

The second, and equally important, reason for moving ahead at this time is that we want the time and experience to fix the policy guidelines that will govern the long-range development of this fantastic energy resource. In this regard, I have established the following policy objectives which we hope will be an inherent part of our ultimate oil shale leasing practices:

- (1) To encourage competition in the development and use of oil shale and related resources; this has been the great principle used to develop our resources up to this point.
- (2) To prevent speculation and windfall profits; and I think, on the basis of nearly half a century's experience under the mineral leasing act, that we can do this. It will reflect on us as administrators if we fail.
- (3) To promote operation and production practices that are consistent with sound conservation management of overall regional resources; and may I comment here, this very region that contains the oil shale has in my judgment some of the finest summer and winter outdoor playgrounds in the entire Nation, and the trick here is can we develop the mineral resources without spoiling the wilderness, the ski areas, the water, the trout streams, and all the other fantastic resources of nature that are present. This again, is the challenge that we face and we want to see if we can do the one without damaging the other.
- (4) To encourage fullest use of all known mineral resources; all the mineral resources that are present, in other words, to optimize or maximize the recovery of the resource.
- (5) To provide reasonable revenues to the Federal and State governments.

Mr. Chairman, we do not underestimate the magnitude of the task that lies ahead. Past experience tells us that the hurdles are numerous and formidable. We know, for example, that there are economic and policy issues far removed from our area of responsibility that could have a direct bearing on development trends. One of these, the question of tax treatment, for example, can be readily identified as a serious factor in determining oil shale's competitive standing in the energy community.

Another question to be faced is the perennial one in the West: water requirements and supplies and I cannot underscore this too much.

Research to date demonstrates that the production of crude shale oil itself—the processes of mining, crushing, and retorting—requires relatively little water. Refining of shale oil is comparable to petroleum refining in requiring large amounts of water for cooling and steam generation. Municipal requirements for the communities needed to support a large shale industry would also be comparable to other communities of the same size. Our most recent estimates, developed in 1965, indicate that a 50,000-barrel-a-day shale oil operation would require 950 acre-feet of water per year for all industrial processes through refining. At a million barrels a day, the annual water requirement rises to 20,000 acre-feet. Community requirements would, of course, be additional and substantial.

We are equally aware that the objectives and procedures recently announced do not carry us very far into the development process.