

January 28, 2008

Luke J. Danielson
Law Offices of Luke J. Danielson
108 W. Tomichi Ave.
Suite D
Gunnison, CO 81230

Re: Complaint Regarding Applications for Permit to Drill Near Rulison Blast Site

Dear Mr. Danielson:

I am writing to notify you of my decision to conditionally approve the following six Applications for Permits to Drill ("APDs"): Battlement Mesa Numbers 34-12B, 34-21C, 34-21D, 34-12A, 34-11C, 34-11D. These APDs all involve proposed wells located more than two miles from the Project Rulison blast site, and my approval of them will be subject to the special conditions set forth in my memorandum of December 21, 2007.

In deciding to conditionally approve these APDs, I have carefully considered the arguments and information set forth in your Protest and Objection to the Approval of Applications for Permit to Drill Near Rulison Blast Site and Motion to Intervene which we received on January 15, 2008 ("Objection"). As set forth in Tricia Beaver's separate letter to you, our rules do not permit you and your clients to request a hearing on this matter. Therefore, I have considered your Objection as a written complaint under Rule 303.k.

Under Rule 303.k., I am authorized to "withhold approval" of the APDs in question when there is "reasonable cause to believe the proposed well is in material violation of the Commission's rules, regulations, orders or statutes, or otherwise presents an imminent threat to public health, safety and welfare, including the environment.." After carefully considering your Objection, together with other available information, I conclude that you have not met this burden with respect to these APDs and that I therefore cannot withhold approval of the APDs. .

In reaching this conclusion, I have relied upon the work undertaken and conclusions reached on these issues by the Commission staff, our consultants, S.S. Papadopoulos & Associates, Inc. and M.H. Chew and Associates, the Colorado Department of Public Health and Environment, the Department of Energy, and the Local Governmental Designee for Garfield County. The individuals involved on behalf of the Commission staff, our consultants, and the Department of Public Health and Environment have more than 200 years of professional experience, including experience with hydrology, geohydrology, geochemistry, health physics, radiation regulation, nuclear decommissioning, environmental corrective actions, and emergency preparedness. As part of their work, they have evaluated a wide range of information, including scientific literature, monitoring results and other data, information presented at the October 2007 Commission meeting on this subject, numerous iterations of the Rulison Sampling and

Analysis Plan, the Department of Energy's September 2007 subsurface modeling report, and extensive correspondence with you and others. They have all stated that with the conditions set forth in my memorandum of December 21, 2007, the approval of APDs for wells located more than one-half mile from the blast site will protect public health, safety, and welfare, and the environment. The Department of Energy has raised no concerns regarding the approval of such APDs, but has merely asked that we require the permittees to accommodate the Department's future sampling requests. The Garfield County Local Governmental Designee has expressed concern about the drilling of new wells within one-half mile of the blast site, but has stated that these concerns do not extend to wells located more than one-half mile from the blast site.

My conclusion also relies on the following documents, among others: my January 17, 2008 e-mail to the Garfield County Local Governmental Designee titled Rulison; my December 21, 2007 memorandum titled Action on Applications for Permits to Drill at Locations From One-Half Mile to Three Miles From the Project Rulison Blast Site; the November 30, 2007 memorandum from Steve Tarlton of the Department of Public Health and Environment to me titled Recommendations to the COGCC Concerning Drilling in the Vicinity of the Rulison Blast Site; former Director Brian Macke's May 5, 1998 letter to the Bureau of Land Management and his accompanying report titled Project Rulison Study Colorado Oil and Gas Conservation Commission; the Department of Energy's September 2007 report titled Tritium Transport at the Rulison Site, a Nuclear-Stimulated Low-Permeability Natural Gas Reservoir; and URS Corporation's January 2008 Rulison Sampling and Analysis Plan. I understand that you have previously received copies of all of these documents; if that is incorrect, please inform me and we will provide you with copies of the documents you need.

Although these documents do not encompass all of the information we have considered and work we have undertaken, they do reflect the seriousness with which we and others have approached these issues and explain some of the reasons for my conclusion. For example:

- My e-mail explains that our consultants have concluded that the public health risk posed by drilling more than one-half mile from the blast site is extremely low, that any resulting radiation exposure would be much less than the background radiation dose that all Colorado residents receive annually from cosmic rays and other naturally occurring sources, and that the sampling requirements would provide ample warning before a level could be reached that could pose a public health risk. My e-mail also discusses a peer-reviewed paper that assessed the hypothetical radiation exposure that could have resulted from the use of the gas that was flared from the test well located at the blast site itself shortly after the blast; that paper indicates that even under a worst case scenario the resulting radiation exposure would be only about 0.2% of the background radiation dose for the year.
- Mr. Macke's report similarly notes that if all of the gas from Project Rulison containing radionuclides were burned, mixed with air, and inhaled for a year, the radiation exposure would be less than 1/30 the amount received from a chest x-

ray or about equivalent to that received from spending two weeks at a mountain resort. He further explains that the flaring of gas from the test well in 1970 and 1971 removed much of the radioactive gas from the blast site. This point is also discussed in the Department of Energy report, the URS Sampling and Analysis Plan, and my memorandum. This information further supports the conclusion that the public health risk of drilling more than one-half mile from the blast site is extremely low.

- Mr. Tarlton's e-mail explains his conclusion that an interim no drill zone of one-half mile, coupled with sampling and emergency response plans as we have required, will protect public health and the environment. For this purpose, he estimated that remaining fractures from the blast and new fractures from a new well could each extend 1,000 feet and that a safety margin of 25% or 500 feet is appropriate. Therefore, drilling activity more than 2,500 feet from the blast site should not result in fracturing that intersects fractures from the blast or otherwise releases radioactive material. Notably, the APDs at issue here involve wells located more than two miles from the blast site.
- Several studies discussed by the Department of Energy and Mr. Macke indicate that the blast fracture zone actually extends less than 300 feet, and data from similar geologic formations discussed by the Department of Energy indicate that fractures from a new production well would likely extend less than 400 feet. These studies and data further support the conclusion that drilling activity more than one-half mile from the blast site should not release radioactive material and underscore our cautious and conservative approach to these issues.
- Engineering and geologic information indicates that there is very limited ability for natural gas to move through the Williams Fork Formation, where the Project Rulison detonation occurred. This is another reason why radionuclide contaminated gas is unlikely to migrate more than one-half mile from the blast site. This point and the area's geology are discussed in the reports by Mr. Macke and the Department of Energy.
- Numerous gas, air, and water samples have been collected and analyzed in the Rulison area since the 1969 nuclear test, and radionuclides attributable to the blast have not been detected above background. This sampling and analysis work has been undertaken by a range of government and private entities, including the U.S. Geological Survey, the Environmental Protection Agency, the Department of Energy and its predecessor the Atomic Energy Commission, the Desert Research Institute, PRESCO, and Noble Energy. It has included sampling natural gas at more than twenty producing wells located as close as seven-tenths of a mile and as far as seven miles from the blast site, and no Rulison-related radioactivity was found in these gas samples. This sampling work is discussed in Mr. Macke's report and URS's Sampling and Analysis Plan.
- The Sampling and Analysis Plan will require the monitoring of all existing and new wells within three miles of the blast site, including wells that were previously permitted. It also includes a radiological incident management plan, which sets forth specific actions to be taken in the unlikely event of a radiological release. This will ensure that prompt corrective action is taken if such a release were to occur. In addition, the number of drilling rigs that can operate at one time will be

limited to ensure that the Plan is effectively implemented. These points are discussed in my memorandum.

Again, this list is not comprehensive, but merely illustrates some of the reasons for my conclusion.

I want to thank you and your clients for your interest in and participation in this process. Although I appreciate that my decision will be disappointing to them, they should understand that their concerns have been carefully considered and that they will be able to monitor the sampling results through the Commission website and the annual review meetings as set forth in my memorandum.

Sincerely,

David Neslin
Acting Director

cc:
Tricia Beaver
Steve Lindblom
Kate Fay

bcc:
Debbie Baldwin
Jaime Adkins
Chris Canfield