

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

APR 20 1972

Honorable Teno Roncalio
House of Representatives

Dear Mr. Roncalio:

Your letters of March 14 and 20 addressed to Chairman Schlesinger concerning the draft Environmental Statement for the Wagon Wheel Gas Stimulation Project, Sublette County, Wyoming, have been forwarded to me for reply. In order to more fully respond to the points raised by your letter of March 14 and by Mary Ann Steele in her letter to you of March 12, the enclosed staff report has been prepared in cooperation with AEC's Lawrence Livermore Laboratory personnel. I hope this information will be of help in responding to Mrs. Steele. The written comments received have been considered in the preparation of the Environmental Statement. It is expected the Statement will be available by the end of April and copies will be forwarded to your office for your information and also for Mrs. Steele.

In the Environmental Statement, there is a discussion of the alternatives to flaring that we have studied. As the enclosed staff report explains, considering the small environmental-health risk involved in flaring, we believe it to be preferable to any of the less practical and more cumbersome alternatives suggested to date.

The matter of appropriate public review of the Wagon Wheel project has been under consideration for some time and has been discussed with State officials of Wyoming and others. In addition to your letters of March 14 and March 20, requests for a public hearing have been received from Senator Hansen and Governor Hathaway.

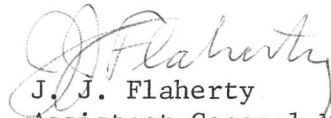
The AEC recently completed its first series of public hearings on a Plowshare project. Based on early reactions, we are very enthusiastic about the benefits to the public, as well as to the Commission and industrial sponsor for the project, that accrue from these procedures. We plan to include the concept of hearings in the Wagon Wheel program, and we will be in touch with respect to plans for the timing and conduct of these hearings.

Honorable Teno Roncalio

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As we have done in all our Plowshare joint industrial experiments, we are taking special care to meet our responsibilities to the public and especially to the elected officials who represent them. Therefore, we especially value your views. In this connection, I would like an opportunity to brief you fully on the current status of Wagon Wheel and the future steps contemplated. Mr. O'Neill, head of our Congressional Liaison Office, will be in touch with your office to arrange a mutually satisfactory date.

Sincerely,



J. J. Flaherty
Assistant General Manager for
Energy and Development Programs

Enclosure:
Staff Report

STAFF REPORT IN RESPONSE TO COMMENTS RECEIVED FROM MRS. MARY ANN STEELE
ON THE DRAFT ENVIRONMENTAL STATEMENT FOR THE
WAGON WHEEL GAS STIMULATION PROJECT, SUBLETTE COUNTY, WYOMING

The estimates of seismic damage given in the draft Environmental Statement were based on results of the Rulison experiment. That is, both the Wagon Wheel ground motion predictions and the estimates of architectural damage resulting from the seismic motion have been prepared in full cognizance of Project Rulison experience. The Rulison claims office was opened in Grand Valley, Colorado, the town closest to the project site, immediately following the detonation. Damage complaint investigations were handled by claims adjusters of the General Adjustment Bureau, Inc. (GAB), assisted by personnel from John A. Blume and Associates (seismic response), the U. S. Geological Survey (water well investigation), U. S. Bureau of Mines (mine damage investigations), and the Environmental Research Corporation (ground motion data interpretation and extrapolation). GAB contracted with a building contractor to provide repair estimates which were, in essence, guaranteed repair bids. The majority of claimants accepted the estimates of repair as fair and reasonable but preferred to do their own repairs. In total 455 complaints were received, including one complaint lodged after the one-calendar-year deadline date. Three hundred and fifty-five formal claims followed the investigations of these complaints. Of the 355 claims, 324 have now been paid, for a total of \$121,644.62. Two claims, for which an aggregate \$180 has been offered, are still pending. Two of the 324 claims accepted for payment (\$16,355.62 for damage to a bowling alley and \$7,717.35 for damage to a machine shop) exceeded the Commission's authority for payment and were recommended to the Congress for special appropriation. Congress acted favorably and these claims were also promptly paid. Excluding these two large claims, the average claim settlement was about \$300. Most claims were for cracked plaster and masonry. No complaints or claims were filed for personal injuries.

The El Paso Natural Gas Company will be financially responsible for payments, either through insurance coverage or otherwise, of all valid claims for injury or property damage up to a total dollar value to be agreed upon with the Atomic Energy Commission and included in the contract between the parties for execution of the project. In the event that such claims should exceed this total amount, all additional valid claims will be compensated by the Government under Section 167 of the Atomic Energy Act of 1954, as amended, or by the Company under a Price-Anderson indemnity arrangement which the Commission will incorporate into its contract with the Company under the authority of Section 170d. of the Atomic Energy Act of 1954, as amended.

The maximum potential radiation exposures from production test flaring which were presented in Section 3 of the draft Environmental Statement were based on extremely conservative assumptions. When data obtained on the dispersal of radioactivity from the Rulison experiment were

used to recalculate these doses, it was ascertained that the maximum potential doses to residents living in the Boulder area would be less than 0.002 mrem. The annual radiation dose from terrestrial and cosmic background to people in Boulder is 110 mrem. That is, the total exposure from the Wagon Wheel flaring will be about the same as the amount of radiation normally received from background sources over a period of about ten minutes.

The hazard associated with potential exposure of less than 0.002 mrem from Project Wagon Wheel is minute compared to radiation hazards voluntarily (but perhaps not knowingly) accepted by people in day to day decisions made by those people. For example:

- 1) Wearing a luminous dial wrist watch results in annual radiation exposures due to tritium from the watch which in many cases is more than 100 times the maximum exposure residents of Boulder, Wyoming, may receive from Wagon Wheel.
- 2) The decision to fish for a few hours in a high lake in the Bridger Wilderness Area rather than a lake or stream in the Green River Valley results in additional radiation exposure several times greater than the maximum possible radiation exposure to any resident of Wyoming as a direct result of the Wagon Wheel experiment.

With regard to the potential of an accidental seepage of radioactivity discussed in Appendix B of the draft Environmental Statement, it is emphasized that this radionuclide release is not expected as a consequence of the Wagon Wheel experiment. As indicated in Reference B-2 of the Environmental Statement, it is not possible to postulate a credible mechanism whereby gaseous radioactivity can inadvertently reach the atmosphere. Thus, this seepage model, based on unrealistically conservative assumptions, has only been formulated so that contingency plans can be developed for public protection (see Section 5 in the draft Statement).

It is concluded that the maximum potential radiation exposures, both to people and to animals, in the Wagon Wheel area will be so small that no protective measures (i.e., use of supplementary milk or dry feed supplies) will be required. However, in order to confirm these conclusions, a substantial environmental surveillance program has been implemented. Should the results of this program indicate that radiation levels in either humans or animals are above normal (i.e., above background levels) this information will be immediately released to

the public and protective action taken as appropriate. Note that such a program was undertaken in conjunction with the Rulison gas flaring; offsite no elevated levels of tritium were found in samples of water, milk, food crops, cow feed, animal tissue (domestic or wildlife) or urine from nearby residents.

It is correct to assume that the minimal risks attendant to the conduct of this experiment are largely borne by the residents of Sublette County. These are exemplified mainly by some seismic damage (which, although it will be repaired, will undoubtedly cause a certain amount of inconvenience). The immediate benefits to residents of the area include a modest enhancement of the local economy from increased employment and local purchases.

From the standpoint of potential benefit to the area, assuming a successful experiment, the impact could be substantial. Not only would revenues be forthcoming to local governments as the gas was produced, but the prospect of gas reserves in the area would bring additional expansion of local businesses. However, the greatest potential benefit from a successful project would be in the confirmation of additional national gas reserves, not only in the Pinedale Unit, but throughout the Rocky Mountain states. The value of these reserves to the nation has been touched upon in Section 2 of the draft Environmental Statement; in view of the shortage of natural gas, nuclear gas well stimulation is a significant method whereby the country may "buy time" to develop such long term energy sources as controlled thermonuclear fusion reactors. One of the benefits of this project is not increased profits to El Paso Natural Gas Company. Any gas produced as a result of El Paso's nuclear stimulation activities will be dedicated to the Company's interstate pipeline system, the rates for which are regulated by the Federal Power Commission. The rate of return that may be earned from such operations is thereby regulated and controlled by this agency of the U.S. Government. The real beneficiaries of this project, if successful, would be the people in the Rocky Mountain area and other western states who depend on natural gas to heat their homes.

With regard to the suggestion that an impartial group of scientists and medical men conduct an independent study of the risks of nuclear explosion experiments, the AEC's Nevada Operations Office utilizes the services of such a panel to review Plowshare as well as weapons experiments. This panel of eminent scientists, a number of whom were recommended by the National Academy of Sciences, will continue to review the geology, hydrology, ecology, seismology, and structural response studies conducted for Project Wagon Wheel.

Finally, it is pointed out that the Wagon Wheel experiment has not yet been approved. Many steps remain before such approval is obtained, including approval, not yet given, by the AEC of a contractual arrangement for conduct of this project.