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BEFORE THE ENVIRONMENTAL QUALITY COUNCIL OF THE STATE OF WYOMING

IN THE MATTER OF:)	
BASIN ELECTRIC POWER COOPERATIVE,)	AFFIDAVIT OF
DRY FORK STATION,)	DAVE CLARENDON
AIR PERMIT CT-4631)	

- I, Dave Clarendon, being duly sworn upon oath, do depose and say as follows:
- 1. The facts set forth in this affidavit are based upon my personal knowledge. If called as a witness, I could and would testify to these facts. As to those matters which reflect an opinion, they reflect my personal opinion and judgment on the matter.
- 2. I am a resident of Banner, Wyoming, 82832.
- 3. I am a member of Powder River Basin Resource Council ("Powder River") and have been for over twenty years. I am familiar with, and support Powder River's mission and objectives.
- 4. I own a ranch in Sheridan County, Wyoming. I grow hay and raise cattle. This ranching operation is my main source of income.

- 5. I get water for my land from a variety of sources, including a series of ditches from the Bighorn Mountains, located just to the west of my property. Water used for my stock comes from irrigation, developed springs, reservoirs, some wells and naturally occurring runoff.
- 6. Since I began ranching in the 1970s, I have noticed a significant change in the growing season. When I began, few farmers and ranchers in the area irrigated before their first cutting of hay, which usually occurred around the 4th of July. Now, as the climate is drier and warmer, farmers and ranchers (including myself) have to take water earlier in the year or risk a reduced first cutting. The snowpack also is melting earlier in the season, causing the runoff to come much earlier than it used to. Now, the ditch sometimes comes on as early as May 1.
- 7. The growing season not only starts earlier than it used to, but it ends later. We have a longer hot and dry season. Farmers and ranchers in the area used to stop irrigating around mid-September, but in recent years some have left the ditches on all the way through early November. Because water is being drawn for such a lengthy period of the year now, some creeks are almost completely de-watered during the low point on the hydrograph.
- 8. Additionally, the month of August in our area has been increasingly miserable for ranchers because it is so hot and dry, to the point where it is just too hot to be outside in midday. The grass dries out because of lack of rainfall and the only green grass is that with available water. While it would be good weather for curing hay, it is just too hot to grow good hay yields even with irrigation water. Grass hay may green up with irrigation water but won't produce a yield worth cutting.
- 9. I am now involved in a government pilot program to insure forage against range fire loss.

 Range fire hazard is an increasing concern of mine since we have had such hot dry summers.

I've tried to insure my rangeland unsuccessfully for the last couple of years and until now there has been no program to do that.

- 10. From 1989 through 2003, I worked as a snow surveyor for the Soil Conservation Service, now called the Natural Resource Conservation Service. I measured the snow in the Bighorn Mountains to provide the NRCS with data they can use to extrapolate runoff for irrigation regulation. During this time, I became aware that the average snowpack is on a downward trend. As a result, the snowpack in the mountains does not generate the amount of water that it used to. This downward trend can be viewed on the USGS/NRCS website.
- 11. I am concerned that the decrease in snowpack could affect my ranch because I depend on this runoff to grow hay and water my cattle. Snowpack on the mountain generally recharges mountain springs, fills reservoirs, keeps water in mountain streams and feeds spring runoff. When the snowpack is reduced, the runoff does not produce as much water. Snowbanks on the plains at lower elevations also recharge my springs, an important source of water for stock and wildlife. Since we don't get the snows that we used to, these springs have diminished, affecting the productivity of my ranch.
- 12. I have noted vegetative changes on the mountain and the nearby high plains or prairie.

 For instance, lodgepole pine is dying out at the lower altitudinal limits of its range in my higher pastures. Beetle kill among both logdepole and ponderosa pine is much more prevalent in our area. Much of the vegetation in brushy draws on the prairie, such as plum bushes, hawthorn and chockcherry, are also drying out from longterm lack of water. I have even noticed drought tolerant species such as yucca and prickly pear dying on south exposures, which typically receive the most direct sunlight in the Northern hemisphere.

- 13. I am concerned that increased carbon dioxide emissions from the Dry Fork coal plant will exacerbate this detrimental effect on water production. Any further decrease in water runoff and production has the potential to seriously harm my ability to ranch. In recent years, I have seen neighbors in harsh conflicts over water use due to the ongoing dry and hot climate.
- 14. Carbon dioxide is a greenhouse gas, and carbon dioxide build-up in the atmosphere is affecting our climate locally by drying it out and warming it up. I understand that the Dry Fork plant will contribute to global warming through carbon dioxide emissions.
- 15. I have a Masters degree in hydrologic geography. As part of my coursework in the 1980s, I spent a season researching glaciers in Alaska. As part of the study, I spent time doing climate research. Among other things we analyzed the chemical composition of bubbles trapped in ancient glacial ice, comparing carbon dioxide levels of the climate now to the climate of the past. Our work revealed that carbon dioxide started increasing exponentially around 1800, which directly coincides with the beginning of the Industrial Age. The historical correlation is too obvious to ignore, and led me to understand that burning coal significantly increases atmospheric levels of carbon dioxide.
- 16. Although I am not completely against coal-fired power plants, I would prefer the use of alternative energy to produce electricity. If alternative energy is insufficient at this time, however, I feel that Basin Electric should at least propose a cleaner or more efficient technology for the Dry Fork plant. I know there is a gasification process that could reduce carbon dioxide emissions from this plant. I believe that Basin Electric could and should use cleaner technology than that proposed for the Dry Fork power plant.

Further, affiant saith not.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information and belief.

DATED this 25 day of January, 2008.

Subscribed and sworn to before me this 35 day of Gruary, 2008.

WITNESS my hand and official seal.

STEPHANIE AVEY Wyoming
Notary Public, County of Sheridan My Commission Expires March 17, 2011

My Commission expires: