

After careful study and consideration of the subject, particularly the leasing procedure in the proposed regulations, we conclude that the non-competitive selection of a lessee is administratively unworkable and that a system of competitive bidding should be formulated.

In the interest of encouraging early development and providing an off-set to the cost of the extensive and expensive research still ahead, we suggest that for the initial lease offering of 30,000 acres, one-half ($\frac{1}{2}$) of the bonus payment be credited against royalties payable on production during the first 10 years of the lease term. The effect should be higher bonuses, earlier production and a means for the operator to recapture his investment more rapidly. While such a bonus arrangement should encourage development, it still would be prudent for the government, and not onerous to the lessee, to include strict development requirements in the lease. The lessee should be given maximum latitude in his development plan, consistent with good conservation practices, but due diligence should be required and the term should be extended only by production. If a lessee has not attained a commercial level of production in 10 years his lease should be subject to cancellation.

The position of the "independent" may still be of concern. Can he compete successfully for a lease? Does he have adequate technological qualifications? Is the ultimate cost within his financial capabilities?

Oil shale is not a game that everyone can play. The large capital requirements and the specialized technology will prevent all but financially-strong technologically-oriented companies from entering into the production phase of the business. Joint ventures to pool capital, share risks, and combine talents are essential and must be clearly provided for and encouraged. There are medium-sized companies that have the capabilities and, in our opinion, the desire to own oil shale leases and produce shale oil on a joint venture basis. The smaller company will probably defer entry into the shale industry until a technology is well established and the profitability of the business is better assured. With the limitation on acreage that can be leased there would be adequate land available for those choosing to wait.

In summary, we believe a system of competitive bidding should be used to award oil shale leases. These leases should not be limited to research and development but should encourage production. A competitive leasing procedure along the lines discussed will benefit all parties—the government, the lessee and the public.

It will be simple and straightforward to administer

It will provide incentive for early development

It will be a fair and impartial method of selecting the successful lessee

It will provide maximum compensation to the owner (the public) consistent with the competitive position of oil shale products in the marketplace.

DEVELOPMENT OR RESEARCH—WHAT SHOULD BE EMPHASIZED

There is no disagreement about the need for additional research on oil shale despite the not inconsiderable knowledge of oil shale technology that already exists. But should the primary aim of the present leasing program be research to the virtual exclusion of commercial development? We suggest a better balance of the two phases.

First, some organizations are well advanced in their knowledge of techniques to mine and process oil shale, or have access to such knowledge through licensed processes. Should they not be given equal opportunity to lease public lands?

Second, we are concerned with the lack of assurance to the lessee that commercial production will be allowed. When and how the commercial phase begins should be a business decision of the lessee if he meets reasonable standards of conservation and otherwise complies with the terms of the lease. The government need not and should not be a party to this decision.

Third, we suggest that the plan for research and its execution are too closely controlled. If the lessee is using his own funds they will be expended as productively as he knows how.

We strongly recommend a lease that allows and encourages production whenever justified in the opinion of the lessee. No specific research requirements should be imposed. Be assured that no company will make the large investment for a commercial plant without adequate research.