It is arguable that there is a public interest in seeing an end to research even 417though the lessee is prepared to continue substantial expenditures to carry it on; but if some lessees are to have a term of ten years, all lessees who are prepared to continue their projects for that time should have the opportunity to do so.

More difficult and more important is the provision of part (b) of this section, under which the right of a research lessee to commence commercial production is subject to determinations to be made by the Secretary. The Secretary must decide, among other matters, whether the lessee has conducted its research in accordance with a program at some stage approved by the Secretary; whether it has developed a method which is both commercially feasible and provides for optimum recovery of the contained minerals; and whether it shows evidence of the ability to comply with as yet unannounced standards of pollution control and preservation of wildlife and aesthetic values, to be fixed at some later

The requirement of such future and indefinite determinations by the Secretary casts a serious cloud over the assurance that a research lessee will in fact be entitled to proceed with commercial production. Yet nothing is accomplished by the method of Secretarial determination after the conclusion of research that could not be accomplished by earlier and less potentially arbitrary decisions.

For example, if a lessee is prepared to invest in the development of a leasehold the very substantial sums that are required for commercial production, it would appear to make no difference to the public interest whether its research activities were conducted "substantially in accordance with the plan submitted" in the application. Moreover, the lessee's preparedness to invest such sums would preclude any determination by the Department that the developed processes are not commercially feasible. In short, neither of these requirements appears to protect any valid public interest, and each contains possibilities for confusion

The remaining requirements—of optimum mineral recovery and compliance with conservation standards—ought to be made known to the research lessee before it begins research expenditures, rather than after it believes they are completed. Such standards should be incorporated in these Regulations and eventually in leasing regulations of more general effect. For the present, it is at the least necessary that minimum standards be set out in the research lease itself, so that the research lessee may give a rational definition to its research objectives and economic evaluations. If the lessee meets the minimum standards stated in his lease, it should be entitled to produce if it is prepared to do so. Administrative discretion should enter only if the standards included in the lease prove unworkably severe, and if a case can be made by the lessee for modification of them.

If the standards included in the initial research leases proved instead to be too modest because other lessees (or others not utilizing public lands) achieve better recoveries or design more efficient practices for conservation of other values, the research lessee should at least have the opportunity to use in its commercial production those other processes and methods. It should make no difference that they were not developed by him in the court of his research. Indeed, the use of such other processes or techniques by the lessee might well be encouraged under the lease by an amelioration of lease royalties to the extent, if any, which royalties

The Secretary must also determine, in order to grant a production term for the lease, that "the lessee has complied with all the terms of the lease." We assume that this requirement is not intended to mean quite what it says: that, in other words, immaterial failures of the research lessee to comply with technological or other requirements of the research lease could not be made a bar by the Secretary to extension of the lease term for production. The defect here is apparently only one of draftsmanship. But once again, the threat that such a provision will be interpreted to the serious disadvantage of the lessee is enhanced by the failure of the Regulations to provide fair procedures for him to challenge an adverse

## D. The Extent of the Production Lease

Section 3172.3.—Although part (a) of this section provides that no lease may exceed 5,120 acres, no definition is provided for the extent of the leasehold which

will actually be granted, either for research or for commercial production.

The physical extent of required areas for research is likely to be relatively small, and the selection of research acreage under the lease should not present