James S. Angell (WY Bar # 6-4086) Robin Cooley Andrea Zaccardi Earthjustice 1400 Glenarm Place, #300 Denver, CO 80202

Phone: (303) 623-9466 Fax: (303) 623-8083

Attorneys for Protestants

BEFORE THE ENVIRONMENTAL QUALITY COUNCIL OF THE STATE OF WYOMING

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

- I, Frank Keim, being duly sworn upon oath, do depose and declare 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 Fairbanks, Alaska. I have lived in Alaska since 1961.
- 3. I am a member of Sierra Club and have been since 1996. I am generally familiar with and support Sierra Club's mission and objectives.
- 4. From 1979-2000, I taught a number of subjects (including Social Sciences, Language Arts and Russian) in high schools in four villages in the Lower Yukon Delta: Hooper Bay, Scammon Bay, Emmonak, and Marshall.
- 5. During my 21 years in the Lower Yukon Delta, I noticed that winters became progressively warmer. As a result, sea ice and river ice became thinner and thinner. The ice pack formed later and broke up earlier, as did the river ice on the Yukon River.

- 6. For the native Yupik people living and hunting in the Bering Sea, this change in sea ice conditions meant changes in hunting patterns, since the ice was important not only as a platform for hunting sea mammals but also as a prerequisite for the survival of sea mammals themselves. This is because the earlier break-up of the ice diminishes the amount of sunlight funneled through the ice tubules, which in turn reduces the spring algae blooms that provide food for plankton, the base of the food chain that the mammals depend on. It's hard to draw conclusions on the state of mind of the hunters involved, but suffice to say that the identity of most coastal Yupik males still resolves around hunting sea mammals and fishing.
- 7. The same holds true for those living, hunting and fishing on the Yukon River, although their lives revolve much more around fishing for salmon and other species of fish, such as white fish, shee fish, lamprey eels and burbot. For example, later formation of ice in the fall means that eels are now less accessible. Where people used to catch them through solid river ice in early November, now it is rare they can do this and they must resort to catching many fewer of them from shore.
- 8. Both ocean and river temperatures have warmed to the point that runs of different species of salmon have diminished, so that commercial fishermen can no longer make enough money to carry them through the winter and now must depend much more upon government transfer payments. Sometimes complete closures on salmon fishing, even on subsistence harvests, have been declared, leaving people wondering what they are going to do with their summer and how they are going to feed themselves over the winter. People in these villages are bewildered and disoriented by these changes. I, too, have been affected by this decrease in salmon because I enjoy fishing for and eating these salmon, but now am frequently unable to do so because of the

closures and the overall decline in salmon runs. I first noticed the decrease in salmon in the mid-1990s.

- 9. I have hiked and canoed in the Brooks Range about 25 times, including twice last summer. Over the last 15 to 20 years, I have noticed a dramatic melting of alpine glaciers in the Brooks Range, specifically in the Arrigetch Peaks area near the upper Alatna River. I intend to continue hiking in the Brooks Range, and have a visit planned for next summer with my wife. My experience, however, is progressively diminishing as I am saddened and upset by the disappearance of these beautiful glaciers.
- 10. I have also hiked and canoed in the Alaska Range more than 100 times. I visit the area five times or more each summer to hike and canoe and in the springtime to ski. The Canwell Glacier in the Alaska Range has also experienced dramatic meltback over the past 20 to 25 years. Even a dozen or so years ago, during summer one could access the medial moraine by easily crossing the terminal moraine. I used to go up there in part because I am an avid birdwatcher and this area presented an ideal spot to watch alpine species of native and migratory birds. Now there is so much mud and sloughing off of surface material that it would be very dangerous or impossible to do this. As a result, I can no longer reach the medial moraine to hike or watch birds.
- I used to be able to ski almost to the doorstep of the first cabin, located 8 miles up the Canwell Glacier. But because of the significant and dramatic melting, the Glacier has dropped more than 100 feet below the edge of the bluff where the cabin is built, and I can no longer access the cabin very easily. This represents only a minor inconvenience, but is indicative of the rate at which the Glacier is melting. Because of this dramatic meltback, there are also more crevices earlier in the spring, making it more dangerous to ski up there at the most beautiful time

of year. Seeing one of my favorite places become less accessible disturbs me. Being surrounded by rugged peaks and white in every direction is not only visually emotive, but truly is one of the most powerful experiences I have had in my life. I plan to return this spring to do another ski trip up the Canwell Glacier, but knowing the Glacier becomes less and less skiable and walkable every year both for me and my children and grandchildren seriously concerns me.

- 12. Over the course of the last several years, I have observed that many pothole lakes in an area known as the Yukon Flats are drying up. The area contains numerous such lakes, often measuring more than 100 yards in diameter. In the early 1980s, all of the lakes were full of water. Based on my observations, I estimate that about 30% to 40% of the lakes are now completely dry. I am saddened by the disappearance of these lakes because they mean less habitat available for migratory waterfowl and shorebirds.
- 13. Other effects of climate change that I have witnessed include the melting of permafrost on riverbanks, which leads to increased erosion, and a general change in the climate, including warmer and earlier springs, warmer falls and winters. I am greatly worried by these sudden changes to the climate and the resulting environmental damage.
- 14. I have three children and five grandchildren, and I am concerned that due to climate change, they will not have the same high quality of life that I had. They will not be able to see the same number of bird or other animal species that I have, including the polar bear, which depends on the summer polar ice cap for its sustenance. Scientists predict this will be gone within 20 to 30 years, along with the polar bear. The world will thus be a much diminished place. I want my kids and grandkids to be able to experience the same rich quality of life that I have.

15.	I am agains	t all new c	coal-fired power	plants	because	they are	the worst	emitters of
green	house gases.	Wind, sol	ar, and thermal	energy	should b	e utilized	l because	these energ
source	es have a less	er impact	on the environm	nent.				

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

Executed at Turbinks, Ak, this 8 day of January, 2008.

STATE OF WYOMING)
COUNTY OF)

This instrument was signed and sworn to before me on January 8, 2008 by Frank Keim.

Notary Public

NOTARY PUBLIC SILLINGS OF A LANGER

My appointment expires: 10.201.