

Great Pacific Cable, LLC



October 6, 2009

State of Alaska
Department of Natural Resources, Division of Coastal and Ocean Management
Southcentral Regional Office
550 W 7th Avenue, Suite 705
Anchorage, Alaska 99501
HAND DELIVERED

Attn: Margie Goatley, Project Review Coordinator

SUBJECT: Northern Fiber Optic Link System
State ID No.: ID2009-0223AA

Dear Ms. Goatley:

We have provided under separate cover copies of the Individual Permit application filed with the U.S. Corps of Engineers and the DNR/DMLW Submerged Lands Easement application. The following additional information is provided per your 7/31/09 letter.

■ A detailed description of the coastal *effects* of your proposed project.

- o Enforceable policies for all affected coastal districts

Enforceable policies and responses for the affected coastal districts attached as Attachment 1.

- o Location information regarding buried vs. non-buried cable areas

Cable burial is detailed in the route position lists (RPL's) provided earlier. An overview map is provided as Attachment 2.

- o Natural Hazard Areas (11 AAC 112.210)

The NFOL project route comes ashore at two erosion hazard areas: Narrow Cape and Dillingham.

Narrow Cape - Erosion hazard will be minimized at Narrow Cape by use of a directional bore from the undisturbed top of the upland bluff to the intertidal

seabed floor, eliminating the need for trenching that could exacerbate the problem.

Dillingham - The sheet pile shore barrier installed by the Corps of Engineers at Dillingham has already alleviated the erosion hazard at the proposed landing site and will allow for the NFOL cable to pass through it without affecting the erosional hazard area.

Offshore, the fiber optic cable will be buried in the ocean floor to a target depth of one meter. In the nearshore areas as the cable approaches a landing, it will be laid in a serpentine manner to provide slack, with additional protection afforded by deeper burial to a target depth of two meters and with split-duct armor added. These measures protect the cable from damage due to natural hazards such as earthquakes, earthquake related tsunamis, landslides, and others.

- o Coastal Access (11 AAC 112.220)
 - Discuss how you propose the project will accommodate access of other users along the beach during beach/tidelands cable/vault work

The cable installation in beach areas will be brief in duration and occur over several tidal cycles after which any localized access restrictions will be removed. During the installation activities, temporary fencing and barricades will contain a small construction corridor to protect pedestrians and vehicles from entering the work zone. Access to and from the beach will be maintained alongside the construction corridor over existing access roads or adjacent beach areas.

- o Utility Routes (11 AAC 112.240)
 - You state in the CPQ that "it is not feasible or practical to extend fiber optic facilities to the affected communities by any overland means". Please explain why this is not feasible.

The affected communities have little to no prospect of broadband build-out from existing infrastructure. There is no road system with utility easements serving the project area. From existing fiber optic cable infrastructure, service to these communities would have to cross uninhabited and roadless mountain ranges. An overland route would require trenching and construction of a clear right-of-way over mountain ranges, rivers, and hundreds of miles of protected lands, refuges, and animal habitat, making the project technically and financially unfeasible. Unalaska is an island, making it impossible to reach by overland means.

- You state in the CPQ that "marine cable landing locations have been

selected in order to avoid surface and ground water features and drainage patterns so that they will not be altered". Please explain/describe how the locations were selected.

KKCC engineers visited each of the landing sites in order to assess accurately site conditions and to determine the most ideal cable landing locations.

Consideration was given to avoiding where possible or minimizing any adverse site disturbances while providing reasonably feasible and practical access to existing infrastructure for integration of services. The team of engineers examined maps and satellite imagery, and met with local officials and agencies, fishers, and others in each of the landing locations to gain local knowledge and insight as to which areas were the most ideal for such a project. Reasonable approaches based on seabed form, lay of land, and soil types were preferred. Streams and ephemeral drainages were avoided, as were steep bluffs and other erosional upland features, and nearshore areas of active sediment transport. Other considerations included avoidance of fishing areas, sensitive environmental and archeological resources, and obstructions to public access and uses.

- You state in the CPQ that "Other than during the limited period of installation activities, there will be no long term disruption of wildlife transit."
 - List what wildlife (including birds and marine mammals) that may be within the proposed project area.

The project area encompasses the West Coast of Alaska, from Kodiak Island to Prudhoe Bay. Wildlife in the proposed project area includes but is not limited to: salmon and other fish, crabs and other invertebrates, sea ducks, geese, gulls, terns, ptarmigans, eagles, owls, seals, otters, moose, bison, caribou, deer, bears, foxes, and wolves.

Attachment 3 includes State and federal protected species lists.

- Discuss how both marine and terrestrial installation activities (including auditory aspects) will affect wildlife transit.

Offshore cable installation will involve cable ship deployment of the undersea cable. The buried sections will be placed with a cable plow towed by the cable ship. The cable plow has a one meter stinger and is about 15 centimeters wide. The cable runs through the stinger and is deployed into the seabed floor at the one meter depth. Wildlife transit in the cable plow area is minimally affected by the passing obstruction of the plow; the cable ship plows cable at 1.5 to 3 knots based on seabed floor hardness. Cable installation activities likely cause some marine species to avoid the immediate area for the duration of those activities.

Auditory effects on wildlife are limited to cable ship diesel propulsion sounds equivalent to a cargo ship. Slight harmonics are resonated by the plow tow cable and have little to no impact on wildlife. In the non-buried cable deployments, the cable is reeled from the stern of the cable ship under a controlled tension and catenary curve and laid gently on the seabed floor. The cable ship direct lays cable at a speed of between 1.5 and 7 knots typically, the speed based on water depth, surface wave and wind conditions.

Nearshore cable installations are performed by a tug and barge. A tug will secure the barge near shore and a land team will winch in the cable from the barge. The cable will be trenched in on the uplands by a track hoe to the low tide mark. The barge will then deploy a water jet plow and will begin waterjet plowing on the next high tide. The tug will control speed and route of the near shore water jet plowing. The water jet temporarily liquifies the seabed floor allowing the cable to be depressed into the seafloor sediment. Liquefaction comprises an area about 1 meter deep by .5 meter wide. The water jet plow will cause clouding and suspended sediment in the immediate area of the plow frame and may displace wildlife transiting the area for a limited amount of time.

The water jet plow harmonics are similar to beach surf and pose no auditory risk to wildlife. The tug and barge auditory signatures are consistent with typical tug operations and again pose no auditory risk to wildlife.

Wildlife will typically avoid the immediate vicinity of the work as the installation progresses through the area. However, wildlife has been observed in close proximity to work activities during past projects.

- **Many of the landing sites occur within village communities where existing and traditional access is common. Discuss how "no-entry zones" during cable installation (terrestrial and marine) may affect existing or traditional access.**

Safety perimeters will be established around a small construction corridor with temporary fencing and barricades to protect pedestrians and vehicles from entering the work zone during the vault and beach cable installation. These "no entry zones" will be sited so as to provide continuous alternative access to surrounding areas. Upland vault and conduit installations may take up to several days and the cable installation will occur over several tidal cycles after which all access will be restored.

Nearshore marine no-entry zones will occur over several tidal cycles during cable installation. Adjacent marine access will be unrestricted and provide alternative access to traditional use areas outside of the temporary marine no-entry zones.

- Habitats (11 AAC 112.300)
 - Offshore (11 AAC 112.300(a)(1))
 - Discuss how the proposed project (including the no-entry zone) during cable installation may affect activities such as commercial fishing/crabbing, commercial/recreational dredging activities in areas such as Norton Sound and Platinum areas and/or any other potential competing uses that may exist.

Every effort has been made to avoid interference with commercial and recreational fishing, crabbing and dredging activities by routing the cable around areas of such use where possible. The cable installation work window will overlap with fishing activities in some areas. A moving vessel exclusion zone will be maintained around the cable ship as it progresses with cable laying. This zone will be closely coordinated with the U.S. Coast Guard through Notices to Mariners and directly with the fishing and maritime communities through active communication over marine VHF.

- Discuss how dredging/trawling activities will not be affected once the submerged cable is laid/buried.

The fiber optic cable has been routed to avoid areas of high effort bottom contact fishing activities. Where the cable is traversing continental shelf waters, it will be buried to a target depth of one meter, increasing to two meters target depth as the cable transitions into shallower water approaching the northern landing sites. Additional cable protection will be afforded as necessary on these approaches through use of split duct articulated armor. The as-laid cable route will be recorded and charted by NOAA/NOS to mitigate any future conflicts with heavy impact bottom contact fisheries.

- Estuaries (11 AAC 112.300(a)(2))
 - Provide a statement as to how adequate water flow and natural water circulation patterns will be avoided, minimized and/or mitigated.

Landing sites have been selected to avoid streams and wetlands; none will be affected. No material will be excavated from, nor deposited into, estuarine waters, and natural water circulation patterns will not be altered.

- Describe competing uses such as commercial, recreational, or

subsistence fishing that may be affected by the proposed project and how it is intended to avoid, minimize and/or mitigate these affects. This answer may be similar to "offshore areas", however, this answer should focus on potential competing uses that may occur within estuaries, including potential competing uses with estuary specific fauna.

As noted above, the system has been designed and engineered to avoid to the extent possible interference with commercial, subsistence, or recreational fishing by routing the cable around areas of such use. As there is no direct or indirect fish “take” involved in the NFOL installation whatsoever, there are no competing uses per se with the existing fisheries. Marine no-entry zones will be in effect over several tidal cycles during cable installation in estuarine waters. These will be coordinated with the U.S. Coast Guard through Notices to Mariners and direct communications will be maintained with local fishing interests over marine VHF channels. Adjacent marine passage will be unrestricted and provide alternative access to all commercial, subsistence, and recreational fishing areas outside of the temporary marine no-entry zones.

- Tideflats (11 AAC 112.300(a)(4))
 - Describe trenching activities that will occur within the tideflats. Explain how affects to water flow and natural drainage patterns will be avoided, minimized and/or mitigated.

Trenching of the fiber optic cable within tide flats will be done by means of water-jetting and track hoe. Conventional track hoe trenching will be conducted down to and below the mean high water mark “in the dry” during low tide cycles where the substrate is firm enough to support the hoe. There will be no track hoe operations in water. The hoe will open trench only to the extent that the cable can be placed and the trench backfilled before rising tide inundation. The trench will be backfilled to pre-installation contours. Beyond the point that track hoe trenching is practical, the cable will be buried in the tide flats by water-jet plow supported and towed by the nearshore cable barge. Water-jet plow operations will be conducted during higher tide cycles when the plow is submerged. The cable has been routed across tide flats in order to avoid streams and drainages. Minor tidal meander channels will re-establish within one or two tide cycles.

- Describe competing uses such as commercial, recreational, or subsistence fishing that may be affected by the proposed project and how it is intended to avoid, minimize and/or mitigate these affects. This answer may be similar to "offshore areas", however, this answer should focus on potential competing uses that may

occur on tideflats such as set net sites and include potential competing uses with tideflat specific fauna.

As noted above, the cable route has been engineered to avoid to the extent possible interference with commercial, subsistence, or recreational fishing by routing the cable around areas of such use. In some areas, such as the approach to the Naknek landing where the set net fishery is virtually continuous across the tideflats, the cable installation will temporarily displace the fishery in the cable corridor itself as the work window will overlap with fishing activities. In these areas, work will be coordinated with the local fishers to avoid the periods of heaviest fishing activity.

During the cable installation and in the immediate vicinity of the tideland work, safety perimeters will be established around a narrow construction corridor with temporary fencing and barricades to protect fishers from entering the work zone. These “no entry zones” will not impede continuous alternative access to surrounding areas. Cable burial across the tidelands may take up to several days and may occur over several tidal cycles after which all access will be restored. Impacts to tideflat specific fauna will be temporary in nature and limited to avoidance behavior.

- o Subsistence (11 AAC 112.270)
 - Subsistence areas can be designated by either the Coastal District or by DNR. Please refer to the affected coastal district enforceable policies at the website referenced above to determine if the proposed project will be within a previously designated subsistence area. It is also important to note that subsistence areas can be designated by an affected coastal district or DNR during the course of a review.

See responses to the affected coastal district enforceable policies in Attachment 1.

- o Historic, Prehistoric, and Archeological Resources (11 AAC 112.320)
 - It is our understanding that you have hired archaeologist, Dr. Barbara Bundy of Anchor QEA to prepare an archaeological report regarding the landing sites. Upon completion, this report will be submitted to the State Historic Preservation Office (SHPO). Depending on the findings of Dr. Bundy and the recommendations of the SHPO, an archaeological survey or monitoring activities may occur. Note that if an archaeological survey is recommended, the ensuing archaeological report must be submitted and reviewed by SHPO prior to any ground disturbing activities.

The Kodiak Kenai Cable Company has commenced Section 106 consultation with the Alaska State Historic Preservation Office, affected tribal entities, and other interested parties. The project has been sited to avoid encroachment into archaeological or historical resource areas. A full report documenting the Section 106 consultation for the NFOLE project will be provided. It will include an approved plan for protecting archeological resources that may be found on site and a provision to report any such resources to the affected tribal entities and the SHPO.

- Please submit any studies or surveys that you have relied upon to answer the above questions.

See Attachment 4 – Fisheries report.

Finally, land ownership of parcels abutting the landing sites is detailed in Attachment 5.

I understand that you will post this information and the attachments to the state ftp site, making them available to the other reviewing agencies. We will also provide a copy of this material to Mary Leykom at the Army Corps of Engineers.

As ever, please do not hesitate to contact me with questions or comments.

Sincerely,

Ik Icard

Enclosures:

- Attachment 1 – Enforceable policies for affected coastal districts
- Attachment 2 – Overview map with cable burial
- Attachment 3 – Federal and State listed species
- Attachment 4 – Fisheries Report
- Attachment 5 – Abutting property ownership

Cc: Mary Leykom, w/ encl.
Cynthia Zuelow-Osborne, w/ encl.