aleisha Solem  
Commission Secretary

(SEAL)

NOTE: Any interested party may request the Commission to reconsider this decision. A motion to reconsider must be filed within ten (10) days. See 38.2.4806, ARM.