

CHAPTER 8

ALTERNATIVES TO THE PROPOSED ACTION

The Geological Survey accepted the Buckskin mining and reclamation plan as adequate for environmental review and subsequent approval under the 30 CFR 211 regulations of May 1976. However, as discussed in earlier parts of this analysis, this plan requires revision to comply with the recently enacted Surface Mining Control and Reclamation Act of 1977 (SMCRA).

In acting on this mining and reclamation plan, the Secretary of the Interior's action may be: approval after specific requirements have been met, or rejection on various environmental or other grounds. He may also defer decision pending submission of additional data, completion of required studies, or for other specific reasons.

Even after a mining and reclamation plan is approved, the regulations and lease terms require that all subsequently proposed departures and deviations therefrom be approved in advance by the Secretary. The regulations (30 CFR 211 and 700) also permit the Secretary to direct that changes be made in previously approved operations. For example, changes could be ordered to accommodate new, improved, or revised administrative requirements, technologic improvements, environmental concerns or requirements, or revisions of prior evaluations thereof in the light of experience or previously unknown factors.

REJECTION (NO-ACTION) ALTERNATIVE

"No action" on a mining proposal for the initial development of an existing federal lease would result in maintaining the status quo on the lease. Should no action be taken on the Buckskin mining and reclamation plan, the anticipated markets would have to locate another source to supply 80 million tons (4 million tons annually) of low-sulfur coal.

If no action is taken on the mining plan, and if current land use of the area continues, most resources on the proposed Buckskin site would remain essentially unchanged. Some decrease in air quality could be anticipated due to urban expansion, increased traffic, and the development of other mines. Imperceptible alterations in soils and topography might occur by 1990 due to natural forces such as erosion. Increased hunting, rockhounding, and off-road vehicle use may occur on the site with or without landowner permission, due to the pressure of regional population increases.

No action on the mining plan would also cause: (1) retention of 84 million tons of low-sulfur coal reserves for future use, (2) retention of 1,071 acres of surface and sub-

surface features on the site in essentially their present state (some of this land is within the Carter Oil Company mine permit area, and may be disturbed in the future), and (3) alleviation of some adverse socioeconomic impacts on the city of Gillette and nearby towns.

ALTERNATIVE TO APPROVE MINING AND RECLAMATION PLAN AFTER SPECIFIC REQUIREMENTS HAVE BEEN MET

The mining and reclamation plan can be approved only after it has been modified to meet all applicable regulations.

Specific modifications or requirements could be applied to the approved plan which would reduce some of the impacts described in Chapter 5.

Condition Approval Upon Demonstration of Successful Reclamation

The mining and reclamation plan would be conditionally approved for a period of 10 years during which time a specific testing and monitoring program for the purpose of measuring revegetation success would be implemented by the coal mining company. In this alternative a plan describing the testing and monitoring program would be prepared by the Shell Oil Company for approval by the regulatory authorities prior to its implementation.

If it cannot be demonstrated that revegetation can be successful commensurate with SMCRA at the conclusion of the 10-year program, the Department of the Interior will revoke its approval for mining.

Although current reclamation research indicates that successful reclamation can be achieved on semiarid mined lands, it is recognized that answers to reclamation problems are needed on a site-specific basis in order to ensure success.

This alternative, if implemented, would result in the gathering of data to show that lands proposed for mining are reclaimable within a reasonable period of time.

Shell Oil Company would be required, under the direction of state and federal reclamation regulatory agencies, to establish a suitable number of demonstration plots to provide evidence of revegetation success.

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The demonstration plots would be established as soon as practicable following authorization to commence mining operations.

Impacts which would occur if revegetation could not be accomplished follow.

1. The mining company would be forced to shut down its operation.

2. A shut-down of the mine would cause loss of employment for most of the employees and partial loss of investment in material needed to open and operate the mine for the 10-year period.

3. Areas disturbed during the 10-year period of mining would be reclaimed to a lesser productivity than the law requires.

Fish and Wildlife Mitigation Alternatives

The recommendations which follow would reduce or eliminate the major impacts to existing fish and wildlife resources described in Chapter 3.

(1) All mining areas would be reclaimed to wildlife habitat as soon as feasible. Reclamation would be in conformance to the postmining land use established by the State of Wyoming (Department of Environmental Quality) and/or the Bureau of Land Management. Vegetative planting and reclamation would be accomplished in consultation with the Wyoming Game and Fish Department. The goal of reclamation should be to achieve the highest possible wildlife carrying capacity at the earliest possible date, using all reasonable means.

(2) Approximately 1,500 acres of land lying in a suitable area where public domain (or private land under cooperative agreement) is available should be set aside and managed intensively for fish and wildlife resources. Selection of such an area should be accomplished in consultation with the Wyoming Game and Fish Department. The area set aside should be managed to increase its wildlife carrying capacity by at least 50%. Management tools such as water development, fertilization, vegetative manipulation, spraying, transplanting, seeding, protection of wildlife cover, and management of livestock grazing to enhance wildlife habitat should be implemented as necessary. The habitat should be controlled by the surface-management agency and wildlife by the Wyoming Game and Fish Department.

(3) It would be provided that a mine permit will not be granted on land critical to the ecological requirements of the bald or golden eagle. A team of qualified biologists from the Wyoming Game and Fish Department and the Bureau of Land Management will judge and recommend the areas to be excluded from mining. A mine permit could be granted if regulations are adopted to provide for buffer zones and alternate prey bases and nesting sites, and if that acreage critical to the eagle is not affected.

Alternative to Increase Rate of Production Over A Shorter Mine Life

The following alternative was suggested after the draft ES was published, and hence has not been subjected to public review. Because of time constraints, a complete impact analysis of this alternative could not be done.

Shell Oil Company has suggested, in its revised mining and reclamation plan, an alternative to the proposed action as a result of recent contractual commitments for the coal to be mined at Buckskin. Under this alternative, 6 million tons of coal would be mined annually, or a 50% increase in the rate of production specified under the proposed action. Total production at the mine would remain the same; however, mine life would be only 16 years instead of 20 years. The mine plan for extraction of 6 million tons annually would have to meet provisions of the Surface Mining Control and Reclamation Act, and changes in environmental impacts resulting from mine plan modifications would be more thoroughly assessed prior to plan approval.

Briefly, impacts of this alternative would be as follows. The increased production level would not significantly change the regional cumulative impacts, because projected coal production in the region is substantially greater than that from the Buckskin Mine alone.

Unleased federal coal lies immediately adjacent to the present Shell Oil Company lease. Shell has on file an application to lease this coal. Approval of this alternative would shorten the time frame within which Shell Oil Company would be requesting additional federal coal.

Some impacts would be intensified for a shorter period of time with a higher production rate and a shorter mine life.

A 50% increase in the rate of production would lead to a corresponding increase in emissions and ambient air concentrations of total suspended particulates (TSP) downwind of the mine. This means that the values given in Table BU3-5 and Figures BU3-1 through BU3-8, which are based on the 4 million tons per year production level, would be increased approximately 50%. The resulting TSP concentrations would still remain below the Wyoming and federal ambient air quality standards. (Use of best available control technology is assumed.)

If production is increased from 4 to 6 million tons annually, the number of unit trains leaving the mine site would increase from 400 to 600 annually, or from 8 to 12 a week. This would lead to a corresponding increase in impacts associated with rail traffic.

An additional 31 permanent employees would be required to produce the additional coal. This would mean an increase in population induced directly and indirectly by the Buckskin Mine of 194 people by 1990, 94% of whom would be expected to reside in Campbell County. Corresponding increases in vehicle traffic, local earnings, housing requirements, and demand for recreation facilities, public services, and health and social services would occur. After 16 years, these permanent employees would be seeking employment elsewhere.

An increase in the annual production rate would lead to an increase of 14 acres in the average acreage disturbed each year, thereby increasing the rate at which

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vegetative productivity is lost, at which soil is exposed, and at which wildlife habitat is destroyed. Total acreage disturbed over the mine life would not increase. Reclamation would keep pace with mining disturbance under either production level.

Some impacts which are dependent on the total acreage disturbed at the mine site (such as those related to water resources, topography, and cultural resources) would not change with an increased production rate.

ALTERNATIVES AFFECTING THE LEASE

Alternative to Allow Development of Selected Areas Now Under Lease

This alternative would permit only selective exploration and development of portions of the lease based on anticipated adverse environmental consequences. The decision-maker has the authority and responsibility to evaluate the coal resources and impacts of mining on the lease prior to acting on the proposal. Exploration and development could be allowed only on that portion of the lease where the fewest adverse environmental consequences would occur. Weighing the trade offs of mining

or precluding mining on part of the tract is part of the evaluation and decision process. Adoption of this alternative would reduce adverse effects by reducing the area in which the impacting activities could take place. Various requirements of SMCRA may, prior to action on the mining and reclamation plan, indicate a scheme of development on selected areas of the lease.

Alternative to Prevent Development on the Lease

The Secretary may reject any individual proposed activity that does not meet the requirements of applicable law and regulations under his authority, including the potential for environmental impact that could be reduced or avoided by adoption of a significantly different designed course of action by the operator. This may be accomplished by cancellation of the lease (if environmentally acceptable development is not possible), federal acquisition of the lease, or rejection of the mining and reclamation plan. Any of these would have the effect of precluding development, and the effects would be similar to those expected with the no-action alternative.