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**Jim Ruby, Executive Secretary
Environmental Quality Council**

Nancy Vehr (#6-3341)
Senior Assistant Attorney General
123 Capital Building
Cheyenne, WY 82002
Telephone: (307) 777-6946
Facsimile: (307) 777-3542

Attorney for the State of Wyoming,
Department of Environmental Quality

**BEFORE THE ENVIRONMENTAL QUALITY COUNCIL
STATE OF WYOMING**

In the Matter of:)
Basin Electric Power Cooperative) Docket No. 10-2802
Air Quality Permit No. MD-6047)
BART Permit: Laramie River Station)

**AFFIDAVIT OF JAMES NALL IN RESPONSE TO
BASIN ELECTRIC'S MOTION FOR SUMMARY JUDGMENT**

STATE OF WYOMING)
) ss.
County of Laramie)

I, James (Josh) Nall, being first duly sworn, deposes and says as follows:

1. I am over the age of 21 and am competent to make this affidavit.
2. The facts and matters stated herein are within my personal knowledge, and are true and correct.
3. I have a Bachelor of Science degree in Geophysics which I received from the University of Wyoming in 1984, and a Master of Science degree in Environmental Science which I received from the University of Colorado – Denver in 1999.

4. In 1986, I completed U.S. Air Force Officer Training School in San Antonio, Texas, and completed the Air Force's Basic Meteorology Program at Florida State University in the spring of 1987.

5. In 1987, I was assigned as a Weather Officer/Staff Meteorologist to the U.S. Air Force Weapons Laboratory (AFWL) at Kirtland Air Force Base in Albuquerque, New Mexico. My job responsibilities included sound propagation forecasting for the AFWL's testing of high-explosives, other technical support to the AFWL, and weather forecasting support to the base weather station.

6. In 1990 and continuing through October of 2006, I worked for environmental consulting firms, including positions with Applied Environmental Consultants in Arizona; and Ebasco, ENSR, Radian, and CH2M Hill in Colorado. My primary job responsibility in each position was conducting and directing dispersion modeling analyses; but also included the installation and maintenance of meteorological and ambient air quality monitoring stations, data processing, report writing, and project management.

7. In October 2006, I began work with the Wyoming Department of Environmental Quality, Air Quality Division (DEQ/AQD) with a job title of Environmental Scientist 1/Environmental Principal. My current job responsibilities include: organizing, directing, and reviewing air quality modeling analyses in support of the New Source Review (NSR) program, negotiating technical requirements necessary to protect air quality and to assure compliance with rules and regulations of the DEQ,

serving as project leader on projects requiring air dispersion modeling, including Best Available Retrofit Technology (BART) and Regional Haze modeling analyses; enhancing and maintaining the DEQ's databases and GIS capabilities; and updating permitting and modeling guidance.

8. In my experience, I have conducted or reviewed the dispersion modeling analyses for an estimated 50 Prevention of Significant Deterioration (PSD) permits. A PSD modeling analysis involves, in part, assessing and evaluating dispersion modeling results to determine the impact that a proposed project will have on existing air quality.

9. In my experience, I have conducted or reviewed the visibility modeling analyses for 15 BART Permits in Colorado and Wyoming. A BART visibility modeling analysis involves compiling the source emissions and stack parameters for each unit subject to BART for each BART control option and each visibility-impairing pollutant. Additionally, a three-dimensional windfield is developed to drive a long-range transport model (CALPUFF) for predictions of visibility impacts at Class I areas.

10. In my experience, I am familiar with air quality regulations governing PSD and BART modeling analyses, and EPA modeling guidance such as the Guideline on Air Quality Models.

11. In my experience, I am familiar with the CALPUFF modeling system, which is the current modeling system preferred by the U.S. EPA for conducting long-range transport modeling for Class I area and BART impacts. I have attended advanced training courses sponsored by the CALPUFF system developer on two occasions. I have

conducted or reviewed CALPUFF modeling analyses for more than 25 PSD or BART permits.

12. My role in review of Basin Electric's BART permit application for the Laramie River Station was to provide guidance to the applicant on methods acceptable to the EPA and the State for conducting Class I area visibility modeling, and then detailed review of the modeling files and documented results that were submitted by the applicant. I also documented my review of the modeling in the Division's permit application "analysis" (final report) and "decision document" (response to comments on the draft permit). Ex. 13 at 000431-452 (Application Analysis) and Ex. 20 (Decision Document).

13. I had involvement in early discussions with the Division (Ken Rairigh) on the modeling protocol for Wyoming's BART analyses while employed with CH2M Hill in the summer of 2006. My employment with the Division began in October of 2006, and my role as lead modeling reviewer commenced after the BART modeling protocol had been finalized.

14. My review of the BART modeling submitted by Basin included close examination of descriptions and summaries of Basin's analysis found in the permit application and close examination of CALMET/CALPUFF files submitted by Basin to determine if the modeling protocol had been followed, and that reported visibility modeling results were correct.

15. On or about January of 2008, I received and started reviewing Basin Electric's BART application for the LRS. *See* Ex. 5.

16. I recall a teleconference on or about January 15, 2008 that included personnel from the Division, Basin Electric, and Basin Electric's BART consultant. The subject of the meeting was errors that I had detected in the CALMET windfield used by Basin for their initial BART modeling submittal. Basin was directed to correct the errors and re-submit the modeling.

17. On February 15, 2008, the Division received Basin's revised modeling. A true and correct copy of Basin Electric's revised modeling submission is attached hereto as Ex. 22.

18. On or about April 3, 2008, the Division requested additional modeling from Basin. The requested modeling included individual unit modeling for baseline & unit specific analysis of SCR/NOx control technologies.

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19. On July 28, 2008, the DEQ/AQD received additional BART modeling refinements from Basin Electric, including the modeling to isolate the effects of SCR. A true and correct copy of Basin Electric's additional refinements is attached hereto as Ex. 23.

DATED this 27th day of July, 2010.

James Nall
James (Josh) Nall
Air Quality Meteorologist
Lead NSR Dispersion Modeler
DEQ/AQD

State of Wyoming)
) ss.
County of Laramie)

Subscribed and sworn before me by James (Josh) Nall on this 27th day of July, 2010.

Witness my hand and official seal.



Kaycee McMullin
Notary Public

My commission expires on: April 25, 2012