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April 9, 1997

Ms. Janet D. Platt, Supervisor, Compliance
Environmental and Regulatory Affairs
BP Exploration (Alaska), Inc.
900 East Benson Boulevard
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Anchorage, AK 99519-6612

Re: Request for Determination on Non-road Engines: Badami Development Drilling and
Construction Operations

Dear Ms. Platt:

Thank you for your March 24, 1997 letter requesting clarification regarding non-road engines and the State's air quality control rules. We also appreciated meeting with Alison Cooke of BPX and teleconferencing with Pat Nair of Radian on April 2, 1997, regarding this issue.

You asked us to confirm whether non-road engines are subject to Best Available Control Technology (BACT) requirements. As discussed during the meeting, a recent Federal Court decision concluded that no state, except California, has the authority to develop emission standards for non-road engines. Consequently, non-road engines (internal combustion--not turbines or heaters) are not subject to Alaska's emission standards in 18 AAC 50, and therefore, do not require application of BACT under our Prevention of Significant Deterioration (PSD) program. However, the Department does have authority to impose in-use limits, such as fuel consumption, fuel quality and operating restrictions, to protect ambient air.

As a reminder, non-road engines do not count toward triggering construction permit review as a PSD major facility under 18 AAC 50.205. However, emissions from non-road engines must be included in ambient impact demonstrations, such as the air quality demonstration required as part of the construction permit application procedures for PSD major facilities.

You also asked about recordkeeping requirements for non-road engines. During our discussion with Alison, we mutually decided that it would be best to split this topic between the non-road engines used on the drilling rigs and the non-road engines used during civil

construction of the facility. It is our understanding that BPX plans to keep operational records regarding the actual use of the drilling rig engines. Therefore, BPX and the Department should be able to determine whether BPX is complying with the operational assumptions used in the Badami PSD application emission inventory and ambient impact assessment. Based on this information, the Department plans to include the operational restrictions assumed for the drilling rig as permit terms and limits, and impose recordkeeping requirements in the permit, if necessary, to protect the ambient standards and increments.

The Department concurred that recordkeeping for individual pieces of construction equipment, especially relatively small units, could be overly burdensome. However, we believe we need some method to determine whether BPX is complying with the assumed operations used in the emission inventory and ambient impact assessment. Therefore, we proposed "task reporting," where BPX would track the number of days for each construction phase task, rather than the actual operation of each unit of construction equipment. The duration of the actual construction phase would then be compared to the assumed duration used in the emission inventory and ambient impact assessment. This approach allows BPX to assume the construction equipment is operating 24 hours per day during each task, which may be shorter than 365 days per year. Based on our discussions, we believe task reporting is acceptable to BPX. However, we are also willing to consider optional reporting methods proposed by BPX to ensure the modeling assumptions are met during actual construction.

Alison also asked whether the Department would accept a minimum significance threshold to exclude "small" construction equipment from the modeling inventories. We mentioned that we established a de minimis equipment threshold for the Dutch Harbor applicants and would review the approach we took there. Here is what we found. In 1993, we did establish a "minimum equipment threshold" of 80 kilowatts for diesel generators in the Dutch Harbor airshed. The threshold was based on an established areawide equipment inventory and the belief that the emissions from equipment below this threshold were insignificant compared to the total emissions in the Dutch Harbor area. *However*, we also noted that the threshold only applied to "equipment included in the baseline inventories and/or belonging to non-permitted facilities." We specifically stated, "PSD applications must include all diesel generators and boilers existing at the PSD facility." Therefore, since small construction equipment is associated with the Badami PSD application, the approach used regarding insignificant equipment inventory for Dutch Harbor facilities is *not* analogous to the Badami and North Star scenarios.

In a 1995 ambient impact assessment conducted by Ketchikan Pulp Company (KPC), the Department allowed KPC "screen out" sources if the emissions were less than 1 percent of the total emissions for the pollutant of interest. However, the Department retained the right to approve the proposed equipment inventory and emissions used in the modeling analysis.

The construction equipment inventory provided in the Badami application indicates there are numerous pieces of small equipment. Therefore, the Department looked at the cumulative

allowable emissions for various engine categories. Our original comparison used the equipment inventory presented in your December 1996 submittal. However, we have since received your April 1, 1997 amendment, and have included the revised inventory in our comparison. The results are shown below in Table 1.

**Table 1--Annual NOx Emissions
from Pipeline Construction Sources**

| Engine Category | December 1996 Inventory | | April 1997 Inventory | |
|------------------|-------------------------|----------|-----------------------|----------|
| | (typ) | % of All | (typ) | % of All |
| All Engines | 1070.46 | 100% | 507.36 | 100% |
| Engines < 100 hp | 348.15 | 33% | <i>not calculated</i> | -- |
| Engines < 40 hp | 201.73 | 19% | <i>not calculated</i> | -- |
| Engines < 25 hp | 54.85 | 5% | 58.05 | 11% |
| Engines < 15 hp | 44.10 | 4% | 46.85 | 9% |

As shown above, the cumulative impact of engines smaller than 15 horsepower account for 9 percent of the total emission inventory for the pipeline construction. This is well above the 1 percent threshold allowed for KPC.

The Department next decided to analyze your inventory to compare the smaller temporary construction sources relative to the ambient demonstration requirements under 18 AAC 50.310(n). As described in subsection 50.310(n)(1)(C), ambient demonstrations are required if the allowable emissions of nitrogen dioxide or sulfur dioxide exceed 40 tons per year (tpy).

As shown in Table 1, even the engines below the 15 horsepower category have cumulative emissions (annual allowable) exceeding the 40 ton per year threshold. Therefore, based on the requirements of 18 AAC 50.310(n), these engines should be included in the ambient impact assessment.

The inclusion of engines smaller than 15 horsepower in a modeling demonstration may seem extreme. However, since BPX plans to use 46 engines in this category, the cumulative impact becomes significant. Based on our review, we believe BPX should not exclude any of the small engines from the ambient impact assessment.

BPX has done an exemplary job of accounting for the construction equipment and including them in the ambient impact assessment. We appreciate the effort that BPX is making to submit a complete and correct permit application.

I hope this letter addresses the questions raised in your March 24, 1997 letter. Please contact me if we can be of additional assistance.

Sincerely,

John Stone, Chief
Air Quality Maintenance Section

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cc: Alison Cooke, BPX
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