



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 29 1990

OFFICE OF WATER

Honorable Robert W. Page
Assistant Secretary (Civil Works)
Department of the Army
Washington, D.C. 20310-0103

Dear Mr. Page:

In accordance with the provisions of the Memorandum of Agreement (MOA) between the U.S. Environmental Protection Agency (EPA) and the Department of the Army under Section 404(q) of the Clean Water Act (CWA); I am formally requesting your review of the decision by Colonel William Kakel, District Engineer (DE), Alaska District, to issue a Section 404 permit to ARCO Alaska, Incorporated (application number 4-870672). Colonel Kakel's notice of intent to issue a permit for this project was transmitted by letter dated August 1, 1990, to Mr. Thomas P. Dunne, Acting Regional Administrator (RA), EPA, Region X. Issuance of the permit to ARCO would authorize placement of approximately 112,400 cubic yards of gravel to construct a production well pad (Drill Site 3-L) and access road into approximately 36 acres of wetlands to extract oil and gas from the Kuparuk Reservoir in the North Slope of Alaska.

After a thorough review of available information relevant to this case, we have determined that this case warrants elevation in accordance with the criteria in the MOA for elevation under Sections 5.b.1 and 5.b.3.

EPA has long recognized the difficulty of avoiding wetland impacts associated with oil and gas development on the North Slope. Nevertheless, we believe that the criteria for elevation in Section 5.b.1 are met based upon our findings that the Corps failed to resolve EPA concerns regarding compliance with the Section 404(b)(1) Guidelines, 40 CFR Part 230. Specifically, EPA believes that less environmentally damaging practicable alternatives are available [40 CFR 230.10(a)]. We have also determined that this referral meets the criteria in Section 5.b.3 regarding environmental issues of national importance requiring policy level review. Specifically, EPA believes that the Alaska District's decision regarding compensatory mitigation demonstrates a failure to properly consider the need for mitigation under the Section 404 (b)(1) Guidelines and the Corps

guidance prepared as a result of the Section 404(q) action in the Plantation Landing case.

**EPA concerns regarding compliance with the Section 404
(b) (1) Guidelines:**

As stated in the letter of the Acting Regional Administrator of Region X, dated March 20, 1990, to the Division Engineer, the project could fragment a minimally disturbed, high value, drained lake basin wetland complex, adversely affecting high-density nesting habitat of tundra swans, greater white fronted geese, Pacific and red-throated loons, oldsquaw and king eiders. It could destroy or cause abandonment of nest sites of these and other bird species, as well as affect the quality of their feeding and brood-rearing habitats. Specifically, the east-west access road could impede movement of brant to brood-rearing areas.

Since the Public Notice dated January 27, 1988, EPA has consistently raised another alternative that we believe would have less adverse environmental impact than the proposed permit. This alternative would involve filling the 3-L drill pad area, but would require permitting a north-south oriented access road (instead of the proposed east-west road) to avoid crossing a series of ponds interspersed with moist and wet tundra that provides very valuable habitat. This area drains to a very important lake that supports nesting tundra swans as well as extensive stands of Arctophila, an important food source for many species of waterfowl. The north-south route would traverse relatively dry areas that do not drain to the Arctophila lake.

While EPA has raised many issues associated with this alternative which the District has not, in our view, adequately addressed (see enclosure 1), the major disagreement involves the relative hydrologic impacts of the two routes. EPA maintains that the extensive culverting required for the east-west route could place the Arctophila lake and its resources at serious risk. (The Alaska Department of Fish and Game has documented serious problems with well over half of the culverts they have examined on the North Slope.) The District maintains that the drainages of the east-west route would be easier to culvert than those of the north-south route. It would appear from this logic that the Alaska District would favor routes that cross major drainages rather than those that avoid them. This is completely contrary to the principles of engineering in the arctic. By not selecting the north-south route for access to the proposed 3-L drill pad, EPA believes the District has failed to properly avoid and minimize not only potentially severe hydrologic impacts, but significant direct and indirect impacts to wildlife.

It is important to note that the proposed project is

intended to consolidate two existing exploratory pads in the vicinity to allow recovery of the same oil reserves. Expansion of the two existing pads would require a comparable amount of fill in partially filled wetlands and has already been permitted by the District (those permits have now expired). During the pre-application stage, EPA did not object to ARCO's proposal to consolidate the previously permitted expansion of the two exploratory pads, because consolidation of facilities generally reduces impacts. At that stage, there was a lack of site-specific data on which to reach a conclusion regarding the impacts of consolidating the exploratory pads at the proposed site.

Subsequently, the USFWS conducted site investigations and surveys of wildlife resources in the proposed project area during the summers of 1988 and 1989. These studies indicated that the proposed sites for the consolidated gravel pad have very high wildlife resource values. Based on this new information, EPA recommended in its March 20, 1990, letter from Mr. Thomas Dunne, Acting Regional Administrator of Region X, to General Patrick Stevens, North Pacific Division Engineer, that ARCO pursue its original plans and develop the 3-L and 3-P projects as previously permitted, because the record showed the proposed alternative to have significantly greater adverse impacts than expanding the existing exploratory pads. Studies conducted by the USFWS in the summer of 1990 confirmed the earlier data.

Environmental issue of national importance requiring policy level review:

The Corps draft decision document in this case, transmitted on August 1, 1990, states (p. 22) "it is still our opinion that mitigation for the proposed work would provide inconsequential benefits given the fact that mitigation would compensate for the loss of 36 acres of wetlands in an area containing thousands of acres of pristine wetlands." Irrespective of whether compensatory mitigation is required in this case, we believe the Alaska District failed to properly interpret the Guidelines by failing to consider whether mitigation was appropriate and practicable.

The Guidelines [40 CFR 230.10(d)] state that "no discharge...shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts (emphasis added)." The District failed to explain why mitigation would provide only inconsequential benefits. A determination of whether mitigation is "appropriate" should consider the value of the area to be lost, and the Corps discussion of mitigation acknowledges that "the area in question is of high value." The District also failed to demonstrate that there are no "practicable" mitigation opportunities in the area.

Abandoned facilities such as Service City, currently undergoing salvage operations, may represent practicable mitigation opportunities as well as potential gravel sources.

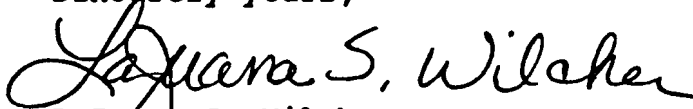
In addition, EPA is concerned that the District's position is not only inconsistent with the Guidelines but detrimental to cooperative efforts between the agencies and the oil and gas industry to develop an Accelerated Rehabilitation Program for North Slope oil and gas development. Finally, we are concerned that the District's position ignores cumulative impacts of discharges on the North Slope, and is therefore contrary to the Guidelines as interpreted by the Corps Guidance in the Plantation Landing case (which addressed the issue of wetland losses in an area with a large proportion of wetlands).

I would like to note that EPA did not request compensatory mitigation previously because the Region requested denial of the proposed permit based on the availability of less environmentally damaging practicable alternatives that would avoid significant adverse impacts. We raise this issue in response to the new Corps language concerning mitigation in the last draft decision document.

I hope you will carefully review the record on this permit case and agree to provide additional guidance to the Alaska District. I would like to emphasize that EPA and the Alaska District do not simply have a disagreement over the likely impacts of this project. There is a fundamental disagreement over the facts that apply to this case and the policy that should be applied to those facts.

I look forward to your response to our concerns. If my staff can be of further assistance during your evaluation of our request, please have your staff direct their questions to Ms. Menchu Martinez in the Office of Wetlands Protection at 382-5299. Data which we used to reach our decision in this matter are available for review through Ms. Martinez. You should also, of course, feel free to contact me, or David G. Davis, Director of the Office of Wetlands Protection, at 475-7791.

Sincerely yours,



LaJuana S. Wilcher
Assistant Administrator

Enclosures (3)

**EPA Region X's Position on ARCO 3-L Drill Pad and Access Road,
Kuparuk River 95**

The following is a discussion of EPA Region X 's concerns about compliance with the Section 404 (b)(1) Guidelines, including a more detailed description of the technical issues involved in this case.

Practicable less environmentally damaging alternatives [40 CFR 230.10(a)]

EPA has recommended two practicable alternatives which we believe would have less adverse environmental impacts. Our preferred alternative would entail developing exploratory drill sites in the general vicinity of the proposed project into production pads to avoid impacts to the drained lake basin wetland complex. Two sites, West Sak 17 and East Ugnu, have already been permitted for expansion into pads 3-P and 3-L, respectively. ARCO has since proposed to relocate and consolidate these two pads into one (the currently proposed 3-L pad). EPA did not object to this proposal at the pre-application stage, because consolidation of facilities generally reduces impacts. However, studies by the USFWS during the summers of 1988, 1989 and 1990 identified and documented the high habitat values of the proposed 3-L project area. Consequently, EPA strongly recommends that ARCO pursue their original plans and develop the 3-L and 3-P projects as previously permitted. The fact that the Alaska District has already permitted these sites would certainly seem to render this approach a practicable alternative.

Expanding the East Ugnu and West Sak 17 exploratory pads would have much less adverse impact, in EPA's view, than the current proposal. The District maintains that filling both of these pads would require 56 acres of fill. This ignores the fact that approximately 12 acres have already been filled. While we question the basis for the 56 acres, assuming it is accurate, the net difference in acreage between the proposed project (36 acres) and EPA's preferred alternative (42 net additional acres) is only 8 acres of fill. While this is a larger area, the relative habitat values of the sites favors expansion of the sites already disturbed. The basis for this statement is that the West Sak 17 and East Ugnu sites are located outside of the high value, drained lake basin wetland complex. They are also closer to existing roads and industrial development and have already been disturbed. Statements in the decision document that the areas appear comparable based on a review of aerial photography are incorrect. The two originally permitted sites are located on moist or dry tundra and are outside of the drained lake basin wetland complex. Differences in habitat type and quality is quite evident in the field.

If it could be demonstrated that expanding the exploratory pads as discussed above is not a practicable alternative, a second less environmentally damaging alternative which EPA and other agencies have recommended would involve construction of the drill pad at the revised location recommended by the USFWS with a north-south access road. This route would minimize direct impacts on the drained lake basin wetland complex and would reduce cumulative impacts if the West Sak 17 (drill pad 3-P) was constructed in the future. There are several unresolved issues concerning this alternative, as discussed below. The fundamental problem regarding compliance with the Section 404(b)(1) Guidelines, however, is that the Alaska District is relying on extensive culverting to minimize impacts rather than selecting a practicable alternative, the north-south road recommended by the agencies, which would avoid these significant impacts altogether.

Hydrologic Impacts

The draft decision document states that "while the north-south route traverses fewer major drainages than the east-west route, the east-west route would be easier to culvert than would the north-south route because of the more defined drainages" (p. 19).

This statement is contrary to conventional engineering principles for road construction in the arctic which strongly favor avoiding crossing drainages. The north-south route, based on site inspections, appears to drain slightly to the east, away from the Arctophila lake and should have no impact on it. This route does not cross any ponds or visible drainages except at the southern end where it merges with the proposed east-west route. Since the north-south route follows a ridge top and is much drier than the proposed east-west route, sheet flow would be minimal. Conversely, the east-west route would cross several ponds and wet tundra which drain to the Arctophila lake to the north. This route would require extensive culverting and would present greater sheet flow problems since the area is much wetter and the road would cut across the drainage (which flows to the north) instead of running parallel to it. The Alaska Department of Fish and Game has documented many problems with culvert construction and maintenance on the North Slope. In a recent report, they documented problems with 42 of 52 stream crossings they examined, with over half being moderate to high priority (based on fish passage concerns) for rehabilitation. More locally, the USFWS observed a serious drainage problem at breakup in 1989. Water draining out of the Arctophila lake was impounded for approximately 1 km along the Mine Site E road and flowed over the road at its lowest point. Since permittees do not appear to be able to maintain proper drainage along existing roads, there seems to be little reason to assume, and no evidence in the

record that, they will be able to do so for a new road.

The draft decision document references a hydrologic report for the applicant which discusses culverting requirements for the two routes. It is important to note that the north-south route that was examined is not the route recommended by the agencies. The route addressed in this study follows the side slope of a ridge whereas the recommended route follows the top of a different ridge further to the east.

Tundra Swan Impacts

The Alaska District states that "the north-south route would not result in less disturbance to tundra swans since it would increase traffic levels along the existing Mine Site E access road which abuts the northern end of the lake, which is where the Arctophila is located" (p. 19).

The Arctophila occurs in many areas around the lake. What is more critical is the effect of traffic on the swan nest sites. As stated in previous comments, the swans have apparently adapted to the Mine Site E road traffic by relocating their nest to the south end of the lake. The lake (and nest site) would be out of the line of sight of traffic along the north-south route due to an intervening ridge whereas it would be in full view along the east-west route. Therefore, while both routes would be approximately the same distance from the nest area, we believe the impacts would be greater with the east-west route.

Brant Movement

EPA is very concerned with cumulative impacts to the Brant colony that nests near the CPF-3 facility. Studies have already documented that the Brant no longer rear their broods near their nesting area, apparently due to the noise from the CPF-3 facility. The adult Brant and their young instead walk to brood-rearing areas north of the proposed project area. The east-west route would impede their movement, whereas the north-south route would not. However, the Alaska District does not consider further impediments to their movement a substantive issue "since the Brant already cross the Mine Site E and CPF-3 access roads" (p. 20). Clearly these waterfowl, whose Alaska population is seriously declining, are at risk. The north-south route would minimize that risk.

Habitat Values

The District states that "habitat values of both routes appear to be equally high, although the north-south route does

appear to be drier than the east-west, both sites are within the drained lake basin complex and the impacts of construction of either route would be similar" (p.20).

EPA emphatically disagrees with this statement. The habitat values are not similar. The east-west route traverses a matrix of wetland types with a high diversity of plant species, open water and moist tundra (approximately 40% wet/aquatic habitat and 60% moist tundra). It is precisely this interspersed of habitat types that makes this area so valuable. Conversely, the north-south route remains entirely on moist tundra (except where it merges at the southern end with the east-west route) that is of lower value to the key waterfowl species that utilize this area.

EPA also disagrees with statements elsewhere in the document that maintain that the project is in an area that is already disturbed. The project area is essentially roadless and isolated from areas that have been developed.

As stated above, the impacts of construction would not be similar for these two routes. The extensive culverting required for the east-west route would create much greater risks of hydrologic disruption and potential long-term impacts. Further, the sites themselves have very different values and the roads would therefore have significantly different direct and indirect impacts.

Road/Pipeline Separation

While EPA and other agencies have recommended a north-south access road, an east-west pipeline would be acceptable. The Alaska District has stated that, in the event of an oil spill in the summer, clean up equipment would require access across the tundra (if the road and pipeline are separated) potentially causing additional disturbance. EPA suggests that in such an event, the impacts to the tundra from the clean up would far exceed the effects from moving in equipment. We would further suggest that to properly take into account the risk of an oil spill the pipeline, like the access road, should avoid sensitive areas as occur along the east-west route.

The District has also raised the issues of safety and cost with respect to separating the pipeline and road. While we are certainly sensitive to safety issues, it is a fact that other operators on the North Slope have separated roads and pipelines and monitor them safely. Regardless, if one accepts ARCO's cost estimates at face value, as the Alaska District has, a north-south road and pipeline would be more cost effective than separating them due to the \$1 million monitoring costs. Thus the north-south alignment for the road and pipeline would resolve the questions of safety and cost, as well as concerns regarding the

environmental impacts should an oil spill occur.

With respect to ARCO's cost estimates, however, EPA finds it difficult to accept that a north-south route, relative to the east-west route, each requiring filling 6.2 acres, would cost \$50,000 more (attachment 2, draft decision document). The north-south route would begin 1.5 miles closer to the proposed gravel source and would require minimal culverting. We note that the Alaska Department of Natural Resources estimated the reduction of hauling costs alone to be approximately \$300,000 for the north-south road or roughly one-third the cost of the east-west road. This points out the need for the Alaska District to perform an independent assessment of project costs.

Significant Degradation [40 CFR 230.10(c)]

EPA disagrees with the Alaska District's conclusion that the project as proposed would not cause or contribute to significant degradation of waters of the U.S., and is concerned by the District's approach in reaching that conclusion. The proposed project would cause a direct loss of 36 acres of high value wildlife habitat, penetrating the heart of a previously undisturbed drained lake basin wetland complex. The project would affect high-density nesting habitat of tundra swans, greater white-fronted geese, Pacific and red-throated loons, oldsquaws and king eiders, and medium-density nesting habitats of several shorebird species. It would destroy directly, as well as cause abandonment of, numerous nest sites of these species and adversely affect the quality of their feeding and brood-rearing habitats. The east-west road would create an additional impediment to free passage of caribou and brant along major movement corridors. Furthermore, the road's potential for altering natural drainage patterns could significantly impact additional habitat areas, including a large, deep Arctophila lake northwest of the project site. This lake provides additional high value habitat for nesting tundra swans and other waterbird species.

In response to EPA concerns regarding significant degradation, and specifically nesting habitat, the District states (p. 9, draft decision document) "We do not agree that it [the project] would destroy nest sites since none have been documented to exist along either road route, and although USFWS has stated that there are nests of various birds in the study plot area they did not inform us as to their exact location within the plot therefore we do not know if any nests would be destroyed by the fill." This strikes us as a weak attempt to ignore significant new information made available by the USFWS since the public notice for this project was issued. On the one hand the District states that they do not agree that nest sites would be destroyed, yet then admit they do not know where they

are located. The significance of the USFWS information is that the entire project area is very valuable habitat, not just isolated nest sites that will vary in location from year to year.

The District also states (p. 19, draft decision document) that the project area "has been previously disturbed by the existing fills." The proposed location of the 3-L drill pad is at least 1.5 miles from any existing fills in an area that has definitely not been disturbed.

Minimization of Impacts [40 CFR 230.10(d) and 230.75]

The preceding discussion described how the Alaska District has failed to minimize impacts by declining to require a north-south road. Equally important in terms of compliance with the Guidelines is the District's treatment of compensatory mitigation.

EPA requested denial of the proposed permit based on the availability of less environmentally damaging practicable alternatives that would avoid significant adverse impacts, and did not request compensatory mitigation as we would have had the project complied, in our view, with 40 CFR 230.10(a). Regardless, the Alaska District's response to the USFWS request for compensatory mitigation raises issues of national importance with respect to proper implementation of the Guidelines.

The draft decision document states (p. 22) "it is still our opinion that mitigation for the proposed work would provide inconsequential benefits given the fact that mitigation would compensate for the loss of 36 acres of wetlands in an area containing thousands of acres of pristine wetlands."

The Guidelines, at 40 CFR 230.10(d) state that "no discharge...shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts". At 40 CFR 230.75, several approaches are discussed for minimizing impacts, including "habitat development and restoration to produce a new or modified environmental state of higher ecological value."

EPA disagrees with the District's approach in determining whether or not compensatory mitigation is "appropriate." The District appears to be saying that the particular 36 acres at issue have "inconsequential" value, and therefore, mitigating impacts to this area is not necessary. We would be more inclined to agree if the particular wetland habitat to be lost were of low value. This is not the case; the bulk of information provided by resource agencies to the District documents that the area is of very high value. EPA believes that a determination of whether compensatory mitigation is "appropriate" should be keyed to the

value of the area to be lost.

In addition, EPA is concerned that the approach that such loss of wetlands need not be mitigated purely because it represents a small portion of wetlands in that area is inconsistent with the Guidelines as interpreted in the Plantation Landing Guidance issued by the Corps. This Guidance addressed the issue of wetland losses in an area with a large proportion of wetlands. EPA agrees with the Corps finding in that Guidance that the proposed destruction of special aquatic sites (in this case, wetlands) cannot be summarily dismissed as unimportant. Furthermore, EPA agrees with the Guidance that cumulative effects of many projects can add up to very significant adverse impacts and that the Section 404 (b)(1) Guidelines deal with cumulative losses of special aquatic sites as a significant concern.

EPA is also concerned that the District's determination that mitigation would only provide inconsequential benefits seems to be a conclusion that compensatory mitigation is not appropriate on the North Slope. This is not only inconsistent with the Guidelines but detrimental to cooperative efforts between the agencies and the oil and gas industry to develop an Accelerated Rehabilitation Program for North Slope oil and gas development.

In addition, EPA believes that the District has not adequately documented lack of practicable mitigation opportunities. Only the West Sak 17 and East Ugnu exploratory pads and a storage pad near Mine Pit E were considered. There are other opportunities such as Service City, an abandoned service area that is currently being salvaged, leaving a very large gravel pad of no use within the floodplain of the Kuparuk River. Removal of gravel from this site could potentially provide a source of gravel for the 3-L project and thus avoid further impacts to Mine Pit E. Even if it were not an economically viable gravel source for this project, it may represent a practicable mitigation opportunity. EPA believes there may be other opportunities for compensatory mitigation as well. The USFWS has so far identified over 200 abandoned sites that could potentially be restored.

In summary, we believe that the District's position regarding mitigation is not consistent with the Guidelines requirement for appropriate and practicable minimization and compensation for unavoidable adverse impacts. We believe that this approach, if applied to other decisions, may contribute to cumulatively significant wetland losses in a piecemeal fashion. We believe it is imperative that the determination of what is appropriate and practicable mitigation be based on project-specific information, including the values of the site at issue.