

term, whether the Secretary of the Interior will extend the term of the lease to permit commercial production, and the areas which will be designated for leasing.

The regulations, as presently drafted, provide for a research program and do not adequately define what the future will be for development. Actually, a substantial amount of research has been done and some companies are undoubtedly at a state, from a technical standpoint, to proceed with development activities. Thus, the regulations should not only provide for research but also permit development.

Uncertainties exist as to what area will be designated for research development and the 30,000-acre limitation is unduly restrictive. The regulations should provide for selection of acreage by any qualified applicant.

Uncertainties exist as to the form of the lease. A reasonable form should be prescribed.

The royalties to the Government are uncertain in amount and should be fixed at a level and reasonable rate.

The benefits from research are illusory in that the Government will acquire title to all discoveries. This feature of the regulations should be eliminated and rewritten to provide for a fair license to others by any company developing an invention.

As I stated earlier, oil shale is physically analogous to potassium, sodium, phosphate, and other solid mineral reserves. Similarly, many of the technological and business problems in development are parallel. Accordingly, I suggest that the regulations governing oil shale be promulgated in the light of precedents established in the Department's regulations for potassium, sodium, and phosphate leases on federally owned lands.

In my opinion, such regulations have been generally accepted as reasonable and workable, and the concepts can be adapted to oil shale lands with few adjustments.

It is my considered opinion that American industry, given an opportunity under terms and conditions for competitive leasing arrangements, will be in a position to develop the reserves of oil shale in this country.

Moreover, I feel that the public interest in the economic development of oil shale reserves can be best served by Government creating an atmosphere for competition among private companies. Such competition engenders improved technology and historically results in lower costs to consumers.

Thank you for the opportunity to appear before this committee.

Senator Moss. Thank you, Mr. Hardy, for appearing before us. Your experience in government, coupled with your experience in the practical field of mining, commend you to us, and we appreciate your testimony here and your suggestions as to how the proposed regulations should be modified to make them more workable and to bring about actual production in this field.

Senator Allott.

Senator ALLOTT. Well, I again say, Mr. Hardy, we are very happy to have your very short and concise suggestions with respect to this matter. I think you have placed your finger on the same items that