

STUDY TITLE: Beaufort Sea Petroleum Development Scenarios: Man Made Environment Impacts (TR-19).

REPORT TITLE: Beaufort Sea - Petroleum Development Scenarios, Man Made Environment Impacts.

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BACKGROUND: The North Slope Borough (Borough) presently is composed of two distinct population groups. One group is composed of the permanent regional residents, primarily of Eskimo heritage, who live in traditional communities. A second group is comprised of the transient petroleum-related personnel, primarily white, who live in a series of camps. The two groups have little direct contact. However, the petroleum industry's impact on the lives of people in regional traditional communities has been a major one. The purpose of this study was to assess future impacts of outer continental shelf (OCS) petroleum development in a non-OCS case and in four OCS scenario cases on the man-made environment of the Beaufort Sea region, in general, and of four communities, in particular, including Barrow, Kaktovik, Nuiqsut, and Wainwright.

OBJECTIVES: (1) To assess future impacts of oil and gas development in a non-OCS case and four varying levels of exploration/development activity (i.e., OCS scenario cases) on the man-made environment of the Beaufort Sea region and four communities in the region (i.e., Barrow, Kaktovik, Nuiqsut, and Wainwright).

DESCRIPTION: The four OCS cases included the Camden-Canning, large Prudhoe Bay, small Prudhoe Bay, and Cape Halkett scenarios. In each of the four OCS cases, emphasis was placed on additional impacts that such scenarios could be expected to have beyond what would be anticipated in the non-OCS case. To assist in this assessment, a series of projections were developed for anticipated population and employment changes in the individual communities, plus projections of Borough revenues and expenditures. Community infrastructural requirements in the non-OCS scenario and additional requirements likely to be generated by each of the four OCS scenarios were also examined.

This study effort utilized information from Technical Reports Nos. 8 and 18 of the Alaska OCS Socioeconomics Studies Program and "Social Analysis, Beaufort Sea Lease Sale" from the Alaska Department of Community and Regional Affairs.

SIGNIFICANT CONCLUSIONS: Field development timing for the various OCS scenarios was generally not significant in terms of Borough communities; however, start-up dates were very important. In the non-OCS case, the Borough was forecast to experience a period of deficits in revenues through FY 1985/86 which would force it to levy a debt service tax. A similar, although less serious, deficit was also forecasted for FY 1988/89 through FY 1989/90 in a non-OCS case. The Large Prudhoe Bay OCS scenario went furthest towards alleviating the immediate deficit simply because it represented the first OCS scenario to get underway. The Small Prudhoe Bay OCS scenario was only slightly less desirable as it would begin to assist the Borough financially in FY 1980/81 compared to a year earlier for the Large Prudhoe Bay OCS case. The Cape Halkett OCS scenario offered the least benefit since it would not assist the deficit until FY 1984/85.

The Camden-Canning OCS scenario was less desirable than the two Prudhoe Bay scenarios. The second deficit period, however, was eliminated by all four OCS scenarios.

STUDY RESULTS: The non-OCS scenario predicted the following impacts on Borough traditional communities: (1) slow growth of small villages, with a significant amount of out-migration of young adults to Barrow and outside the region; and (2) faster growth for Barrow because of in-migration from villages and by whites from outside the region. Both the Borough and the Arctic Slope Regional Corporation (ASRC) have a major potential for effecting change in regional traditional communities, the former through taxation and the capital improvements program (CIP), the latter through investments and mineral exploration activities. A major share of forecasted community needs (e.g., education facilities) was already being met by the Borough or was planned for the near future. Major areas of new impact included housing and utilities services, particularly in Barrow. Adequate housing was recognized as a major unmet need in both Barrow and small villages despite Borough programs. Short-term Borough deficits through FY 1985/86 will force levying of substantial millage rates against property owners for debt service payments. A similar position was forecast to occur in FY 1988/89 through FY 1989/90.

No additional impacts on the Beaufort Sea region beyond those identified in the non-OCS case were anticipated in a Camden-Canning OCS scenario. The following were significant impacts to Borough traditional communities. Although Kaktovik was forecast to grow at a faster rate than Nuiqsut or Wainwright because of its proximity to the Camden-Canning area, numbers of people added in all three villages were projected to be small. Out-migration to Barrow and outside the region was less than the non-OCS case. Barrow's population was forecasted to grow faster than the non-OCS case, mainly from in-migration from outside the region. Borough revenues were forecast to be higher, allowing additional community facilities and services without financial hardship to the Borough. This scenario will assist the Borough's long-term financial position, but not as much or as quickly as the Large or Small Prudhoe Bay scenarios because of its start-up date.

No additional impacts on the Beaufort Sea region beyond those identified in the non-OCS case were anticipated in a Large Prudhoe Bay OCS scenario. The following were significant impacts anticipated on Borough traditional communities. Although population of regional smaller villages was forecast to grow at a faster rate than in the non-OCS case, numbers of people added were expected to be very small. Barrow's population was forecasted to grow faster than the non-OCS case from in-migration from outside the region. Borough revenues will be higher, allowing additional facilities and services without undue financial hardship to the Borough. This scenario offered the most promise for assisting the Borough's imminent revenue deficit because of its earlier start-up date. Borough deficits projected from FY 1979/80 through FY 1985/86 would be reduced, permitting a lower debt service mill levy against Borough Taxpayers during these years.

The Small Prudhoe Bay OCS scenario created no additional impacts to the Beaufort Sea region beyond those identified in the non-OCS case. Although population of smaller regional villages was forecast to grow at a slightly faster rate than in the non-OCS case, the numerical difference was marginal. Barrow's population was forecasted to grow at a rate between the non-OCS and Large Prudhoe Bay cases mainly from in-migration from outside the region. Borough revenues were expected to increase, allowing additional facilities and services without undue hardship to the Borough. After Large Prudhoe Bay, the Small Prudhoe Bay OCS case offered the most immediate financial assistance to the Borough. The FY 1980/81 through FY 1985/86 deficit would be reduced, although less than the Large Prudhoe Bay OCS case.

The Cape Halkett OCS case produced no additional impacts on the Beaufort Sea region beyond those identified in the non-OCS case. The following were identified as the significant impacts to Borough traditional communities. The population of smaller regional communities was expected to grow at a slightly higher rate than in the non-OCS case; however, the numerical difference was marginal. As in the Small Prudhoe Bay OCS case, Barrow's population was forecasted to grow at a rate between the non-OCS and Large Prudhoe Bay cases. Like the other OCS cases, a Cape Halkett OCS scenario would contribute to significantly higher Borough revenues through property taxation than possible in a non-OCS case. However, because this scenario was not expected to get underway until the mid-1980s, its positive contribution to immediate Borough deficits was projected to be minimal. The Cape Halkett OCS scenario had the least impact on traditional Borough villages of the four OCS scenarios; however, it also offered the fewest benefits to the Borough and its people.

STUDY PRODUCT(S): Alaska Consultants, Inc. 1978. Beaufort Sea - Petroleum Development Scenarios, Man Made Environment Impacts. A final report for the U.S. Department of the Interior, Bureau of Land Management Alaska OCS Office, Anchorage, AK. NTIS No. PB-294314. Social and Economic Studies Program Technical Report No. 19. Contract No. 14-12-0001-29002. ix + 195 pp.

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