



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 Sixth Avenue  
Seattle, WA 98101

June 16, 2005

Reply to  
Attn Of: ETPA-088

Ms. Edrie Vinson  
Federal Highway Administration  
P.O. Box 21648  
Juneau, Alaska 99802

05-001-FHW

Dear Ms. Vinson:

The U.S. Environmental Protection Agency (EPA) would like to thank you for involving us in the Knik Arm Crossing project. We appreciate all the efforts you are making to ensure timely and meaningful participation by all affected parties. Per your request, and pursuant to our responsibilities under NEPA and Section 309 of the Clean Air Act, we would like to submit scoping comments. The enclosed comments are intended to both affirm and augment what we have shared with the project team thus far and include what we recommend should be addressed in the environmental impact statement (EIS).

If you have any questions, or would like to discuss these comments, please contact Elaine Somers of my staff at 206/553-2966. We look forward to continued involvement in this important project.

Sincerely,

/s/

Christine B. Reichgott, Manager  
NEPA Review Unit

Enclosure

**U.S. Environmental Protection Agency  
Scoping Comments for  
Knik Arm Crossing Project**

**Purpose and Need**

Thus far, there have been various draft descriptions of purpose and need for the project, but no version is currently being presented as the actual purpose and need. Federal Highway Administration is responding to legislation that earmarks funds for this project. We therefore suggest that the original intent for the earmarked funds be presented as the stated purpose and need.

The basic need(s) to be met should be stated and justified with adequate information and analysis. The project purpose should be to address the stated need(s), and the purpose should not be so narrowly stated as to excessively constrain the range of alternatives. The alternatives screening criteria serve as a set of measures for how well each alternative addresses the stated need(s). Competing needs should also be acknowledged and assessed with respect to the alternatives because they may reveal serious flaws with some alternatives and/or the need for mitigation measures, including avoidance, minimization, and/or compensation. Competing societal needs include environmental protection as well as other needs identified by the affected public, agencies, and tribes during scoping and throughout the NEPA process.

**Range of Alternatives**

Once the Purpose and Need is completed, it should provide the needed basis for developing and clarifying alternatives. It is not clear that this basis is established. Therefore it seems somewhat premature to be developing screening criteria and alternatives.

Meanwhile, in retrospect, we can comment on the fact that the 1984 Draft EIS for Knik Arm Crossing proposed bridge alternatives that included a 28.7 mile highway that would be constructed between Point MacKenzie and Houston Connector. A Hovercraft alternative provided a ferry connection between Anchorage and Point MacKenzie and included the Houston Connector. There was also a Glenn/Parks Highway Improvement Alternative that included additional lanes on the Glenn and Parks Highways, which we noted appeared to be the environmentally preferred alternative. The No Action alternative included those highway projects between Anchorage and the Mat-Su Borough that were already planned.

This current project proposal does not include the Houston Connector Road. The Mat-Su Borough has stated (Agency scoping meeting, 5/11/05) that additional transportation infrastructure is necessary in order for the Knik Arm Crossing project to be viable/useful. Therefore, we question whether a bridge would meet the FHWA requirements for independent utility. The EIS should explain how these criteria are or are not met by the

bridge project alone, and why the Houston Connector road was considered to be integral and necessary to the project in 1984, but not now. We understand that there are currently some funds available for paving the Pt. MacKenzie road, but it is not clear whether the available funds are adequate to complete that project.

The EIS should also explain why the ferry alternative is not currently being included, since it was presented as a viable alternative in 1984. While it appears to meet the same general purpose as the bridge, the direct, indirect/secondary, and cumulative impacts of the ferry proposal would potentially be substantially less than those of the bridge. Thus, it seems appropriate to include it in the current range of alternatives. It seems that the Glenn/Parks Highway proposal should receive similar treatment in the EIS. However, until there is a defined purpose and need, the range of alternatives cannot be determined.

Screening criteria for alternatives. The screening criteria for alternatives should be uniformly applied to all alternatives considered. The EIS should display, in comparative tabular form with supporting discussion in the text, how each alternative addresses the stated need(s) and screening criteria.

The screening criteria package dated May 6 does not uniformly apply nor adequately analyze, compare and contrast the various alternatives presented thus far. For example, the bridge alternatives are screened according to engineering design/support structures, while other alternatives are evaluated according to financial feasibility, provision of vehicular access, and other criteria. In addition, it is not clear that the conclusions reached in the screening of alternatives are supported by analysis. If they are based upon analysis, those analyses need to be presented. Based on the package submitted for review, it appears that considerable additional work needs to be done, and that it needs to begin with a demonstrated need and clearly articulated purpose for the project. Some of the needs stated thus far have been contradicted by those that the needs pertain to, such as the Ports, the Municipality of Anchorage, and the Department of Defense.

### **Affected Environment and Environmental Consequences**

**Endangered, threatened, candidate, sensitive species.** If the proposed project activities could affect species listed under the Endangered Species Act, the NEPA document should include the Biological Assessment and the associated USFWS or NOAA Fisheries Biological Opinion or formal concurrence.

In addition to federally listed species, there may also be state listed species, candidate state or federal species, and other sensitive or declining plant and animal species and their habitats in the project area. The EIS should disclose these sensitive species and habitats, and the alternatives presented should reflect all possible measures to avoid and minimize disturbance or harm to them. Thus far, the beluga whales and fisheries have been identified as being among those in need of special attention.

Beluga whales and fisheries. We are concerned about the potential impacts of the project on the depleted population of beluga whales, the various fisheries, particularly salmon and eulachon, and the prey base of all:

- Beluga whales would potentially be affected by noise from construction, operation, and maintenance, and they are dependant upon their prey base, which in large part includes salmon and eulachon at the mouths of the stream systems within the Arm. Their movement patterns are influenced by tidal flows, fluctuations and sedimentation patterns, which could potentially be affected by the project.
- Eulachon (smelt) are reported to be in serious decline from Alaska to Oregon. This is likely due to ocean conditions, interceptions of eulachon as bycatch, and habitat destruction in rivers and estuaries.
- There are significant runs of anadromous fish in Knik Arm. Their essential fish habitat would potentially be affected by project activities.

Any potential impacts to essential fish habitat must be analyzed and disclosed, and should include a description of measures proposed to avoid, mitigate, or offset the impacts of proposed activities on the essential fish habitat.

Because both the belugas and the eulachon are in decline, we advise taking steps to adequately study and protect them from further decline that could threaten or endanger their populations. Studies should be designed to further our understanding of all aspects of the ecosystem that support them. This means having a basic understanding of the chemical, physical, and biological characteristics of Knik Arm to reasonably predict and avoid significant direct impacts to the belugas and fisheries, and to direct a course of action to proactively mitigate secondary and cumulative effects of the proposed project. EPA urges that project proponents work collaboratively with resource agencies, researchers, the Mat-Su Borough, Municipality of Anchorage, tribes, and other interested entities to review existing information, determine additional studies needed, and develop mitigation.

**Aquatic resources – direct impacts.** Project construction, operation, and maintenance will likely affect aquatic resources: water quality, open water habitats, nearshore subtidal and intertidal habitats, shorelines, and possibly wetlands, springs, stream channels, and riparian areas. These resources will experience varying degrees of encroachment and alteration of their hydrologic functions, and project encroachment may degrade the habitat for fish and other aquatic biota. For any impacts that cannot be avoided through siting and design, the NEPA document should describe the types, location, and estimated effectiveness of best management practices (BMPs) applied to minimize and mitigate impacts to aquatic resources.

The NEPA document should describe aquatic habitats in the affected environment (e.g., habitat type, plant and animal species, functional values, and integrity) and the

environmental consequences of the proposed alternatives on these resources. Impacts to aquatic resources should be evaluated in terms of the aerial (acreage) or linear extent to be impacted and by the functions they perform.

The proposed activities may require a Clean Water Act Section 404 permit from the Army Corps of Engineers (ACOE). For wetlands and other special aquatic sites, the Section 404(b)(1) guidelines establish a presumption that upland alternatives are available for non-water dependent activities. The 404(b)(1) guidelines require that impacts to aquatic resources be (1) avoided, (2) minimized, and (3) mitigated, in that sequence. The NEPA document should discuss in detail how planning efforts (and alternative selection) conform with Section 404(b)(1) guidelines sequencing and criteria. In other words, FHWA must show that they have avoided impacts to wetlands and other special aquatic sites to the maximum extent practicable. The NEPA document should discuss alternatives that would avoid wetlands and aquatic resource impacts from fill placement, water impoundment, construction, and other activities before proceeding to minimization/mitigation measures.

To meet the requirements of the Clean Water Act, the NEPA document must identify all water bodies likely to be impacted by the project, the nature of the potential impacts, and the specific pollutants likely to impact those waters. If there are 303(d) water bodies, the NEPA document must additionally state whether a TMDL has been developed for the water bodies and pollutants of concern. Provisions for Antidegradation of water quality apply to water bodies where water quality standards are presently being met.

#### **Air quality**

Conformity requirements. Currently Anchorage has an approved Maintenance Plan for carbon monoxide. The project would need to be in a conforming transportation improvement plan and transportation plan with respect to the regional emissions analysis. The project itself would also have to complete a project level conformity analysis. The secondary and cumulative effects of induced travel and growth need to be factored into conformity analyses (see Secondary and cumulative effects section below).

Air toxics. There is heightened concern for human health from projects that result in air toxics emissions and particulate matter from mobile sources, particularly diesel exhaust. The National Air Toxics Assessment, <http://www.epa.gov/ttn/atw/nata>, asserts that a large number of human epidemiology studies show increased lung cancer associated with diesel exhaust and significant potential for non-cancer health effects. Also the Control of Emissions of Hazardous Air Pollutants from Mobile Sources Final Rule (66 FR 17230, March 29, 2001) lists 21 compounds emitted from motor vehicles that are known or suspect to cause cancer or other serious health effects.

EPA strongly recommends that the EIS disclose whether vehicular air toxics emissions would result from project construction and operations, discuss the cancer and non-cancer health effects associated with air toxics and diesel particulate matter, and identify sensitive receptor populations and individuals that are likely to be exposed to these

emissions. For example, the Government Hill neighborhood could potentially be directly affected.

For each alternative, EPA recommends:

- Disclosure of all locations at which emissions would increase near sensitive receptors because of project construction, intersections, increased traffic, including increased diesel traffic, increased loads on engines (higher speeds, climbs, etc.).
- An assessment or accounting (qualitative or modeled depending on the severity of existing and projected conditions) of all the factors that could influence the degree of adverse impact on the population because of the activities listed above (e.g., distances to human activity centers and sensitive receptor locations, particularly parks, schools, hospitals, etc; amount, duration, and location of emissions from construction, diesel and other vehicles, etc.
- For receptor locations, we recommend that hotspot analysis be conducted for air toxics and particulate matter, and that construction mitigation measures be included. We have enclosed two lists of potential mitigation measures that could reduce emissions during construction (Enclosure 1).

For more information about conformity requirements and air toxics, please contact Wayne Elson of our Air Program office at 206/553-1463.

**Secondary and cumulative effects.** The most significant environmental impacts of a Knik Arm crossing are clearly the secondary and cumulative impacts that would result from induced travel and growth. We commend FHWA for conducting analyses that attempt to characterize the land use changes that would potentially occur and their environmental consequences. The EIS (and thus the modeling methodologies) should analyze and disclose induced travel and growth that would potentially occur, and the potential environmental effects upon air quality, water quality and quantity, terrestrial and aquatic habitats, ecological connectivity and ecosystem processes, communities, cultural/historical resources [see Cultural resources section below]) of that growth in travel and development.

We understand induced travel to be any increase in travel resulting from improved travel conditions (Hunt, 2002). In most contexts, “improved travel conditions” refers to reduced travel times or improved reliability of travel times. There are both short term effects (more trips, longer trips), and long term effects (land use change).

Since it is known that development would occur if a Knik Arm crossing is established, it offers a unique opportunity to ensure that the land resource is used wisely and that environmental protection is incorporated from the beginning. We recommend that no crossing alternatives be implemented until land use planning, zoning, and necessary community services are in place. This should be a major component of mitigation for the proposed project.

In support of this action, we recommend that the secondary and cumulative effects analyses explore alternative future scenarios, where proactive mitigation in the form of an “ideal” application of land use controls, various “Smart Growth” applications, and sensitive areas protections are portrayed against scenarios of no control, minimal control, and moderate control. The differing extent and severity of impacts should be described for the losses and alterations to ecosystem components, such as wetlands, streams and riparian areas, shoreline and nearshore habitats, water quality and drinking water supplies, wildlife and wildlife habitat, and air quality, as well as the loss/alterations/impairments of hydrological and terrestrial ecological connectivity, ecosystem processes and functions/services. Such an analysis would inform the land use planning effort and assist local decision making in support of healthy, livable communities and ecosystems.

Drinking water supplies. The Mat-Su Borough indicated at the April interagency scoping meeting that drinking water supplies may be limited in the Mat-Su and that there is a problem with arsenic in drinking water. Because the proposed project would result in significant residential, commercial, and industrial growth in the Mat-Su Borough, we recommend that the EIS include an assessment of drinking water supplies and drinking water quality in the Mat-Su. This information is important to decision making because the cost and feasibility of providing potable drinking water to a rapidly expanding population should be considered before major infrastructure is built to facilitate growth.

Under the Safe Drinking Water Act, new arsenic in drinking water rules will apply. For surface water systems, the new arsenic rule will become effective on January 23, 2006. For groundwater systems, the rule will take effect on January 23, 2007. The new rule decreases the allowable concentration of arsenic in drinking water from 50 parts per billion (ppb) to 10 ppb water. Initial compliance with the arsenic rule will be determined by using the average of 4 quarterly samples (4 samples taken every 3 months in one year). If the water supply is in non-compliance with the standard, the arsenic must be removed or an alternate drinking water supply must be found. If the water supply is in compliance with the standard, it will be necessary to re-test the water once every 3 years.

We recommend conducting adequate testing to determine the level and extent of arsenic in existing and potential future drinking water supplies. The per capita costs of treating water supplies could be substantial, and it is important to know whether or not it is practical to use the water. Water supply is a major factor influencing growth. Therefore, from a NEPA perspective, this information is needed to inform the public and decision maker regarding the amount, rate, and location of growth that is reasonably foreseeable, and is an additional factor to consider in the comparison of alternatives.

**Community impact assessment.** We recommend conducting community impact assessments for communities that would potentially be most affected by the proposed project. At first glance, these appear to include the Government Hill community, as well as Native Alaska Tribes – their communities, populations, and their respective cultural and subsistence resources (see Tribal consultation below). A more in-depth analysis of the direct, secondary, and cumulative effects of proposed alternatives may reveal

additional affected populations/communities. The Federal Highway Administration (FHWA) publication, *Community Impact Assessment: A Quick Reference for Transportation* [publication No. FHWA-PD-96-036, HEP-30/8-96(10M)P], is available as guidance, and pertinent websites can also provide information.

**Environmental Justice.** In compliance with NEPA and with E.O. 12898 on Environmental Justice, actions should be taken to conduct adequate public outreach and participation that ensures the public and Native Alaskan tribes truly understand the possible impacts to their communities and trust resources. Environmental Justice communities and Alaska Native peoples must be effectively informed, heard, and responded to regarding the project impacts and issues affecting their communities and natural and cultural resources. The information gathered from the public participation process and how this information is factored into decision-making should be disclosed in the EIS.

EPA requests the following information from lead agencies, at a minimum, when reviewing EISs to determine the adequacy of analysis:

- describe the efforts that have/will be taken to inform the communities about the impacts of the project and to ensure “meaningful public participation” by the potentially affected communities/individuals;
- identify low income and people of color (minority) communities in the impact area(s) of the project;
- disclose in the EIS what was heard from the community about the project during the public participation sessions by listing the impacts identified by the project proponent and the communities (perceived and real);
- address whether these impacts are likely to occur and to whom, and evaluate all impacts for their potential to disproportionately impact low income and/or people of color (minority) communities;
- describe how what was heard from the public was/will be incorporated into the decisions made about the project (such as the development of alternatives or choice of alternatives);
- propose mitigation for the impacts that will or are likely to occur.

**Tribal consultation.** Government-to-government consultation with federally recognized Indian tribal governments is legally required. Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, and the President’s executive memorandum of September 22, 2004 are the latest iterations of federal government policy; the latter directed that:

*Each executive department and agency ... shall continue to ensure to the greatest extent practicable and as permitted by United States law that the agency's working relationship with federally recognized tribal governments fully respects the rights of self-government and self-determination due tribal governments.*

Executive Order 12898 on Environmental Justice is also relevant to Indian tribes, including both federally recognized tribes and tribes that are not formally recognized but

that comprise minority and/or low-income populations. Special efforts must be taken to avoid disproportionate adverse environmental impacts on such tribes, and to eliminate barriers to their full participation in the NEPA process and related processes of environmental review.

The lead federal agency responsible for a NEPA analysis is responsible for consulting government-to-government with the governments of federally recognized tribes, and for consulting, though not necessarily on a formal government-to-government basis, with non-recognized tribes. In all cases, efforts must be made to respect tribal cultural interests, values, and modes of expression, and to overcome language, economic, and other barriers to tribal participation.

Special attention should be paid to environmental impacts on resources held in trust or treaty resources. Trust resources include those resources held in trust by the U.S. government on a tribe's behalf (such as tribal lands, minerals, and timber), they also include resources in which a tribe has rights that the U.S. government is obligated to protect. However, there is a rule of treaty construction, established long ago by the Supreme Court, that a right not explicitly ceded by a tribe was reserved, so tribes may have a basis for arguing for consideration of a wide range of traditional land rights, such as the right to use religious places and the right to protect the remains of their ancestors.

What all this means to a NEPA analysis is that very close consideration should be given to all types of resources and aspects of the environment that tribes regard as significant, and that this consideration be carried out in consultation with tribes. Consultation should begin at the earliest stages of NEPA review, when the purpose and need for the action are considered, alternatives are formulated, and approaches to scoping are established. It should continue through the remainder of the NEPA analysis, documentation, and review process and be documented in Environmental Impact Statements (EISs) and Records of Decision (RODs), Environmental Assessments (EAs) and Findings of No Significant Impact (FONSIs,) and the recordkeeping supporting the application of categorical exclusions.

EPA recommends that FHWA consult with the potentially affected tribes specific to their interests and concerns. We realize that FHWA is currently consulting with the Tribes and Native Villages located within Knik Arm (Tyonek, Knik, Eklutna, Chickaloon), but there may be interest from other Cook Inlet Tribes farther south as well and we recommend they be contacted. To assist with this, we have enclosed contact information for all Cook Inlet Tribes (Enclosure 2). Among the issues that in EPA's experience are often of concern to tribes are

- Reservation lands;
- Formally identified trust and treaty resources;
- Grave and burial sites;
- Off-reservation sacred sites;
- Traditional cultural properties or landscapes;
- Hunting, fishing, and gathering areas (including impacts to ecosystems that support animals and plants that are or once were

part of the Tribes and tribal descendants' traditional resource areas);

- Access to traditional and current hunting, fishing and gathering areas and species;
- Changes in hydrology or ecological composition of springs, seeps, wetlands and streams, that could be considered sacred or have traditional resource use associations;
- Water quality in streams, springs, wetlands and aquifers;
- Travel routes that were historically used, and travel routes that may be currently used; and
- Historic properties and other cultural resources.

Since the responsibility for government-to-government consultation with tribes is vested by law in the federal government, we recommend that a lead federal agency not delegate its tribal consultation responsibilities to the State or local government unless it has a formal agreement to such delegation with the pertinent tribal government or governments permitting such delegation, as well as a formal agreement with the State or local government as to how such consultation responsibilities will be carried out.

**Cultural resources.** Impacts on cultural resources are often of concern to Indian tribes, both recognized and non-recognized, but they are also of concern to other groups as well. The NEPA regulations, at 40 CFR 1508.27(b)(3) and (8), explicitly requires that effects on cultural resources be considered in judging the significance of environmental impacts. A variety of specific federal laws, as well as the laws of many states, Indian tribes, and other jurisdictions and a number of international conventions and recommendations, apply to the management of impacts on different kinds of cultural resources, such as:

- Historic buildings, structures, sites, districts, and landscapes;
- Religious practices, beliefs, and places;
- Traditional uses of land and resources;
- Ancestral human remains and burial sites; and
- Traditional ways of life.

The lead federal agency conducting a NEPA analysis should ensure that all such impacts are considered in an orderly and systematic manner, in full consultation with all concerned parties, especially those who may ascribe cultural importance to such resources. Such parties should be contacted early in the scoping process and consulted throughout the analysis, documentation, and review process.

Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR 800) outlines specific procedures to be used in examining potential impacts on historic places. These procedures should be carefully followed in the course of any NEPA analysis, but agencies must be careful not to allow attention to Section 106 review to cause analysts to give insufficient consideration to other kinds of cultural resources. Not all cultural resources are "historic properties" as defined in the National Historic

Preservation Act (that is, places included in or eligible for the National Register of Historic Places); hence they cannot all be addressed through Section 106 review, but this does not mean that they do not need to be addressed under NEPA.

EPA recommends that no Finding of No Significant Impact (FONSI) or Record of Decision (ROD) be completed until the processes of consultation, analysis, review and documentation required by Section 106 of NHPA have been fully completed. If adverse effects to historic properties are identified, any Memorandum of Agreement (MOA) developed to resolve these concerns under Section 106 of NHPA should be referenced in the FONSI or ROD. Unless there is some compelling reason to do otherwise, the Section 106 MOA should be fully executed before a FONSI or ROD is issued, and the FONSI or ROD should provide for implementation of the MOA's terms.

A report provided by Fran Seager-Boss of the Mat-Su Borough indicates there are many historical and archeological sites located within the Mat-Su Borough. These locations and others not yet known could potentially be affected by growth and development that are stimulated by the proposed project (secondary effects). Sites exhibiting artifacts, cache pits, depressions, historical ruins, etc., include Fish Creek and Fish Creek tributaries, Three Mile Creek confluence with Fish Creek, Harbeson, O'Brien Creek, Knik Road Bluff, old Knik Road, Iditarod Trail, Soldier Creek, Liten Lake, unnamed creek southwest of Knik draining White Lake, White Lake, Vance Road, Fairview Loop, Cottonwood Creek, Cottonwood Creek/Glenwood Road, Echo Lake, dog sled trail from Goose Bay, and Big Lake. We recommend consultation, impact assessment, and proactive mitigation measures to protect these resources.

Useful references include:

- <http://www.npi.org/nepa/index.html> regarding NEPA and cultural resources;
- [http://www.epa.gov/compliance/resources/publications/ed/ips\\_consultation\\_guide.pdf](http://www.epa.gov/compliance/resources/publications/ed/ips_consultation_guide.pdf) includes the document, *Guide on Consultation and Collaboration with Indian Tribal Governments and the Public Participation of Indigenous Groups and Tribal Members in Environmental Decision Making*.
- Executive Orders:
  - E.O. 13175, Consultation and Coordination with Tribes;
  - E.O. 13007, Indian Sacred Sites;
  - E.O. 12898, Environmental Justice.

**Invasive Species.** Ground disturbing activities create opportunity for establishment of non-native invasive species. In compliance with NEPA and with the Executive Order 13112, analysis and disclosure of these actions and their effects, as well as any mitigation to prevent or control such outbreaks should be included. We urge that disturbed areas be revegetated using native species and that there be ongoing maintenance (wholly or primarily non-chemical means) to prevent establishment of invasives in areas disturbed by project activities

## Enclosure 1

### Mitigation Measures to Reduce Emissions During Construction

- Properly maintain construction equipment.
- Evaluate the use of available alternative engines and diesel fuels:
  - Engines using fuel cell technology
  - Electric engines
  - Engines using liquefied or compressed natural gas
  - Diesel engines that meet the proposed EPA 2007 regulation of 0.01 g/bhp-hr (grams per brake horsepower hour)
  - Diesel engines outfitted with catalyzed diesel particulate filters and fueled with low sulfur (less than 15 ppm sulfur) fuel
  - Diesel engines fueled with biodiesel (diesel generated from plants rather than petroleum)
  - Fueling on-site equipment, e.g., mining equipment, with lower sulfur highway diesel instead of off-road diesel fuel
- Reduce construction-related traffic trips and unnecessary idling of equipment.
- Use newer, “cleaner” construction equipment.
- Install control equipment on diesel construction equipment (particulate filters/traps (DPTs), oxidizing soot filter, oxidation catalysts, and other appropriate control devices to the greatest extent that is technically feasible.) A particulate filter (“P-trap” or oxidizing soot filter) may control approximately 80% of diesel PM emissions. An oxidation catalyst reduces PM emissions by only 20%, but can reduce CO emissions by 40%, and hydrocarbon emissions by 50%. Different control devices may be used simultaneously.
- Reroute the diesel truck traffic away from communities and schools.
- Adopt a “Construction Emissions Mitigation Plan (CEMP). A CEMP would help to ensure that the procedures for implementing all proposed mitigation measures are sufficiently defined to ensure a reduction in the environmental impact from diesel PM and NO<sub>x</sub> due to the project’s construction. CEMP inclusions:
  - All construction-related engines are tuned to the engine manufacturer’s specifications in accordance with the timeframe recommended by the engine manufacturer; not idle for more than 5 minutes; not tampered with in order to increase engine horsepower; include particulate traps, oxidation catalysts and other suitable control devices on all construction equipment used at the construction site; and use diesel fuel having a sulfur content of 15 ppm or less, or other suitable alternative diesel fuel. Minimize construction-related traffic trips through appropriate policies and implementation measures.
- Implement an adaptive mitigation measure program over the project’s construction phase.

**Construction Mitigation Measures  
Adopted for Several Major Projects in California**

- A. Administrative
  - 1. Have a Mitigation Plan that is included in the FEIS and committed to in the ROD.
  - 2. Require reporting.
    - a. Prepare inventory of all equipment prior to construction.
    - b. Report on suitability of add-on controls for each piece of equipment before groundbreaking.\*
    - c. Evaluate other engine alternatives: electric, CNG, LNG, fuel cell, alternative diesel.
    - d. Monthly, public reports by Environmental Coordinator regarding fulfillment of requirements
  - 3. Have suitability report subject to review by Air District, USDOT, State DOT, EPA and the public.
  
- B. Equipment
  - 1. Use add-on controls such as catalysts and particulate traps where suitable.
  - 2. Use fuel with 15 ppm of sulfur or less unless unavailable.
  - 3. Establish idling limit (e.g., 5-10 minutes per hour).
  - 4. Tune to manufacturers' specs and do so at manufacturers' recommended frequency.
  - 5. Prohibit any tampering with engines and require continuing adherence to manufacturers' recommendations.
  - 6. Require that leased equipment be 1996 model or newer unless cost exceeds 110% of average lease cost.
  - 7. Require 75% of total horsepower of owned equipment to be used to be 1996 or newer models.
  
- C. Work limitations
  - 1. Establish a cap on daily emissions and/or hours of work.
  - 2. Use no more than 2 pieces of equipment simultaneously near or upwind from sensitive receptors.
  - 3. Establish additional emissions limits within 1000 feet of any K-12 school.
  - 4. Provide notification to all schools within 1000 feet.
  - 5. Reduce truck trips and/or restrict hours of driving through communities to minimize risk.

\* Suitability of control devices is based on whether there is reduced normal availability of the construction equipment due to increased downtime and/or power output, whether there may be significant damage caused by the construction equipment engine, or whether there may be a significant risk to nearby workers or the public. Such determination is to be made by the Contract Project Manager (CPM) in consultation with the appropriate vendor.

Enclosure 2

**Alaska Native Tribes within Cook Inlet**

Native Village of Tyonek  
PO Box 82009  
Tyonek, Alaska 99682  
Executive: Peter Merryman, President  
Administrative Contact: Connie Burnell (no EP), Tribal Administrator  
Phone: 907-583-2111  
E-mail: Connie\_B@tyonek.net

Knik Tribe  
PO Box 871565  
Wasilla, Alaska 99687  
Executive: Michael Tucker, President  
Staff Contact: Christina Flowers, Executive Director (Interim)  
Phone: 907-373-7991  
Fax: 907-373-2161  
E-mail: mtucker@kniktribalcouncil.org, cflowers@kniktribalcouncil.org

Native Village of Eklutna  
26339 Eklutna Village Road  
Chugiak, Alaska 99567  
Executive: Lee Stephan, CEO  
Environmental Staff: Marc Lamoreaux, Environment and Natural Resource  
Director  
Phone: 907-688-6020  
Fax: 907-688-6021  
E-mail: nve@mtaonline.net, LEMarc@pobox.mtaonline.net

Chickaloon Native Village  
PO Box 1105  
Chickaloon, Alaska 99674  
Executive: Gary Harrison, Chief  
Environmental Staff: Angela Wade, Environmental Program Director  
Phone: 745-0707  
Fax: 907-745-7154  
E-mail: angie@chickaloon.org; cvepp@chickaloon.org

Salamatof Tribal Council  
150 N. Willow Street #29  
Kenai, Alaska 99611  
Executive: Penny Carty, President  
Phone: 907-283-7864  
Fax: 907-283-6470  
E-mail: snainc@alaska.com

Kenaitze Tribe  
PO Box 988  
Kenai, Alaska 99611  
Executive: Rita Smagge, Executive Director  
Environmental Staff: Brenda Trefon, Environmental Specialist  
Phone: 907-283-3633  
Fax: 907-283-3052  
E-mail: rsmagge@pobox.alaska.net; brendalee@pobox.alaska.net

Ninilchik Village  
PO Box 39070  
Ninilchik, Alaska 99639  
Executive: Richard G. Encelewski, President  
Environmental Staff: Bruce Oskolkoff, Environmental Director  
Phone: 907-567-4394  
Fax: 907-567-3308  
E-mail: ivan@ninilchiktribe-nsn.gov, bruce@ninilchiktribe-nsn.gov

Seldovia Village Tribe  
Drawer L  
Seldovia, Alaska 99663  
Executive: Crystal Collier, Executive Director  
Environmental Staff: Michael Opheim, Environmental Specialist  
Phone: 907-234-7898  
Fax: 907-234-7865  
E-mail: ccollier@tribalnet.org; mopheim@svt.org

Native Village of Port Graham  
PO Box 5510  
Port Graham, Alaska 99603  
Executive: Pat Norman, Chief  
Environmental Staff: Violet Yeaton, Environmental Planner  
Phone: 907-284-2227  
Fax: 907-284-2222  
E-mail: pnorman@worldnet.att.net, vyeaton@yahoo.com

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