PROGRAM facts

U.S. DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY
NATIONAL ENERGY TECHNOLOGY LABORATORY

Strategic Center for Natural Gas and Oil

12/2005

OIL & NATURAL GAS ENVIRONMENTAL PROGRAM
FEDERAL LANDS ACCESS

Description

Much (68%) of the remaining domestic oil and gas resource is on Federal Lands, primarily in the Western United States. Exploring and developing these resources depend on improving access. Access covers a variety of issues, from obtaining leases and permits to protecting environmental and cultural resources.

The general public wants an uninterrupted supply of natural gas and oil at affordable prices; yet a sizable segment of society remains opposed to development of any kind, especially in environmentally sensitive locations. The public is generally unaware of recent technology advances that have significantly reduced drilling footprints and require fewer wells to be drilled to produce the same amount of petroleum. Today, producers can drill a single well from the surface, then turn the well underground to reach an oil or gas production zone miles away from the drill site. They can drill lateral wells extending like spokes from a wheel in a single wellbore to reach discrete oil and gas production zones without disturbing surface ecosystems.

Because of technological advances, today it takes 22,000 fewer wells annually to develop the same amount of oil and gas reserves as it did in 1985. Where oil and gas operations are underway, new technologies have dramatically cut emissions of air pollutants and greenhouse gases, practically eliminated spills from offshore platforms, reduced the risks of blowouts, and provided better protection of groundwater resources.

Environmental concerns related to federal lands access are among the most pressing issues limiting U.S. oil and natural gas production. NETL's Oil and Natural Gas Environmental Program is working with regulators, industry, and academia to ensure that America can economically produce its oil and gas resources and protect the environment.

Challenges

Access problems identified by BLM and DOE and through public comment include concerns that restrictions and leasing stimulations are complicated and may be inconsistent from region to region. These restrictions may be arbitrary and can increase costs and delay development activity.

Some of the specific leasing concerns that cause difficulty for oil and gas development include: areas that are closed or restricted; areas where mineral rights can be leased, but the land surface can't be occupied; split estates where the mineral rights are owned by the state or federal government, but the surface land is privately owned; areas where access to the lease site is restricted (road issues); and roadless areas. Seasonal limitations on drilling activities due to environmental concerns include: restrictions based on breeding/winter habitat of wildlife and the distance from streams or other restricted topographic features. Environmental concerns include protection of some 1,265 endangered species in the U.S.

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Status

> *"New technology makes drilling for oil far more productive, as well as environmentally friendly, than it was 30 or 40 years ago. [According to a DOE study], improvements over the past 40 years have dramatically reduced industry's footprint on the fragile tundra, minimized waste produced, and protected the land for resident and migratory wildlife."*
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> — *President George W. Bush*
> *May 17, 2001*

DOE's response to the challenges in Federal Lands access has been to promote cooperation with other Federal agencies, joint participation in management and regulatory analysis, and funding of research projects. The first joint BLM-DOE Research projects began in 2000. Ten projects tackled environmental problems in Colorado, Wyoming, Montana, New Mexico, Alaska, and Oklahoma. The projects were managed by regional BLM offices, and much of the scientific data collection and analysis was performed by university research teams in these states. Results from the research projects are being used by BLM to provide accurate, science-base data to assess suggested changes in leasing stipulations.

DOE also has agreements with several non-profit organizations to respond to the environmental needs associated with domestic energy resources. Joint efforts with the Interstate Oil and Gas Compact Commission, the Ground Water Protection Council, and the Petroleum Environmental Research Forum provide research and coordination between several states and the Federal government. New projects include analysis to codify oil and gas field practices, and resolving environmental barriers to oil and gas production on Federal Lands.

Impacts

Many of the environmental protection standards related to oil and gas leasing were established without the benefit of detailed studies. Environmental scientists and biologists relied on their professional judgment to set the standards. In the absence of data the standards were set conservatively to ensure protection. DOE has sponsored independent, scientific research that may be beneficial in defining these leasing regulations. Recent and proposed studies will ensure that potential for oil and gas development can be assessed appropriately relative to its impact on land access. Sound science will assist in determining the practical implementation of stipulations and in consideration of exceptions, waivers, and modifications. Changes in the technological capability of the drilling operators, such as pad drilling and smaller-footprint approaches will be factored into assessing the environmental impacts of oil and gas development.

DOE funds research projects that promote development of oil and gas resources on Federal lands while protecting the environment. These projects concentrate on acquisition of data and technologies to determine the impacts of oil and gas development activities, formulate strategies to protect wildlife and habitats, develop best practices, gather scientific data to assess environmental impacts, and collect data to evaluate the effectiveness of lease restrictions. This research will provide tools and information to support responsible environmental and resource development decisions that will allow the Nation to receive benefits from both its mineral and environmental resources. Funding sound scientific research on environmental issues and development practices will help to ensure a reliable, affordable supply of energy for America.

The benefits for the U.S. public from the Oil and Natural Gas Environmental Program are a more competitive, economically viable U.S. energy industry that can supply an adequate amount of energy while simultaneously reducing environmental risks associated with oil and gas production and processing. Lower costs and improved environmental protection technologies will result in more of America's oil being produced and lead to a better quality of life for Americans.