

## Offshore Oil: Channel Blowout Points Up Information Gap

The Outer Continental Shelf (OCS) in the federal domain is a huge area of 800,000 square miles or more, depending on how it is defined, and these submerged lands are rich in petroleum and mineral resources. Also, they provide important fishing grounds and are valuable in various other ways, even contributing to the esthetic pleasures of the tourist who views an undisturbed seascape. Of the nonrenewable resources of the OCS, oil and gas are the ones already being developed on a large scale; yet, though last year federal oil and gas revenues from the OCS exceeded a billion dollars, development of this resource can be said to have just begun. While sale of oil and gas leases has increased greatly in recent years, less than 1 percent of the OCS is covered by such leases. Given the immense value of the OCS, few citizens would argue with the proposition that these offshore lands should be managed in the light of the best and most complete scientific information obtainable. The fact is, however, some important management decisions affecting the OCS are being made virtually in the dark.

### Management by Interior

Management of the OCS falls to the U.S. Department of the Interior, an agency which, by and large, has done a creditable job of looking after the public domain onshore. But, on the OCS, Interior appears to know even less about the lands entrusted to it than do the oil companies, its principal offshore tenants. The fact that Interior may now be moving to reverse this situation—and may even demand that the companies furnish it with closely held proprietary information—has generated a heated behind-the-scenes controversy.

Interior's embarrassing information gap was strikingly revealed by the disastrous blowout of a Union Oil Company well in Santa Barbara Channel in late January. On 7 February, 10 days after a large oil slick began forming from the blowout, Secretary of the In-

terior Walter J. Hickel ordered a stop to all oil drilling and production off the Santa Barbara coast. "It has become increasingly clear," he said, "that there is a lack of sufficient knowledge of this particular geological area."

The blowout at Union Oil's well A-21 was unusual in that the blowout remained out of control—and, at this writing, there is still some seepage—after the flow of oil and gas from the well itself had been shut off. These fluids found their way outside the well wall and discharged from the seabed at several points along a line running eastward about 800 feet from the drilling platform. Just how this occurred may never be known, though the gas and oil are believed to have escaped from the well into a porous formation. The well is on the Rincon Structural Trend, along which, in places, the oil-bearing sands begin within a few hundred feet of the seabed.

The assistant secretary of the Interior for mineral resources, Hollis M. Dole, commenting on the intensive study of the Rincon Trend and the channel area initiated by Interior's U.S. Geological Survey (USGS) after the blowout, observed: "We are attempting to put together a total three-dimensional geologic picture—like the pieces in a jigsaw. Until the present time, some of the key pieces have been absent."

Interior's program of geological and geophysical exploration of the OCS has failed to keep pace with the agency's management responsibilities, partly for lack of funds and partly for lack of a clear management philosophy for the OCS. USGS does carry on exploration of the OCS, doing some of the research in-house and the rest through contract with universities and oceanographic institutions such as Scripps and Woods Hole and through cooperative programs with other federal agencies such as the Bureau of Mines and the Naval Oceanographic Office. But the modest scale of this effort is indicated by the fact that, for the coming fiscal year, USGS again

will receive no more than about \$1.2 million for its program of general reconnaissance of the OCS, or some \$3 million less than requested. According to USGS officials, a major oil company may spend anywhere from \$10 million to \$30 million a year just in gathering and interpreting geophysical data from offshore.

The study undertaken by the USGS in the Santa Barbara emergency was, of course, exceptional in its scope and intensity. Twenty-four earth scientists were assembled in three teams and deployed over the 400-square-mile channel area. Scuba divers, aircraft, and surface and submersible research vessels employing sophisticated sensing equipment were used in gathering new data. Moreover, Secretary Hickel took the unprecedented step of asking the oil companies operating in the channel to make available *all* the scientific and engineering data they had about the area. This included geophysical information and "downhole" paleontological data—generally regarded by oil companies as proprietary and confidential—as well as less sensitive geological data of the kind such companies customarily have given USGS.

### Change of Policy

The companies have complied for the most part, as indeed they probably have had to, for, in the politically charged atmosphere produced by the blowout, Hickel's "request" was tantamount to an order. USGS officials do in fact tend to view the secretary's action as a step toward demanding, as a matter of established policy, that oil companies provide full information about OCS tracts which they have under lease. Such a demand appears likely, for example, if and when new areas on the Pacific OCS, such as areas off Long Beach and Santa Monica, are opened to oil leasing.

A major question now is whether Interior will decide that the oil companies shall also be required to furnish USGS with interpretative geophysical information developed through their exploration of unleased areas. Demands for information of this kind, especially, will be strongly resisted, for such data are what the companies principally rely on to identify faults, structural and stratigraphic traps, and other geologic anomalies often associated with the presence of oil and gas.

As matters now stand, the information gap will remain as wide as ever insofar as management of lands that

are not under lease is concerned. USGS, the agency chiefly responsible for managing the nonrenewable resources of the OCS, faces such important questions as the following.

Which areas on the OCS are likely to be most productive for oil and gas and mineral development? What plan of leasing—covering location, size, and arrangements of tracts and the timing and sequence of sales—will be most conducive to full utilization of the resource and a proper return to the government? And what is a reasonable speculation as to the minimum value of specific lease tracts—the point below which bids shall be rejected? Further, how shall leasing plans for oil or mineral development on the OCS accommodate conflicting uses, such as fishing and the maintaining of scenic and ecological preserves? And shall oil drilling in some areas, especially important from the standpoint of scenery and tourist appeal, be deferred or ruled out altogether in view of the blowout hazard and the primitive state of the technology for cleaning up oil spills?

There is, moreover, a question whether offshore oil leasing should proceed regardless of important new oil discoveries on shore—a consideration which someday may be especially relevant in the case of potential oil-producing areas offshore from Alaska's north slope, the scene of last year's major oil strike at Prudhoe Bay. In fact, the possibility that the north slope discovery may produce a flood of oil for the western U.S. market is one reason why plans to call for bids on tracts in the Gulf of Alaska, off Alaska's southern coast, are even now undergoing review.

#### Competitive Bids

Under the present system of OCS management, the Geological Survey and Interior's Bureau of Land Management, which handles lease sales with the help and advice of USGS, will have difficulty dealing with most of these questions. For besides often having better information about OCS lands than these agencies have, the oil companies, in part because they do know more, enjoy the initiative in selecting areas to be put up for bid. Furthermore, lease prices are determined by competitive bidding, though sometimes all bids have been rejected.

The Bureau of the Budget has been goading Interior to establish "fair market value" on tracts let out for bids, although William T. Pecora, director

of USGS, feels that the present leasing system has given the government a fair return. Pecora notes that the companies usually are bidding, not for the right to develop proved reserves, but merely for the right to drill for oil and gas which may or may not be there. Further, he observes that, as of December a year ago, 41 percent of the leases that had been held for at least 5 years—leases ordinarily expire after this period unless production has begun—had been unproductive, yet for these leases oil companies had paid a total of \$403 million.

Nevertheless, some officials within Interior and USGS, remembering the Teapot Dome episode, worry that someday a tract may be leased at a price that will later prove to have been scandalously low. And among Interior officials it is widely agreed that the OCS cannot be managed properly unless better information is obtained.

This is a point of view which was first revealed publicly last October by the then Under Secretary of the Interior, David S. Black, in a speech that raised the ire of the oil industry. Black's views—that Interior should not only improve its own capabilities for offshore investigation but should also demand full information from the oil companies—were fully shared by Stewart L. Udall, then Secretary of the Interior. However, as the department was still reviewing this policy proposal (which is technically complicated as well as controversial) at the time of the change of administrations in January, the decision on whether to adopt it now rests with Secretary Hickel and his team of top administrators.

Meanwhile, the oil industry has been opposing any such demand for proprietary information, through appeals to the Public Land Law Review Commission (chaired by Representative Wayne N. Aspinall of Colorado, head of the House Interior Committee and no foe of the oil people), and through protests to Interior. For example, in a letter to USGS, a spokesman for the Western Oil and Gas Association said that to demand interpretative data of the oil companies would be contrary to principles of free enterprise. The association suggested that Interior officials would be using such data "to reject offers to buy when they consider the offers too low, while accepting offers which they may consider too high."

Also, the association said that to furnish such information to Interior would put its confidentiality in ques-

tion, even though the information would not be made public. Furthermore, in the view of this industry group, Interior should not be going out to look for oil on its own. "We oppose that philosophy of government which would use the taxpayer's dollars to engage the government as a separate party in geological exploration or in the highly risky development of offshore mineral resources," the association wrote.

The oil industry would object much less strenuously to a demand for raw geophysical data than it would to a demand for interpretative data. As Henry W. Wright, secretary of the Western Oil and Gas Association, told *Science*, "When you get down to the interpretative data, the gloves come off and the fight begins." Pecora himself says he would favor having USGS make its own geophysical interpretations, using raw data which might be obtained from the companies as well as data the agency has collected on its own.

#### Interpretive Data Wanted

However, some of Pecora's colleagues in USGS wonder when, if ever, the agency is going to get the funds to process and interpret a flood of raw company data. And, as a matter of fact, last year when Secretary Udall directed USGS to draft a set of proposed regulations requiring the companies to provide interpretative information, some key people within USGS favored adoption of such regulations, although others agreed with Pecora that the agency should not be looking to industry for interpretative data.

Despite the budgetary constraints which it, like other nondefense agencies, is living under, USGS hopes to narrow the OCS information gap somewhat, however the question of what data to demand of the oil companies may be resolved. Although additional funds for general reconnaissance of the OCS have been denied, there is a good possibility that, for the next fiscal year, USGS will receive an additional \$850,000 for information gathering and evaluation on the OCS.

Part of this money would be used in evaluating geologic data from leased tracts with a view to appraising the fair market value of unleased lands in the same subsurface drainage area. But, mostly, the funds would be spent for geophysical information about unleased lands—information produced by the USGS itself; interpretative data purchased from geophysical exploration

firms; and information which might be obtained, in raw or interpretative form, from the oil companies.

Secretary Hickel, who has proved a tougher overseer of the oil industry than the critics who challenged his nomination imagined he ever would be, has expressed a belief that USGS should

have more information about the OCS to back up its supervisory responsibilities. He has not committed himself yet on how this should be accomplished, however. If he decides, as one step, to demand interpretative information from the oil companies, a fierce struggle of uncertain outcome is likely to ensue.

The one sure thing is that the Santa Barbara blowout has drawn for Hickel and other Interior officials a clear moral: It is better to put together the three-dimensional geologic jigsaw puzzles before oil wells are drilled on the OCS, rather than afterward.

—LUTHER J. CARTER

## NSF Director: Nixon Admits He Was Wrong

*Magnanimity in politics is not seldom the truest form of wisdom.*

—EDMUND BURKE

In a remarkable reversal, President Nixon announced this week that the White House had been wrong in blocking the appointment of Franklin A. Long for political reasons as the new director of the National Science Foundation. In a 28 April meeting with members of the National Science Board and the Council of the National Academy of Sciences, Nixon said that the next NSF director would be chosen on the basis of scientific and administrative competence and would be chosen from names submitted by the National Science Board.

Not only did Nixon give dramatic affirmation to the view of the scientific community that the NSF directorship is a nonpolitical post, but he also took the unusual step last week of offering the NSF directorship to Long. Although Long said that he greatly appreciated the offer, he declined the job. Long told *Science*, "The earlier events had inescapably made me become a politically marked and polarized figure so that my presence would make both the operations of the NSF and the carrying out of its administration more difficult."

Nixon personally conveyed his change of mind to the scientific leaders at a half-hour meeting at the White House. The substance of his remarks was later transmitted to newsmen at a press briefing held by Presidential science adviser Lee A. DuBridge and press secretary Ronald L. Ziegler, and this official version was amplified for *Science* by participants in the meeting with the President.

After having told the scientists that Long had declined to take the NSF post because his name had become associated with political controversy, Nixon is reported by one scientist at the meeting to have made a statement

about Long to the effect that "Now I respect him even more."

The Nixon reversal, in the opinion of National Academy of Sciences president Frederick Seitz, "cleared the air" of the thunderstorm of criticism that had developed over the rejection of Long because of his political views, especially his reservations about ABM deployment. Seitz, who, like the other scientists who attended the White House meeting, seemed happy about the change in Nixon's decision, observed, "The President wanted the scientific community to know that he regretted the situation and wanted to make amends." Another Academy member who attended the meeting said he was "flabbergasted that the President would say, in effect, 'I goofed' and would try to make amends."

In the scientific community's lengthy battle to establish federal research funding as a nonpolitical area, the reversal of the White House veto of Long is a highly significant victory. National Science Board chairman Philip Handler observes that the Long episode marks the first time the nonpolitical nature of the NSF directorship has been really tested and affirmed.

The White House meeting on 28 April also greatly pleased the scientists because Nixon emphasized the importance he placed on the NSF, on scientific research, and on science as a means of international cooperation. "He said all the right things and he said them very well," one scientist exclaimed. DuBridge said the White House meeting also marked the first time since the Hoover Administration that the Council of the National Academy had met with a President. (The National Science Board had had an earlier meeting with Nixon on 13 February.)

At the meeting with the scientists and at the press briefing afterward, Nixon and DuBridge revealed a few

more details concerning how the original rejection of Long occurred. The gist of their explanation was that White House political aides, upset by a last-minute negative reaction from Capitol Hill, bungled the Long appointment before the President was fully aware of what was happening. One scientist who attended the meeting with Nixon said Nixon acknowledged that the Long affair had been "very badly handled" by the White House.

Long had been nominated for the directorship many weeks ago by the National Science Board, the policy-making body for NSF, and DuBridge confirmed at Monday's press briefing the report that he had personally backed Long for the job. But when Long came to Washington on 11 April, expecting to meet with the President and conclude formal negotiations, he found that the arrangements were off. Subsequently, the President, on 18 April, told a news conference that he personally had approved a decision by White House aides not to submit Long's name to him because of Long's opposition to deployment of an antiballistic missile system. The White House feared that appointment of Long might damage the Administration's efforts to win congressional approval for the ABM.

At the press briefing this past Monday, DuBridge told reporters that White House staff members, after finding opposition to Long on Capitol Hill, did not bring the matter of Long's appointment to the President for "careful consideration." DuBridge said that, although he meets with the President "on a regular basis," it proved "impossible to get all this settled" before Long's rejection became a *cause célèbre* and had to be dealt with at the President's televised news conference. DuBridge later told *Science* that he first learned of congressional objections to Long on 10 April, and that he was