

United States Government

*File Copy*  
Department of Energy

# memorandum

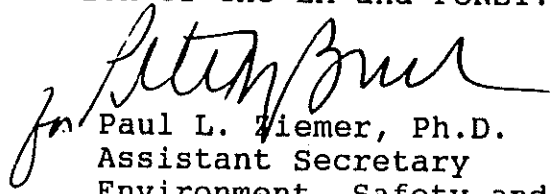
DATE: August 9, 1991  
REPLY TO: EH-25  
ATTN OF:  
SUBJECT: Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Proposed Natural Gas Protection Program at Naval Oil Shale Reserves Nos. 1 and 3 (DOE/EA-0531)  
TO: Linda G. Stuntz  
Acting Assistant Secretary  
Fossil Energy

We have reviewed the subject EA and the draft FONSI in accordance with our responsibilities under DOE Order 5440.1D regarding compliance with the National Environmental Policy Act (NEPA), as requested in the memorandum of June 27, 1991. We note that the State of Colorado was provided an advance copy of the draft EA and has provided no comments to date.

Based on my staff's review and their recommendation, and after consultation with the Office of General Counsel, I have determined that the proposed action will not have a significant effect on the quality of the human environment within the meaning of NEPA and its implementing regulations (40 CFR 1500-1508). Therefore, the preparation of an environmental impact statement is not required, as described in the attached FONSI.

Accordingly, the attached EA is approved, subject to the incorporation of the comments noted on the attached copy, and I have signed the accompanying FONSI. The FONSI does not need to be published in the Federal Register since this is not an action with effects of national concern. However, the local public should be notified of the availability of the EA and FONSI in accordance with 40 CFR 1506.6(b) and DOE Order 5440.1D.

Please provide the Office of NEPA Oversight with five copies of the EA and a record of distribution of the EA and FONSI.

  
Paul L. Ziemer, Ph.D.  
Assistant Secretary  
Environment, Safety and Health

Attachments

cc: Jim Johnson, FE-4  
NEPA Compliance Officer

## DEPARTMENT OF ENERGY

### Natural Gas Protection Program, Naval Oil Shale Reserves Nos. 1 and 3

**AGENCY:** Naval Petroleum and Oil Shale Reserves  
U. S. Department of Energy (DOE)

**ACTION:** Finding of No Significant Impact (FONSI) for the Natural Gas Protection Program at Naval Oil Shale Reserves Nos. 1 and 3 (DOE/EA-0531)

**SUMMARY:** The Secretary of Energy is required by law to "explore, prospect, conserve, develop, use, and operate" the Naval Petroleum and Oil Shale Reserves. In recent years, there has been a large increase in the commercial exploration for and production of the natural gas resources that underlie lands adjacent to Naval Oil Shale Reserves (NOSRs) 1 and 3 in Garfield County, Colorado. Unless DOE takes steps to protect the government's resources, these nearby commercial producing wells raise the potential for the natural gas beneath the NOSRs to be drained or migrate off, with a resultant loss of potential revenue to the government and a clear violation of the statutory mandate.

To protect the gas resources under the NOSRs, DOE is proposing a limited program which began in 1990 and would continue through 1994 to drill approximately 111 wells inside the borders of the NOSRs and to communitize (share in the costs and revenues) approximately 89 privately owned wells just outside the boundaries. This program will utilize practices standard to the industry and will require the construction of access roads, drill pads, gas gathering facilities and flowlines which will disrupt less than one percent of the surface area of the NOSRs. Except during the actual surface construction activities, there will be no air pollutant emissions from the proposed project, and no impacts on surface water quality, groundwater, hazardous waste production or disposal, wildlife, or the surrounding human socioeconomic community. The small amount of disturbed surface area will be reclaimed to its original natural state when production operations terminate. To ensure that all impacts are minimized as much as possible, an extensive series of mitigation measures recommended by the Bureau of Land Management (BLM) will be utilized. The cumulative impacts of the proposal and other related projects in the area are not expected to be significant.

DOE prepared an environmental assessment (DOE/EA-0531) that analyzes the proposed limited program to protect the gas resources under the NOSRs. Based on the analyses in the EA, the DOE finds that the proposed action is not a major Federal action significantly affecting the quality of the human

environment within the meaning of the National Environmental Policy Act of 1969 (NEPA). The preparation of an environmental impact statement is not required, and the DOE is issuing this Finding of No Significant Impact (FONSI).

**PUBLIC AVAILABILITY:** Copies of the EA and FONSI will be distributed to persons and agencies known to be interested in or affected by the proposed action. Anyone wishing to receive copies of either document, or further information on the proposal, should contact:

Captain Robert A. Taylor  
Deputy Assistant Secretary  
Naval Petroleum and Oil Shale Reserves (FE-60)  
U. S. Department of Energy  
1000 Independence Ave., S.W.  
Washington, D.C. 20585  
Phone: 202-586-4685

For further information on the NEPA compliance process, contact:

Carol M. Borgstrom  
Director, Office of NEPA Oversight (EH-25)  
U. S. Department of Energy  
1000 Independence Ave., S.W.  
Washington, D.C. 20585  
Phone: 202-586-4600

**SUPPLEMENTAL INFORMATION:** Section 7422 of title 10, United States Code, charges the Secretary of Energy with the authority and responsibility to "explore, prospect, conserve, develop, use, and operate the naval petroleum reserves." This section further provides that the "...naval petroleum reserves shall be used and operated for their protection, conservation, maintenance and testing," and production when authorized. The term "naval petroleum reserves" is defined in 10 U.S.C. 7420 as including the Naval Oil Shale Reserves.

Naval Oil Shale Reserve No. 1 (NOSR-1), consisting of 40,760 acres located about eight miles west of Rifle in Garfield County, Colorado, was established in 1916 by Executive Order of President Wilson as a future source of fuel supplies for the United States Navy. NOSR-1 is estimated to have over 18 billion barrels of shale oil in place, with approximately 2.5 billion barrels recoverable from shale rated at 30 gallons per ton or better. Naval Oil Shale Reserve No. 3 (NOSR-3), adjoining NOSR-1 to the south and east, consists of 14,130 acres set aside by Executive Order of President Coolidge in 1924 to provide closer access to the Colorado River for water which will be needed for shale oil production, and to provide working and disposal areas for such activities. Except for sporadic small-scale

experimental oil shale mining and retorting efforts over the years, both reserves have remained essentially inactive. There are no plans at the present time to develop the oil shale resources at the NOSRs.

NOSRs 1 and 3 are situated on the north and northwest flanks of three large natural gas producing fields, the Parachute, Rulison, and Grand Valley, and some portion of these gas resources underlie both reserves. DOE continuously monitors mineral exploration and development activities on lands adjacent to the Reserves in order to evaluate the potential for drainage and migration of their mineral resources caused by increasing pressure differences between these deposits and commercial producing wells off the Reserves. The Government hydrocarbons requiring protection are contained on lands located along the Reserves' boundary. Private property owners, their lessees, or holders of Federal leases, can drill wells on land adjacent to the NOSRs without any authorization or cooperation from DOE as long as they are in compliance with state spacing regulations. It is estimated that about 300 such wells will be drilled by private interests by 1995.

To protect the Government's interest in the natural gas underlying the NOSRs, DOE is proposing a program with two key elements: communitization, and offset drilling. In communitization, the Government formally shares in the production and revenues from private wells drilled near the boundaries of the NOSRs. This is similar to the standard petroleum industry practice for sections of land having multiple ownership where the owners agree to develop the mineral resources jointly and to share the costs and production based on percentage ownership of the surface acreage. Under the communitization agreements, each well would be operated as a unit and development costs and hydrocarbon production shared between the unit partners, with the actual percentage of ownership based on the amount of each partner's surface land contained in the unit. DOE estimates that it would participate in communitizing approximately 89 privately-owned wells that are likely to be drilled just outside the borders of the NOSRs during the next five years.

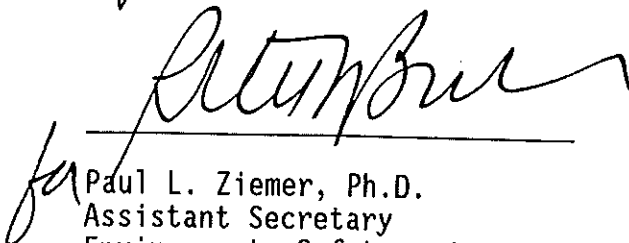
To prevent drainage and migration of gas resources underlying the NOSRs, DOE has determined that, along with communitizing privately-owned wells as described above, it will be necessary for the Government to drill its own gas wells inside the Reserves' boundaries to offset and intercept gas production from nearby private wells. Development activities for offset wells would consist of access and site clearing and grading; drilling wells using conventional procedures found in the natural gas industry and approved by the U. S. Bureau of Land Management and the Colorado Oil and Gas Conservation Commission; and connection of the completed wells through appropriate surface facilities and gathering lines to a main gas transmission line, again using standard techniques in the industry. Produced gas will be sold on the open market or to Federal facilities. DOE estimates that it will be necessary to drill approximately 111 offset production wells during the period 1990-1994 to adequately protect the natural gas resources underlying the NOSRs.

Activities involved in implementing the proposed drilling and communitization projects would result in about 694 acres of surface disturbance spread over five years. About 200 acres are planned to be reclaimed immediately after construction work is completed, leaving 494 acres, or about 0.6 percent of the surface (which includes NOSRs 1 and 3 and a one-half mile wide buffer zone surrounding the Reserves), in use for the 20-30 year life of the program. Any impacts from the project on the abundant and diverse vegetation and wildlife found on the NOSRs would be limited in scope, short term in nature, and further mitigated by surface reclamation and other measures adapted from the U.S. Bureau of Land Management. Surface and groundwater quality would not be adversely affected by the project. With the exception of possible short-term increases in suspended particulates (dust), there would be no air pollution emissions from the project. No hazardous waste streams would be generated. No impacts are anticipated to cultural or visual resources, and there are no wetlands, prime farmlands, natural landmarks or historic sites within the project area. The proposed project would beneficially impact the local socioeconomic base by continuing to provide jobs and economic support to the area. Cumulative impacts associated with the DOE program and private gas development projects near the NOSRs are not expected to be significant, due to the large area involved and the relatively small scale of private development.

Alternatives considered in the EA include: (1) no action; (2) additional cooperative agreements; and (3) leasing. While taking no action would prevent the occurrence of the minor impacts projected, it would also be inconsistent with the statutory requirement to protect the gas underlying the NOSRs. Wells would likely be drilled by private owners and the government would lose natural gas resources and their potential revenues. Additional cooperative agreements could generate additional impacts on the environment if they encouraged the private sector to drill more wells through risk sharing. Due to the lack of special legislation and Congressional authority to conduct, leasing is not considered to be a feasible alternative at this time.

**DETERMINATION:** Based on the findings of the EA, DOE has determined that the proposal does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, an environmental impact statement is not required, and DOE is issuing this FONSI.

Issued in Washington, D.C., Aug 9, 1991

  
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for Paul L. Ziemer, Ph.D.  
Assistant Secretary  
Environment, Safety and Health