

The 2003 commercial fall chum and coho salmon season exvessel value for the entire Yukon River Area was \$33,000 (\$24,000 for the Lower Yukon River Area and \$11,000 for the Upper Yukon River Area). The recent 10-year average exvessel value for the Yukon River Area was \$88,000 (\$62,000 for the Lower Yukon River Area and \$22,000 for the Upper Yukon River Area).

During the 10 years prior to 2003, an average of 128 permit holders fished the fall chum and coho salmon fishery (118 for the Lower Yukon River Area and 10 for the Upper Yukon River Area). This is considerably higher than the participation in the 2003 fishery where a total of 82 fishermen were active (75 in the Lower Yukon River Area and 7 in the Upper Yukon River Area).

Commercial Species Life Histories: Chinook, or king salmon are the largest of the five species of commercially harvested Pacific salmon. Chinook salmon spawn in late June or July in interior rivers. Following emergence of fry, young chinooks rear in natal systems for 1 to 2 years before smolt outmigration to marine waters. Chinooks remain at sea for 4 or more years before returning to spawn as adults. Chinook salmon in the mainstem Yukon are a unique stock because they travel more than 1,000 miles from the Bering Sea to above Whitehorse, Yukon Territory. Chinooks in the Tanana River travel large distances, as well.

Chum, or dog salmon return to spawning streams from late June through early September. The two runs in the Yukon River drainage are referred to as summer chums and fall chums. Summer chums have broader spawning tolerances than fall chums. The latter spawn in defined groundwater discharge areas in the Tanana River, a unique habitat near the ANGTS Project corridor. Young emerge from the gravel the following spring and travel directly to sea where they remain from two to four years before returning as adults to spawn.

Coho salmon enter streams in late-September and spawn in mid- to late October. Young emerge the following spring and rear in freshwater for two years before traveling to the ocean at about four inches in length. They usually remain at sea for one or more years before returning as adults to spawn. Coho, or silver salmon occur in several tributaries of the Tanana River; however, large runs occur only in the Delta Clearwater and the Delta Rivers. Like fall

chums, coho salmon spawn in discrete areas of upwelling groundwater, unique habitat in the vicinity of the ANGTS Project corridor.

Recreational Fishing: Recreational fishing opportunities exist near the ANGTS Project corridor between Prudhoe Bay and the Alaska-Yukon border. North of Livengood, the Dalton Highway provides public access to several major river systems, as well as many smaller streams and some lakes all the way to Deadhorse, just south of Prudhoe Bay. The Sagavanirktok River is accessible at several points from Deadhorse approximately 100 miles south to Alyeska Pump Station #3. Tributary streams providing good sport fishing opportunities within this stretch include Happy Valley Creek and Dan Creek. South of Pump Station #3, Oksrukuyik Creek, Kuparuk River, Horizon Lake, Toolik Lake, Island Lake, Galbraith Lake, Tee Lake, and several crossings of the Atigun River support sport fisheries on the north side of the Brooks Range.

South of the Brooks Range, Dietrich River, several crossings of the Middle Fork Koyukuk River, Minnie Creek, Marion Creek, Slate Creek, South Fork Koyukuk River, Grayling Lake, several crossings of the Jim River, Bonanza Creek (both forks), Fish Creek, Kanuti River, North Fork Ray River, Ray River, Yukon River, and Hess Creek provide more fishing opportunities on the Dalton Highway. The Elliott Highway, between Livengood and Fox, near Fairbanks, parallels the ANGTS Project corridor. The Tolovana River, Tatalina River, and Chatanika River, as well as several stocked gravel pits, provide recreational fishing on this highway in reasonable proximity to Fairbanks.

The ANGTS Project corridor between Fairbanks and the Alaska-Yukon border largely parallels the large, glacial Tanana River, formed by the confluence of the Chisana and Nabesna rivers near Northway. Access to the Tanana River and its tributaries is an important component of the sport fishery. Public roads, villages, and towns are located within close proximity to the Tanana River and its tributaries, providing access for sport fishing. Many of the non-glacial tributary streams are accessible directly from public roads, and many of these road-accessible waters have a boat launch accommodating watercraft appropriate to the size and characteristics of the waterbody. Few anglers use non-road accessible waters.

Alaska's largest interior population center, Fairbanks, is within the lower Tanana river drainage where anglers fish at numerous lakes, ponds, and streams. Because the Tanana is glacial-fed, not much sport fishing takes place in the mainstem. Many anglers, however, take advantage of the winter sport fishery for burbot in the Tanana River. Clear water tributaries and sloughs of the Tanana River are the principal areas that are used by sport fishermen in this portion of the drainage. Arctic grayling is the most popular species that anglers seek. Chinook, chum, and coho salmon are found in the Tanana River primarily in tributaries downstream of and including the Goodpaster River.

The upper Tanana River drainage (i.e., upstream of Banner Creek and the Little Delta River) has major tributaries including Shaw Creek and the Delta, Delta Clearwater, Goodpaster, Gerstle, Johnson, Robertson, and Tok rivers below the confluence of the Chisana and Nabesna rivers. The upper Tanana River sport fishery does not support the number of anglers that make use of the lower Tanana River system; however, it does offer anglers a diversity of game fish species. Burbot are caught in river systems, primarily in the Tanana River, with a few lakes supporting burbot populations as well. Northern Pike are found in several lakes throughout the drainage in the lower elevation areas. Dolly Varden are found naturally in the drainage but are few in numbers and found in the upper reaches of tributaries of the Tanana River. Chinook and chum salmon spawn in the Goodpaster River, and coho salmon spawn in the Delta and the Delta Clearwater rivers. The largest sport fishery for salmon along in the Upper Tanana River is the coho fishery in Delta Clearwater River near Delta Junction.

In addition to the native fish, the State of Alaska has attempted to increase opportunities for sport fishing by stocking nearly 50 lakes with rainbow trout, lake trout, arctic char, and arctic grayling. Many stocked lakes along the Alaska and Richardson highways, near the ANGTS Project corridor, provide excellent fishing opportunities. For example, Quartz Lake, just east of Big Delta, contains arctic char, rainbow trout, and landlocked silver salmon and has a boat ramp, campground, and other public facilities maintained by the Alaska Division of Parks.

Sport Fish Life Histories: Arctic grayling is the most popular species people seek. Arctic grayling are voracious feeders during the summer months, eating almost constantly. Arctic grayling are ubiquitous throughout the Tanana River drainage. This species is resident in

streams, and may undertake seasonal migrations for spawning and feeding to different streams within a watershed. Arctic grayling spawn in the spring, usually by age 4 or 5 years, at a length of 11 or 12 inches. Grayling are primarily sight feeders on drifting insects, and are thus a favorite of fly fishers.

Burbot is a slow-growing freshwater cod with excellent flavor and is a favorite of anglers in turbid rivers and clearwater lakes, commonly taken by ice fishing, but also in summer by bait casting. Spawning occurs in February and March, apparently in large concentrations. Burbot feed almost exclusively on fish once they reach a sufficient size at about 5 years of age and begin spawning when they reach about 18 inches in length.

Dolly Varden is a char that has resident and anadromous populations. Spawning occurs from mid-August to November. Dolly Varden in the Sagavanirktok River drainage on the North Slope are largely anadromous, with older fish migrating to the nearshore waters of the Beaufort Sea to feed in spring and early summer before returning to groundwater discharge areas in Sagavanirktok tributaries (e.g., Ivishak and Lupine rivers) to spawn and overwinter. In contrast, the endemic Dolly Varden in the Tanana River drainage is the dwarf resident form. These fish are few in number and occur only in the upper reaches of tributaries of the Tanana River draining from the Alaska Range.

Lake trout is a char found in numerous alpine and some deep lowland (e.g., Harding Lake) lakes along the ANGTS Project corridor. This species is long lived and can reach a large size, however specimens over 10 pounds are seldom taken in this part of Alaska. Lake trout spawn in September and November, generally close to freeze-up, over clean, rocky lake bottom. Food habits of lake trout are broad but older individuals feed almost exclusively on fish when it is available. Commonly, lake trout can be caught in shallows in spring when water temperatures are uniform but must be taken by deep trolling in summer.

Northern pike is found in lakes and slow-moving streams in lower elevation areas in the vicinity of the ANGTS Project corridor south of the Brooks Range including along the Tanana River. This species generally occupies low lying wetland areas and interconnected lakes and sloughs in the lower reaches of these systems, although some populations are found in lakes not connected to river systems. Northern pike are predators, feeding primarily on

other fish. They spawn in weedy shallows soon after ice out in the spring and can live for more than 20 years.

Sheefish, or inconnu, is a large predaceous whitefish occurring in the Yukon River drainage within the ANGTS Project corridor. This species can reach 25 pounds in the Interior but grows much larger in the Kobuk and Selawik River systems. Sheefish populations in the upper Yukon and Minto Flats, near the corridor, are resident rather than migratory. Spawning occurs in September and early October in fast, deep water over mixed gravel substrates. Sheefish begin feeding on fish by 2 years of age. Males begin spawning at 7 to 11 years of age, depending on growth rate. Sheefish are a traditional subsistence food but are increasingly sought by sport anglers.

Whitefish species are found throughout the ANGTS Project corridor. Round whitefish often occurs in the same systems as arctic grayling but is not commonly taken by sport fishers. Broad and humpback whitefish occurs in the Sagavanirktok River system and Yukon drainage within the corridor. These species attain moderately large sizes, are traditional subsistence foods, and enter small commercial fisheries but are not usually sought by sport anglers, except in spear fisheries. The flesh is white and good eating when fresh or smoked. Spawning migrations occur in fall. Broad and humpback whitefish feed on benthic invertebrates. Least cisco and Bering cisco occur in the Yukon drainage in the vicinity of the corridor. The former provided a popular spear fishery in the Chatanika River in past years. Least and Bering ciscoes are fall spawners.

Subsistence Resources

The following information on subsistence use patterns from the North Slope to the Yukon River/Fairbanks is derived from ADF&G, Alaska Habitat Management Guides 1986; ADNR 2001; and Spearman, Pedersen, and Brown 1979. The discussion focuses on rural communities located between the North Slope and the Yukon River/Fairbanks area that conduct subsistence activities in and around this segment of the ANGTS route.

Eight predominantly Native communities make up the resident population of the North Slope: Anaktuvuk Pass, Atqasuk, Barrow, Kaktovik, Nuiqsut, Point Hope, Point Lay, and

Wainwright. The locations of these contemporary communities were at least seasonally occupied historically as communities, camps or trading sites. Atqasuk and Nuiqsut are new communities recently reestablished at historic sites by Inupiat seeking to reestablish traditional ties to the land. Within the North Slope coastal plain and foothills, Nuiqsut lies closest to the ANGTS Project route, which passes through areas used by village residents for subsistence activities. Kaktovik residents, however, also use the Sagavanirktok River corridor for subsistence activities.

Spring subsistence activities in Nuiqsut include seal hunting on the sea ice and hunting and trapping inland for furbearers and caribou. No spring whaling is done in the vicinity of Nuiqsut. Some Nuiqsut residents travel to Barrow to participate in spring whaling there. As rivers and lakes become ice-free, grayling, cod, and lake trout are taken with hook and line, and whitefish are taken with nets from camps along Fish Creek and the Colville River. Waterfowl are taken during the spring and summer. Fall is an active season for harvest activities. Caribou and moose are hunted inland along the Colville River and its tributaries. Whitefish are caught in nets prior to freeze-up, and arctic grayling and burbot are jigged through the ice following freeze-up. Bowhead whaling begins in mid- September. Nuiqsut whale crews travel east as far as the Canning River in pursuit of whales, taking seal, waterfowl, polar bear, and caribou out of coastal whale camps. Trapping occurs during the winter months, along with occasional hunts for caribou and moose. Polar bear is taken along the coast. During late winter and early spring, trapping, caribou hunting, and ice fishing activities increase. Bearded seal hunting begins in April.

Kaktovik's geographic setting provides relatively easy access to inland mountain areas for sheep and caribou as well as access to coastal resources such as seal and bowhead whale. Spring subsistence activities in Kaktovik are highlighted by inland trips to mountain and foothill areas where sheep and caribou are hunted along with ptarmigan, ground squirrel, and marmot. Char are caught through the ice by jigging at traditional inland river locations prior to breakup. As overland travel is difficult at breakup, summer subsistence activities are concentrated along the coast, where waterfowl and seal are hunted. Dolly Varden, char, whitefish, and pink salmon are caught with nets and rod and reel at coastal camps. Caribou

are harvested throughout the summer and fall near the coast. The Canning River delta is an especially productive summer caribou hunting and fishing area for Kaktovik residents. Fall whaling takes place in August and September, with whalers traveling far out into the open waters in search of bowhead whales. Seals are also harvested in conjunction with whaling expeditions. Following freeze-up, inland travel by snowmachine resumes. In October and November, trips are made to traditional mountain area camps for sheep and caribou hunting. The Hulahula River is a major corridor for fall and winter land use activities. Fishing through the ice occurs for char, arctic grayling, whitefish, and burbot. Mid-winter is a time of reduced land use activity. Trapping and furbearer hunting is engaged in by some. Polar bears are occasionally hunted near the village. In late winter, inland harvest of fish, caribou, and sheep occur, and moose are occasionally taken when encountered. Inland subsistence activities intensify as breakup approaches and the cycle begins again.

Anaktuvuk Pass residents pursued subsistence activities in the Upper Sagavanirktok and North Fork Koyukuk river vicinity near the pipeline corridor prior to settling in the community but currently use these areas infrequently. Some residents do travel to Itkillik Lake to harvest caribou, sheep, furbearers, and fish, and occasionally go fishing at Galbraith Lake. The community currently focuses its seasonal subsistence activities in the Colville, Itkillik, Killik, Chandler and Anaktuvuk river corridors. Intensive caribou hunting occurs in April and May as animals migrate northward through the Brooks Range, and again in the fall as animals move southward. Sheep, moose, and brown bear are important supplemental sources of meat when caribou are scarce. Fishing for Arctic char, lake trout, and whitefish occurs primarily in the spring and summer months. Wolf, wolverine, and Arctic fox are harvested from November through March, while ground squirrels are taken from May through August. Waterfowl are occasionally hunted but are not commonly found in the central Brooks Range. Berry-picking is an important activity in August and September.

Stevens Village, Rampart, Livengood, and Minto are rural villages in the Southern Interior that conduct subsistence activities near the ANGTS Project route. The communities of Fairbanks, North Pole, Fox, Salcha, and Delta Junction lie within the Fairbanks Nonsubsistence Area, which is closed to subsistence hunting and fishing. However, residents

of these communities are eligible to participate in subsistence activities in areas where such activities are allowed under State regulations. The harvest activities of residents in these communities in rural areas of the ANGTS corridor are not addressed in this analysis.

The following discussion includes examples from various communities in Interior Alaska, not necessarily near the ANGTS Project corridor, but is indicative of subsistence activities by corridor communities.

Throughout the interior region, moose is regarded as one of the most important sources of wild meat. Community studies show that a high percentage of households participate regularly in moose hunting. Moose hunting takes place primarily in September but may continue through fall and winter into March in some locations. Boats are commonly used for fall moose hunts along major rivers, sloughs, and nearby lakes. In the winter, snowmachines are used for trapping activities. Dog teams and airplanes are occasionally used by residents of some interior communities to access moose hunting areas.

Caribou have historically been regarded as an economic mainstay for many inhabitants of the Interior. As such, caribou as a major food source, however, has diminished over much of the interior during the last several decades. Declining caribou populations and shifting migration patterns among some herds have resulted in reduced access or restricted hunting seasons, making it difficult for residents in many communities to obtain caribou meat.

Brown bears are not a major food resource in Interior Alaska. Nuisance brown bears that threaten life or property may be shot and the meat and hide utilized, but brown bears are only occasionally pursued by hunters for food. Black bears are more widely utilized than brown bears throughout the Interior. Black bears are typically hunted in conjunction with other hunting, fishing, or gathering activities, when they pose a threat to property, or when other meat is not available. Black bears are harvested in May at or near den sites and more commonly in late summer or early fall in conjunction with moose hunting, fishing, or berry picking.

The contribution that small game harvests make to the diet and economy of Interior households should not be underestimated. A variety of ducks, geese, several species of grouse, and snowshoe hare are generally available throughout the Interior and are a widely used and highly valued source of wild food. Ptarmigan, porcupine, and arctic ground squirrel are less universally used but important in some locations and to some households.

The waterfowl species most often harvested in the Interior include the Canada and white-fronted goose, mallard, pintail, oldsquaw, common goldeneye, American wigeon, green-winged teal, scaup, and white-winged scoter. Waterfowl hunting occurs in some areas in May, when ducks and geese are highly valued as a source of fresh meat and variety to the local diet. Peak waterfowl harvesting usually occurs in September, frequently in conjunction with fall moose hunting or on trips to lake and wetland areas specifically for waterfowl. Following freeze-up of lakes in the late fall, waterfowl hunting is concentrated along rivers and sloughs.

For most Interior region communities, salmon are an important food source. A high percentage of households participate in salmon fishing activities. Salmon also represent a significant income source for some Interior households through commercial fishing activities on the Yukon and Tanana rivers. Chinook, chum, and coho salmon are the primary species available to Interior Region communities. The importance of salmon as a wild food source is reflected in its almost universal use throughout the region, the extent to which salmon are shared through kinship, community, and intra-community distribution and exchange networks, and the amount of effort some residents expend to obtain it.

In addition to salmon, a variety of other fish species are harvested by Interior residents. Arctic grayling, burbot, northern pike, sheefish, suckers, and whitefish are utilized throughout most of the Interior. Alaska blackfish, Dolly Varden, lake trout, and lamprey are harvested in some locations. Of the non-salmon species, the harvest of whitefish is the most substantial in most communities. In the Upper Tanana region whitefish are more readily available than salmon and are harvested in much larger quantities. Small quantities of the other species are taken and viewed as a welcome but often minor addition to the diet.

The Yukon River drainage harbors some of the most productive furbearer habitat in Alaska. Historically trapping has been a primary winter activity for many Interior residents. This remains true today. Trapping activities commence in November and continue into April for some species. Commonly harvested furbearers include beaver, red fox, lynx, marten, mink, muskrat, land otter, wolf, and wolverine. Marten is perhaps the most commonly trapped species across the region. Target species vary from area to area, from year to year, and among individual trappers.

Although furbearers are harvested primarily for the cash value of their pelts, some pelts are often retained for local use in making hats, mitts, parka ruffs, and handicrafts. In addition, the meat from beaver, lynx, and muskrat is prized as high-quality food for both humans and dogs. Beaver carcasses are often sold or traded as dog food and sometimes command a higher price than the pelt. Aside from providing a source of income, food, and furs for local use, and traditional land use skills associated with trapping make it a valued cultural activity for many Interior residents.

Plant resources provide an important source of food, fuel, and raw materials to Interior residents. Wood is a major source of fuel for home heating across much of the Interior, and firewood cutting is an activity that proceeds year-round. Additionally, berries generally represent the most significant harvest of wild edible plant products. Berries are picked throughout the summer and fall, usually in areas close to villages or fish camps. Some households report traveling 30 to 50 miles to reach especially productive berry areas.

The following information on subsistence use patterns from Delta Junction to the Canadian border is derived from ADF&G and National Park Service reports describing research conducted in the 1980s, and from a draft environmental impact statement prepared for the Pogo Gold Mine Project in 2003. The discussion focuses on Healy Lake, Dot Lake, Tanacross, Tok, Tetlin, and Northway— rural communities located between Delta Junction and the Canadian Border that conduct subsistence activities in and around this segment of the ANGTS route. Although some of the land use information is dated and areas used for

subsistence purposes are subject to change over time, the core areas described below are based on the best available documentation.

Delta Junction lies within the Fairbanks Nonsubsistence Area, which encompasses the Fairbanks North Star Borough and extends eastward to the east bank of the Johnson River. This area is not open to subsistence hunting and fishing; however, residents of non-subsistence areas are eligible to participate in subsistence activities where authorized under the State regulations. The use of rural areas by Delta Junction residents is not addressed.

The seasonal round of harvest activities is similar for all communities along this segment of the right-of-way. Fishing in local lakes and rivers for whitefish, pike, grayling, burbot and other freshwater species begins in the late spring and continues into the fall and winter. Salmon are not abundant locally but are frequently harvested by fishwheels at sites along the Copper River between Slana and Copper Center. Moose and caribou are the primary big game animals taken and are hunted in areas accessed by highway vehicles, off-road vehicles, boats, or by walking. Snowmachines also are used to access caribou hunting areas in the winter. Dall sheep are taken in the mountainous areas of the region in August and September, while the harvest of black and brown bear is incidental to other hunting during the fall and spring. Productive wetland and upland habitat in the region offer excellent hunting for waterfowl, grouse, and ptarmigan. Trapping for beaver, otter, marten, lynx, mink, wolf, and wolverine occurs throughout the region in both road accessible and remote areas. Many households pick berries in the late summer. Firewood is cut year-round along highways, rivers, and trails accessible to motor vehicles. General descriptions of the subsistence harvest areas for each community are as follows:

Healy Lake: Part of the area used by Healy Lake lies within the Fairbanks Nonsubsistence Area, including the Tanana River and Alaska Highway corridors between the Delta River and Johnson River; the Shaw Creek and Goodpaster River areas; and areas west of Mount Harper. Areas around Healy Lake, including the Volkmar River, Healy River, and Middle Fork drainages, and the area between Healy Lake and Dot Lake also are used for seasonal subsistence activities. Through tribal enrollment and kinship ties to other communities in the

Upper Tanana region and northern Copper Basin, Healy Lake residents harvest resources in some areas that overlap with those of other local communities, including the Macomb Plateau, the Tanana River and Alaska Highway corridors from the Johnson River to Tetlin Junction, the Taylor Highway from Tetlin Junction to Chicken, and south on the Tok Cutoff to the Sanford River.

Dot Lake: Hunting areas are concentrated along the Tanana River, as well as the trail- and road-accessible areas in the Alaska Highway corridor between the Gerstle River and Tok. Caribou hunting areas include the Macomb Plateau and valley bottom between the Gerstle River and Yerrick Creek, as well as along the Taylor Highway and in the Fortymile River drainage. Fishing sites and trapping areas are concentrated in the Tanana River valley between the Gerstle and Robertson rivers. Other seasonal activities occur within many of these same areas.

Tanacross: Harvest areas include the Alaska Highway corridor from east of Delta Junction to Midway Lake; the Tok Cutoff south to the Nabesna Road and east to the Nabesna River; the Taylor Highway north to Eagle; the Tanana River corridor and adjoining areas from west of Dot Lake to Tetlin Junction; Lake George and T Lake near the community of Dot Lake; and the Tok River drainage between Tok and Mentasta. Overland areas between Tanacross and Kechumstuk are used, as are Lake Mansfield and nearby lakes, Gardiner Creek and areas along the “Old River Road” (old military road).

Tok: Harvesters travel extensively to access hunting areas by boat, road vehicle and aircraft. The Alaska Highway corridor from Delta Junction to the Canadian border is used, as are areas along the Taylor Highway to Eagle and south along the Tok Cutoff to south of Mentasta. Many rivers and lakes in this general area also are hunted, including the Tanana, Nabesna, Chisana, Tok, and Fortymile river drainages, in addition to the Alaska Range, Mentasta, Nutzotin, and Wrangell Mountains, the Tanana-Yukon Uplands, and the mountain ranges south of Eagle. Trapping areas are found in and around the Alaska Highway and Tanana River corridors from west of the Robertson River to Northway Junction, in the Fortymile and Ladue river drainages and Mosquito Flats, south along the Tok Cutoff to

Mentasta, and in remote areas of Game Management Units 12 and 20(E) accessed by aircraft. Other seasonal activities occur in many of these same areas.

Tetlin: Harvesting often occurs within walking distance of the community or by boat to nearby lakes and rivers, on lands designated in 1930 as the 768,000-acre Tetlin Reserve. Moose are hunted around the Tetlin and Kalutna river corridors, in the Tanana river corridor to the Alaska Highway, and around Tetlin Lake. The availability of caribou fluctuates from year to year, but they are hunted on the Reserve and along the Taylor Highway. Fishing takes place on the Tetlin River upstream and downstream from Tetlin Lake, at Tetlin Lake, and in the Tanana and Kalutna rivers. Trapping areas extend west of Tetlin to the Tok River, north to the Alaska Highway, east to near the Nabesna River, and south to the upper reaches of the Tetlin River. Other seasonal subsistence activities occur within these areas.

Northway: The second largest rural community in the Upper Tanana region, Northway actually consists of the Native village along the Nabesna River at the end of the 7-mile Northway Road, the airport area, the Nabesna Road area between the airport and the Chisana River Bridge, and the area between mileposts 1252 and 1264 of the Alaska Highway. Harvest areas are concentrated: in the Tanana, Nabesna, Chisana, and Tetlin river corridors; in the Northway Flats; along the Alaska Highway from the Canadian border to Dot Lake; on the Taylor Highway to Eagle; south on the Tok Cutoff to the Nabesna Road; along the Nabesna Road; areas north of the Alaska Highway, including Island Lake, Desper Creek, the Beaver Creek drainage, and lakes west of Gardiner Creek; the Nutzotin Mountains in the Wrangell-St. Elias National Preserve; the eastern extent of the Mentasta Mountains; and the northern edge of the Wrangell Mountains.

Timber Resources

There are no timber resources on Alaska's North Slope. The area south of Atigun Pass in the vicinity of Coldfoot is in the boreal forest vegetation zone. The predominant vegetation types of the boreal forest are the evergreen forests of black and white spruce. Extensive areas of deciduous forest also occur in the zone, as well as large areas of shrub and herbaceous

vegetation types. Since most of the timber is located in the riparian zone of the Koyukuk River there is little potential for commercial harvesting of timber occurring in the area.

The proposed ANGTS Project route passes through portions of the Tanana Valley State Forest between the Salcha River and Shaw Creek and is adjacent to another portion of the forest south of the Tolovana River. The current consumption of sawtimber in the Tanana Valley is estimated at over 30 million board feet per year, most of which is imported. Though standing volume of white spruce in the Tanana Valley State Forest totals about 1.8 billion board feet, the yearly sustained yield harvest of spruce is likely to be substantially less than current consumption levels. Therefore, an unlimited market for state sawtimber in the Interior is projected.

The use of timber as fuelwood is important to the local residents in the Tanana Valley. With over 700 million cubic feet of pole-sized timber existing in the Tanana Valley State Forest, sustained yield levels are capable of more than satisfying local demand. The local annual demand in the year 2000 was expected to be 63,000 cords; therefore further development of the Tanana Valley's timber resource will be geared toward increased utilization of the region's substantial hardwood resource.

Land is determined as suitable for timber management if: 1) expected timber revenues can support secondary access development and reforestation cost; 2) topography allows harvest by conventional logging techniques; and 3) primary road development into areas currently not accessed is justified by timber resource value. Sawtimber can be transported economically from up to 246 miles from the mill assuming travel on surfaced roads or up to 82 miles from the mill by dirt or winter roads. It is assumed that a logging road up to a maximum of 10 miles in length can be built off the established paved and dirt roads if there is at least 1 million board feet of timber available at the location. This is currently the case in the Fairbanks area.

Mineral Resources, Mining Activity and Economic Potential

The proposed gas line corridor parallels TAPs to Delta Junction then follows the Alaska Highway to the U.S./Canadian border. Geologically, the route does not cross any coal fields, so the impact on coal should not be a concern. Given the narrow width of the right-of-way, the impact on locatable minerals is also negligible except for claims and prospects adjacent to the corridor in the Koyukuk Mining District and Fairbanks Mining District. Within the Koyukuk District, from milepost 212 south to 266, there are approximately 100 claims (both state and federal) located for placer gold by individuals that are within ½-mile of the corridor. Only a few of the federal claims are adjacent or overlap the corridor, and this is because they were located prior to the mineral closing order for the corridor. Nolan Creek, Silverado's big nugget producer, is about 5 miles west of the corridor at milepost 230. Teck-Cominco has a small claim block on Sukakpak Mountain, which is at milepost 217. These claims, which are about 2 miles east of the corridor, were located a few years ago due to the discovery of a stratabound massive sulfide prospect. Teck-Cominco's exploration plans for these claims is not known. Activity within the corridor should not impact any mineral development potential for this claim area should these claims see further work.

South of the Koyukuk Mining District, at milepost 320 along the corridor there is a tin skarn prospect located along an intrusive contact. This prospect is located about 1 mile west of the corridor. There are no federal or state claims on the prospect, so the economic potential is not being evaluated.

From milepost 320 to the Yukon River and from the river south to milepost 445 there are no known claims, prospects or exploration activity.

From milepost 445 south to 470 the corridor passes through the Fairbanks Mining District several miles south of the True North and Fort Knox Mining properties through claims belonging Fairbanks Gold Mining Inc., plus a few other individual claimants. Most of these claims are state mining claims and exclude the corridor area due to the mineral closure for the corridor.

South of the Fairbanks District in the Richardson District, north of Delta Junction, from milepost 513 to 530, Tri-Valley has a large claim block one mile south of the corridor. Tri-Valley has been exploring their gold property for a number of years and they have indicated there is a 3 million ounce recoverable gold deposit on the claims. The claims are between the Richardson Highway and the corridor.

From milepost 530 southeast to 745 (U.S./Canada border) the corridor is adjacent to the Alaska Highway for most of the distance and there are no mining claims or prospects in close proximity.

Recreation and Tourism

The majority of land along the proposed ANGTS alignment from the Yukon River north to Prudhoe Bay is undeveloped. South of the Yukon River, land use is more varied, although most land remains undeveloped and recreation remains a major land use. Common recreational activities include hiking, sightseeing, car-camping, backpacking, hunting, trapping, sport fishing, river floating, kayaking, canoeing, power boating, nature photography, wildlife viewing, berry picking, plant collecting, dog mushing, snow machining, skiing and mountain biking.

Scenic views are an important resource in Alaska. Sightseeing and car camping are the primary activities along the highways. According to Alaska's Outdoor Recreation Plan, sightseeing is a very popular activity among residents and is the most popular recreation activity of visitors to Alaska (BLM and MMS 1998). The BLM rates sightseeing as a primary activity along the Dalton Highway (BLM 1989) which is a designated State Scenic Byway. Viewing stations that provide information on the history and engineering of TAPS are readily accessible from the Alaska Highway system.

The basis for much of Alaska's tourism industry is its natural resources. Natural resource based tourism includes visits to national and state parks, viewing wildlife and scenery, back country travel, rafting and boating, skiing and winter sports, ship cruises, photography,

fishing and hunting. In addition, Alaska's cultural diversity and history help make it a major tourist attraction.

The number of total arrivals (visitors and residents combined) for October 1, 2002 through September 30, 2003 was approximately 2,531,700 people. Domestic air was the dominant mode of arrival for full-year visitor arrivals, accounting for approximately 51 percent of all visitor arrivals. Cruise ship arrivals were the second largest category, accounting for 40 percent. Highway visitor arrivals accounted for 6 percent, international air for 2 percent and ferry arrivals for 1 percent of all 2003 full-year visitor arrivals. Approximately 84 percent of visitor arrivals for 2003 took place during the summer season – May 1 through September 30.

In 2002, Travel and Tourism Sales (the total spending by and on behalf of travelers) totaled \$2.4 million in the State while the Core Industry (the direct impact of end-providers of goods and services to travelers) generated \$851 million in local value or 3.0 percent of Alaska's Gross State Product. Using the Core Industry definition, Travel and Tourism is the third largest private sector employer and the fourth overall in the State with 25,996 direct full-time equivalency jobs.

Proposed Right-of-Way Related Activities and Potential Effects

There are three phases in the ANGTS Project with different proposed Project activities for each phase. Pre-construction and construction represent the first phase, operation and maintenance comprise the second phase and termination is the third and final phase.

The Co-Applicants will work cooperatively with the State and its resource agencies to develop ways to mitigate the potential adverse environmental, social and economic effects of the ANGTS Project. In this regard, the Co-Applicants will update the significant amounts of environmental data already developed in conjunction with its section 404 permits, the federal right-of-way grant, and previous work on the FERC certificate, and will propose appropriate mitigation to address the impacts of the Project.

Construction activities will create the greatest potential for adverse effects to the environment and to people living in or traveling in the construction area. The season and method of construction for the pipeline have been carefully designed to minimize potential impacts to the environment. Most of the pipeline will be buried and, once the Project is in the operational phase, potential impacts to people and fish and wildlife resources along the Right-of-Way will be greatly reduced from the impacts experienced during construction. Winter construction will be used in much of the Arctic region segments of the pipeline due to the presence of continuous permafrost and extensive wetlands. Winter construction using ice and snow pads to support vehicles and equipment reduces the impacts on the native soils and vegetation. Winter construction will also be used in other regions.

The opportunity for impact will be minimized in part by the relatively short period of time that a construction spread will be working at any single location. As the construction spread moves down-line, the backfilling and cleanup crews will begin the rehabilitation process. For winter construction, revegetation will be initiated the following summer. Where summer construction is performed, the backfilling and cleanup crews will be closely followed by the rehabilitation crews installing permanent erosion control, preparing the soil, and seeding and transplanting.

Construction camps, which will house and feed pipeline workers, will be set up at strategic locations to minimize travel time to work sites. Several of the old TAPS construction sites along the Dalton Highway will be used, as feasible. Buses will be used to transport workers to work sites.

Once the pipeline is operational, there will be only minor activities that provide evidence of its presence, other than the surface structures, such as compressor stations, valves, and metering stations. Compressor stations will be unmanned and visited by maintenance inspectors on a specified regular schedule. The compressor stations will be equipped with low-noise compressor units to reduce the potential impacts to workers and the surrounding environment. Compressor station sites will generally be located in remote areas.

The operation of the pipeline system will involve only a relatively small staff based in Alaska. The effects of the ANGTS Project on Fairbanks, the likely location of the Alaska Operations and Maintenance facility, will be minor during operation of the pipeline system.

Some minor short-term land use conflicts will occur between the existing land uses outlined above and the uses to which the land will be put along the pipeline route, if the proposed pipeline is constructed. However, these conflicts will be short term because the proposed route utilizes existing pipeline and highway corridors to the extent possible.

Since other utilities, pipelines, driveways and other ADOT/PF authorized encroachments are already located within the proposed corridor, the Co-Applicants will be required to take mitigative measures in order to minimize the conflict with these uses during construction. Driveway access to homes, businesses, and recreational and hunting/fishing areas would potentially be temporarily interrupted during placement of the pipeline. Access will be restored to previous condition as required in the ADOT/PF Utility Permits.

SUMMARY FOR CRITERIA 1:

The proposed Alaska portion of the ANGTS Project, as an interstate natural gas pipeline, is subject to federal law and to regulation under the NGA, in addition to any applicable State law requirements. In this regard, the design, construction, operation, maintenance, and termination of the Project must be undertaken in a manner consistent with conditions and stipulations included in various federal permits and authorizations, including a certificate of public and convenience and necessity from FERC, Clean Water Act section 404 (wetlands) permits from the COE, and Clean Water Act section 401 permits and Coastal Zone Management Act / ACMP determinations from the State in support of the section 404 permits. Project activities also must be conducted in a manner consistent with conditions and stipulations included in the State Right-of-Way Lease for the Project, in addition to other State and local requirements.

Based on compliance with the foregoing laws, regulations, and other requirements, the ANGTS Project does not unreasonably conflict with existing uses involving a superior public interest of state land along the proposed route.

CRITERIA 2: Does the applicant have the technical and financial capability to protect state and private property interests?

The Right-of-Way Leasing Act requires consideration of the applicant's technical capability to protect state and private property interests. As noted elsewhere in this analysis, the state property interests at stake in this application are the state transportation system and lands over which the pipeline will pass. The most significant manner in which the Co-Applicants will protect such state property interests is through the design, construction, operation and maintenance of a safe pipeline system.

TCPL's Background in Pipeline Construction and Operation

TCPL is a leading North American energy company. Created in 1951, TCPL is focused on natural gas transmission and power services, and employs experts in these fields. TCPL's network of approximately 24,200 miles of pipeline transports the majority of Western Canada's natural gas production to the fastest growing markets in Canada and the United States. TCPL owns, controls or is constructing nearly 4,700 megawatts of power – an equal amount of power can meet the needs of about 4.7 million average households.

ANNGTC is a partnership that was formed on January 31, 1978 and is organized under the laws of the State of New York. The partnership was formed for the purpose of constructing and operating a natural gas pipeline and related facilities from Prudhoe Bay, Alaska to the Alaskan-Canadian border as part of the ANGTS Project to transport Alaskan natural gas for use in the lower 48 states. The pipeline segment in Alaska is referred to as the "Alaskan Segment" of ANGTS Project.

ANNGTC holds the conditional certificate of public convenience issued by FERC for the ANGTS Project. The partnership's role is to plan, design, finance, construct and place the

line in service as soon as practicable, and subsequently to own and operate it safely and efficiently. The current partners of ANNGTC are two wholly-owned subsidiaries of TCPL: United Alaska Fuels Corporation and TransCanada PipeLine USA, Ltd.

TCPL, through its subsidiaries, has worked for more than 25 years to further the development of Alaska's stranded gas reserves by developing the Alaskan Segment. Until now, these efforts have been hampered by unfavorable economics related to the remote location of Alaskan gas supplies relative to other North American natural gas supplies. However, recent lower-than-expected production performances in the lower-48 and Canadian natural gas basins, combined with significant growth in natural gas demand over the last decade, have created favorable market conditions for the commercialization of ANS natural gas. TCPL's network of pipeline assets provides Alaskan gas with access to growing markets across the continent: the Pacific Northwest and California; the U.S. Midwest, including the Chicago hub; eastern Canada; and the U.S. Northeast, including New England and New York City.¹

Below are brief descriptions of TCPL's natural gas transmission assets in North America (Alaska Stranded Gas Development Act Application, June 1, 2004):

- **Alberta System** – TCPL's 100 percent owned natural gas transmission system in Alberta gathers natural gas for use within the province and delivers it to provincial boundary points for connection with the Canadian Mainline, BC System, Foothills System and other pipelines. The 14,100-mile system is one of the largest carriers of natural gas in North America.
- **Canadian Mainline** – TCPL's 100 percent owned natural gas transmission system in Canada extends 9,300 miles from the Alberta/ Saskatchewan border east to Québec/Vermont and connects with other natural gas pipelines in Canada and the U.S.

¹ TransCanada's recent agreement to acquire National Energy & Gas Transmission's Gas Transmission Northwest Corporation (formerly Pacific Gas Transmission), which is anticipated to close in Fall of 2004, provides shippers with access to the robust markets of the Pacific Northwest and northern California.

- **British Columbia System** – TCPL’s 100 percent owned natural gas transmission system extends 125 miles from Alberta’s western border through B.C. to the U.S. border, serving markets in B.C. as well as the Pacific Northwest and California.
- **Foothills System** – TCPL’s 100 percent owned 650-mile natural gas transmission system in western Canada carries natural gas for export from central Alberta to the U.S. border to serve markets in the U.S. Midwest, Pacific Northwest and California. These are the Canadian ANGTS Prebuild facilities.
- **Ventures LP** – Ventures LP, 100 percent owned by TCPL, owns a 75-mile pipeline and related facilities which supply natural gas to the oil sands region of northern Alberta, and a 17-mile pipeline which supplies natural gas to a petrochemical complex at Joffre, Alberta.
- **Great Lakes Gas Transmission** – Great Lakes connects with the Canadian Mainline at Emerson, Manitoba and serves markets in central Canada and the eastern and Midwestern U.S. TCPL has a 50 percent ownership interest in this 2,100-mile pipeline system.
- **Trans Québec and Maritimes Pipeline** – TQM is a 360-mile natural gas pipeline system which connects with the Canadian Mainline and transports natural gas from Montréal to Québec City and to the Portland system. TCPL holds a 50 percent ownership interest in TQM and is the operator of these facilities.
- **Iroquois Gas Transmission** – Iroquois connects with the Canadian Mainline near Waddington, New York and delivers natural gas to customers in the northeastern U.S. TCPL has a 41 percent ownership interest in this 420-mile pipeline system.
- **Portland Natural Gas Transmission System** – Portland operates a 300-mile pipeline that connects with TQM near East Hereford, Québec and delivers natural gas to customers in the northeastern U.S. As of December 31, 2003, TCPL has a 61.7 percent ownership interest in Portland.
- **Gas Transmission Northwest Corporation (GTN)** – GTN, formerly known as Pacific Gas Transmission, connects with TCPL’s system in British Columbia and runs 1,356 miles south to the Oregon-California border. It also includes the North Baja pipeline system, an 80-mile system that operates in Arizona and California,

connecting with a system in Mexico. TCPL's recent agreement to acquire GTN is expected to close no later than the fourth quarter of 2004.

- **Northern Border Pipeline** – Northern Border is a 1,250-mile natural gas pipeline system which serves the U.S. Midwest from a connection with the Foothills System. TCPL indirectly owns approximately 10 percent of Northern Border through its 33.4 percent ownership interest in TC PipeLines, LP.
- **Tuscarora** – Tuscarora operates a 240-mile pipeline system transporting natural gas from Malin, Oregon to Wadsworth, Nevada with delivery points in northeastern California. TCPL owns an aggregate 17.4 percent interest in Tuscarora, of which 16.4 percent is held through TCPL's interest in TC PipeLines, LP.
- **CrossAlta** – CrossAlta Gas Storage & Services Ltd. (CrossAlta) is an underground natural gas storage facility connected to the Alberta System and is located near Crossfield, Alberta. CrossAlta has a working natural gas capacity of 40 billion cubic feet (Bcf) with a maximum deliverability capability of 410 million cubic feet per day (MMcfd). TCPL holds a 60 percent ownership interest in CrossAlta.

In the United States, TCPL pipelines are regulated by the FERC and the USDOT Office of Pipeline Safety (OPS), as well as state energy regulators in the northern part of the country. In Canada, the company is regulated by the Northern Pipeline Agency, National Energy Board ("NEB"), the Alberta Energy Utilities Board ("EUB"), and other provincial and territorial energy regulators.

The Co-Applicants, through their parent company TCPL, therefore have demonstrated an extensive history of pipeline construction and operation in the U.S. and Canada, including pipeline construction and operation in northern environments.

Prior to initiating construction activities, the Co-Applicants will be required (pursuant to Lease Stipulation 2.5.1) to submit 25 final, Project-specific plans developed to meet all of the specific performance standards set out in the Lease Stipulations regarding protection and management of land, water and air resources that may be potentially affected by the construction and operation of the pipeline for State review and approval (Lease Exhibit A).

Several of the required plans have been submitted and tentatively approved during earlier application review periods, but would be subject to revision, updating and final approval prior to initiation of construction to ensure compliance with any revised regulatory standards in effect at that time. All remaining plans, and updates of the tentatively approved plans, will be prepared and submitted as a part of the final design and construction planning process.

In addition to complying with State and Federal requirements, the Co-Applicants must develop the following plans to meet specific performance standards for State approval pursuant to Lease Stipulation 2.5.1:

(1) Air Quality

Plan Purpose and Objective: This plan will provide the criteria and basic methodology and serve as the basis for the detailed planning and design work for the mitigation of potential air quality impacts associated with the construction and operation of a natural gas transportation pipeline through Alaska.

Performance Standard: The lessee shall implement this plan to avoid where practical or minimize potential adverse air quality impacts and to ensure that air emissions are in accordance with applicable State and Federal standards.

(2) Blasting

Plan Purpose and Objective: This plan will provide the criteria and methodology for any blasting that will be undertaken in connection with construction. The plan will provide environmental as well as technical criteria including, but not limited to, environmental protection, mitigation, and restoration methodology; public safety; and TAPS protection, if applicable.

Performance Standard: The lessee's blasting activities shall be conducted in a manner to protect employees and members of the public, avoid where practical or minimize impacts to the fish and wildlife resources, and protect public and private structures including TAPS.

(3) Camps

Plan Purpose and Objective: This plan will provide the criteria and basic methodology and serve as the basis for the detailed design, construction, and operation of the temporary construction camps and airfields required during the construction of natural gas transportation pipeline facilities. The plan will include a description of camp demobilization.

Performance Standard: the lessee shall construct camps in accordance with all applicable State, Federal and local codes and standards, and conditions of the lease. The lessee shall utilize existing camp locations used during taps or highway construction to the extent feasible, subject to section 20 of the lease.

(4) Clearing

Plan Purpose and Objective: This plan will provide the criteria used to determine the clearing boundaries, method of disposal, use or storage of overburden, slash, timber and other vegetation.

Performance Standard: the lessee shall provide a clearing plan detailing clearing methods for pre-construction, construction, operation and maintenance activities. The plan shall include methods addressing disposal, utilization or storage of slash and overburden, timber and other vegetation. In addition, buffer zones and visual effects shall be addressed. The plan shall also include brushing methods for the operational phase of the pipeline system.

(5) Corrosion Control

Plan Purpose and Objective: This plan will serve as the basis for the integrity program and will describe the methods to be used for early detection of corrosion.

Performance Standard: the lessee shall have an approved integrity management program, which shall include corrosion protection, mitigation, assessment, and repair, and be based upon best practicable industry practices, applicable laws, regulations and NACE standards.

(6) *Cultural Resource Preservation*

Plan Purpose and Objective: This plan will show how cultural resources will be protected during the construction, operation and maintenance or other activities.

Performance Standard: The lessee shall develop, establish and maintain a Cultural Resource Protection Program to preclude negative impacts to significant cultural resources by avoidance or, if this is not possible, to preserve significant data. The lessee will coordinate with the Alaska State Historic Preservation Office in the development of a project-specific Programmatic Agreement for Cultural Resource Protection.

(7) *Environmental Briefings*

Plan Purpose and Objective: This plan will provide a continuing education program for management and the labor force to ensure that environmental concerns are properly addressed.

Performance Standard: The lessee shall ensure that all employees will be provided with the knowledge to perform work in a manner that complies with all State and Federal statutes, regulations and policies pertaining to the protection of fish, wildlife and other environmental resources; lease stipulations; and permit conditions required by regulatory agencies.

(8) *Erosion and Sedimentation Control*

Plan Purpose and Objective: This plan will provide the criteria and basic methodology for developing detailed designs and procedures to control

erosion and sedimentation during construction and operation of a natural gas transportation pipeline project.

Performance Standard: The lessee shall implement methods described in this plan to minimize project-related erosion and sedimentation in streams, rivers and wetlands.

(9) *Fire Control*

Plan Purpose and Objective: This plan will identify methods that will be used to prevent and suppress fires near the right-of-way and related facilities.

Performance Standard: The lessee shall utilize approved measures described in this plan to prevent and suppress fires on or near the right-of-way and its related facilities. The lessee shall coordinate with the DOF on necessary modifications to the Interagency Fire Plan.

(10) *Liquid Waste Management*

Plan Purpose and Objective: This plan will provide the criteria and basic methodology and serve as the basis for the detailed planning and design work for the collection, transportation, management, and disposal of wastes generated by construction and operations of a natural gas transportation pipeline.

Performance Standard: The lessee shall develop, establish and maintain a liquid waste management program to implement the prevention, minimization, and the proper collection, handling, transport and disposal of the liquid waste produced by all phases of the project including pre-construction, construction, operation and maintenance, and termination. The plan shall provide the methods used to manage point source and non-point source liquid waste in accordance with applicable State, Federal, and local government codes and standards.

(11) Material Exploration and Extraction

Plan Purpose and Objective: This plan will provide a comprehensive discussion of the criteria and methodology for siting, developing, operating, and restoring material sites needed for the project and for spoil disposal from the sites.

Performance Standard: The lessee's plan shall describe the criteria and methodology for siting, developing, operating, and restoring material sites needed for the project and disposal of spoil from the sites in a manner that minimizes environmental and social impacts.

(12) Oil and Hazardous Substances Control, Cleanup and Disposal

Plan Purpose and Objective: This plan will provide the detailed procedures for assessment and cleanup of oil and hazardous substance contamination that may be encountered during any field activity, and will provide the criteria and basic methodology for a comprehensive management program to control, cleanup, and dispose of oil and hazardous substances used in the construction and operation of a natural gas transmission pipeline.

Performance Standard: The lessee shall develop, establish and maintain a comprehensive oil and hazardous substance Contamination Program, providing the methods to be used to integrate the assessment, prevention, minimization, collection, handling, transport and disposal of oil and hazardous substances in accordance with all applicable State and Federal requirements during the construction, operation and maintenance and termination of the pipeline system.

(13) Overburden and Excess Material Disposal

Plan Purpose and Objective: This plan will ensure that overburden and excess materials are disposed of in a manner that protects the environment and that overburden to be used for restoration purposes is properly stored.

Performance Standard: The lessee shall dispose of spoil material within the right-of-way construction zone to the extent practical. The placement of the spoil material shall utilize techniques to avoid or minimize environmental disturbance, such as impacts to vegetation. If the spoil material cannot be completely distributed within the right-of-way, the lessee shall develop approved spoil disposal sites. Mineral and organic materials useable for rehabilitation and restoration purposes shall be segregated from other materials and stored for future use.

(14) *Pesticides, Herbicides, Chemicals*

Plan Purpose and Objective: This plan will provide the criteria and basic methodology to develop a comprehensive management program for the control, use, cleanup, and disposal of pesticides, herbicides, and chemicals used in the construction and operation of a natural gas transportation pipeline.

Performance Standard: The lessee shall use only non-persistent and immobile types of pesticides, herbicides and other chemicals currently registered by the Environmental Protection Agency and the State. Each chemical to be used and its application constraint shall comply with applicable State regulation. All applications will be conducted by a certified pesticide applicator in the category of "Right of Way" or any other appropriate category or supervised on site by a certified pesticide applicator. Pesticides should be transported, stored and disposed of according to the label and applicable laws and regulations.

(15) *Pipeline Contingency*

Plan Purpose and Objective: This plan will describe measures to plan and prepare for pipeline failures.

Performance Standard: the lessee shall develop plan(s) to address uncontrollable events that could have a significant adverse impact on the operation or integrity of the pipeline and its appurtenances, or that could be hazardous to persons or property. the lessee shall include provisions for natural gas control, specify that the action agencies responsible for contingency plans in Alaska shall be among the first to be notified in the event of any pipeline failure resulting in an natural gas release, provide for immediate corrective action including control of the release and restoration of the affected resource, and allow for approval of any disposal sites or techniques selected to handle disposal of materials.

(16) Quality Assurance/Quality Control

Plan Purpose and objective: This plan will ensure that the lessee (including sub-contractors and vendors) pipeline activities comply with all State, Federal, and local government laws and other requirements, industry codes and standards and internal policy and programmatic requirements.

Performance Standard: In accordance with Stipulation 2.6, the lessee's quality assurance/control program shall be comprehensive and designed to assure that the applicable requirements of 49 CFR Part 192 and the environmental and technical stipulations of the lease will be incorporated in the final design and complied with throughout all phases of pre-construction, construction, operation and maintenance and termination of the pipeline system. The quality assurance/control program shall document compliance with the lease.

(17) Restoration

Plan Purpose and Objective: This plan will describe the practicable methodologies to return disturbed lands to a natural condition.

Performance Standard: Upon completion of use, the lessee shall restore disturbed areas to an acceptable condition as outlined in the approved plan and in accordance with Stipulation 6.1 to the satisfaction of the Commissioner.

(18) *River Training Structures*

Plan Purpose and Objective: This plan will develop a process to monitor rivers and streams along the right-of-way for bank erosion. The plan shall also include a description of the river training structures.

Performance Standard: The lessee shall implement measures to protect the pipeline from river and stream bank erosion in accordance with all applicable State and Federal requirements and Stipulation 2.15.4. Bank protection and river training structures shall be used when required to stabilize eroding banks and to control the flow along a pre-selected alignment. In addition to those described in the approved plan, the following structure types are suitable for use in arctic and sub-arctic streams: revetments, channel stabilization aprons, spurs, guide banks, dike plugs, biological stabilization techniques, and stabilization using natural materials.

(19) *Solid Waste Management*

Purpose and Objective: This plan will provide the detailed procedures for safe disposal of solid WASTES generated during any field activity.

Performance Standard: The lessee shall develop, establish and maintain a comprehensive Waste Management Program pursuant to all applicable State, Federal and local requirements for the prevention, minimization, and the proper collection, handling, transport and disposal of the wastes produced

during all phases of the project including construction, operation and maintenance, and termination.

(20) *Stream, River and Floodplain Crossings*

Plan Purpose and Objective: This plan will provide design criteria and basic methodologies for the various crossing structures that will be used in pipeline construction to minimize impacts to fish passage, water quality, sedimentation and erosion by maintaining natural flow regimes.

Performance Standard: The lessee's stream and river flood plain crossings shall not significantly alter the natural flow regime of those waterbodies, except during construction and maintenance of these structures. Construction and maintenance-related disturbance to streambanks shall be stabilized to prevent project-related erosion and rehabilitated as required. Installation of structures in fish streams shall be approved by the Commissioner.

(21) *Surveillance and Maintenance*

Plan Purpose and Objective: This plan will describe the lessee's program to surveil and maintain the pipeline system and right-of-way.

Performance Standard: The lessee shall conduct a surveillance and maintenance program applicable to the sub-arctic and arctic environment. This program shall be designed in accordance with Stipulation 2.14 to protect public health and safety; prevent damage to natural resources; prevent project-related erosion; and maintain pipeline integrity.

(22) *Visual Resources*

Plan Purpose and Objective: This plan will describe how visual resources will be protected or mitigated during construction, operation and maintenance, and termination of the pipeline system.

Performance Standard: The lessee shall prevent or mitigate, to the extent practicable, impacts to visual resources during pre-construction, construction, operation and maintenance, and termination activities.

(23) Wetlands Construction

Plan Purpose and Objective: This plan will describe methodologies that will be used to minimize impacts to wetlands habitats.

Performance Standard: The lessee shall minimize the alteration of drainage patterns in wetlands. The effects of frost bulb growth on groundwater flow in sensitive wetlands shall be minimized or avoided. Clearing of trees, brush and tall vegetation shall also be minimized to reduce impacts to wetlands.

Construction in wetlands shall, to the extent possible, be scheduled when the ground is frozen. For wetland construction, the Notice To Proceed package shall include relevant information on the following: cross drainage control, erosion control, siltation control, clearing, re-grading, and revegetation.

(24) Seismic

Plan Purpose and Objective: This plan will describe the measures to be employed to protect the pipeline system from seismic activity.

Performance Standard: The pipeline system shall be designed, where technically feasible and practicable, by appropriate application of modern, state-of-the-art seismic design procedures to prevent any natural gas leakage from the effects (including seismic shaking, ground deformation and earthquake-induced mass movements) of earthquakes along the route as provided in Stipulation 2.17.2 Environmental damage from a leak shall be minimized by special design provisions that shall include, but not be limited to: a network of ground-motion detectors that continuously monitor, record and instantaneously signal the occurrence of ground motion in the vicinity of the pipeline reaching the operational design level; and rapid programmed

shutdown of the pipeline and prompt close inspection of system integrity in the event of ground motion reaching the contingency design level. Prior to applying for a notice to proceed for any construction segment, the lessee shall satisfy the Commissioner that all recognizable or reasonably inferred faults or fault zones along the alignment within that segment have been identified and delineated, and that the risk of natural gas leakage resulting from fault movement and ground deformation has been adequately assessed and provided for in the design of the pipeline for that segment. Evaluation of said risk shall be based on geologic, geomorphic, geodetic, seismic, and other appropriate scientific evidence of past or present fault behavior and shall be compatible with design earthquakes tabulated above and with observed relationships between earthquake magnitude and extent and amount of deformation and fault slip within the fault zone.

(25) *Human/Carnivore Interaction*

Plan Purpose and Objective: This plan will provide design criteria and basic methodologies for various pipeline activities that will be used to minimize human/carnivore interactions and will describe the measures to be employed to provide employees with adequate training and knowledge to deal with the potential dangers associated with interactions between humans and bears and other carnivores.

Performance Standard: The lessee shall minimize the occurrence of human-carnivore interactions during pre-construction, construction, operation and maintenance, and termination activities by taking measures to prevent interactions between humans and carnivores. This plan shall contain personnel safety guidelines developed in consultation with the ADF&G.

Once the final design is approved, additional or supplementary plans may be required in the event that the plans submitted in accordance with Lease Stipulation 2.5.1 do not provide the detailed and/or site-specific data required to support the final design required in Lease

Stipulation 2.4, or to guide the conduct of the construction, operation, maintenance and termination of the pipeline system.

Lease Stipulation 2.5.1 plans, or other plans as required, would set forth the array of methods available to meet the performance standards. The selection of a specific method would depend on geographic region and site-specific conditions or circumstances. The Notice to Proceed (NTP) procedures described in Lease Stipulation 2.18 set forth the State approval process:

2.18 NOTICE TO PROCEED and Other Written Authorizations

2.18.1 The procedures set out under Stipulation 2.18 provide for an umbrella process that is intended to ensure that, for each FIELD ACTIVITY proposed to be undertaken, all regulatory reviews, public processes, and permits are in place prior to the start of such FIELD ACTIVITY. Pursuant to these procedures, certain significant FIELD ACTIVITIES (e.g., major activities involving CONSTRUCTION of the PIPELINE SYSTEM) will require a NOTICE TO PROCEED from the COMMISSIONER, while other more minor FIELD ACTIVITIES may require other written authorizations from the COMMISSIONER. Certain FIELD ACTIVITIES may require written authorizations by other State and Federal agencies under State or Federal statutes or regulation, either alone or in addition to an authorization from the COMMISSIONER.

2.18.1.1 The COMMISSIONER shall have the discretion to determine whether an activity or change to the PIPELINE SYSTEM is significant and will require the NOTICE TO PROCEED process, or whether the FIELD ACTIVITY or change may be initiated and undertaken pursuant to some other appropriate written authorization by the COMMISSIONER. Except for de minimis activities, the LESSEE shall obtain a NOTICE TO PROCEED from the COMMISSIONER for the following:

- (1) Activities associated with CONSTRUCTION of the PIPELINE SYSTEM.*

- (2) *Any change to a critical system. A critical systems list shall be developed and maintained by the LESSEE and approved by the COMMISSIONER.*
- (3) *Any significant change to the PIPELINE SYSTEM, as determined by the LESSEE's management of change or hazards analysis procedures.*
- (4) *An amendment to the RIGHT-OF-WAY LEASE or new rights-of-way associated with the PIPELINE SYSTEM.*
- (5) *TERMINATION-related activities.*

2.18.1.2 *The LESSEE shall not initiate a proposed FIELD ACTIVITY on STATE LANDS pursuant to this LEASE without a NOTICE TO PROCEED or other appropriate written authorization for such activity issued by the COMMISSIONER. Any NOTICE TO PROCEED or other written authorization shall permit FIELD ACTIVITIES only as therein expressly stated and only for the particular FIELD ACTIVITIES therein described. A NOTICE TO PROCEED or other written authorization may contain such site-specific terms and conditions as the COMMISSIONER deems necessary to implement this LEASE, including the stipulations hereto, and the LESSEE will comply with such terms and conditions, consistent with applicable State and Federal statutes, regulations, and orders or permits thereunder.*

2.18.1.3 *Following appropriate consultation with the LESSEE, and when other enforcement actions are inadequate or have not been successful, the COMMISSIONER may, by written order, revoke or suspend in whole or in part any NOTICE TO PROCEED or other written authorization which has been issued by the COMMISSIONER when, in the COMMISSIONER's judgment, unforeseen conditions later arising require alterations in the NOTICE TO PROCEED or other written authorization in order to:*

- (1) *remove hazards to public health and safety;*
- (2) *protect or maintain integrity of the PIPELINE SYSTEM;*

- (3) *control or prevent significant damage to the environment, including but not limited to fish and wildlife populations and their habitats;*
- (4) *protect or maintain stability of foundation and earth materials; or*
- (5) *prevent avoidable conflict with the human community along the PIPELINE route.*

The COMMISSIONER shall within three (3) days follow his revocation or suspension order with a more detailed written statement of the reason for this action.

2.18.2 Procedures Governing NOTICES TO PROCEED

2.18.2.1 *Unless clearly inapplicable, all CONSTRUCTION of the PIPELINE conducted on STATE LANDS undertaken by the LESSEE, its agents, and contractors, and the employees of each of them, shall comply in all respects with the provisions of the specific NOTICE TO PROCEED that is issued by the COMMISSIONER as provided in this section, to the extent the provision of the specific NOTICE TO PROCEED is consistent with applicable State and Federal statutes, regulations, and orders or permits thereunder.*

2.18.2.2 *Prior to submission of an application for a NOTICE TO PROCEED, the LESSEE and the COMMISSIONER will agree to a schedule for the submission, review, and approval of such applications and on the scope of information to be contained therein. The schedule shall allow the COMMISSIONER thirty (30) days for review of each complete application for a NOTICE TO PROCEED unless the COMMISSIONER gives written notice that either more or less time is needed.*

2.18.2.3 *Each application for a NOTICE TO PROCEED shall be supported by:*
(1) a FINAL DESIGN for the CONSTRUCTION SEGMENT or FIELD ACTIVITIES to be covered by the NOTICE TO PROCEED, with detailed and/or site-specific plans as indicated in Stipulation 2.5.1 and computations, as may be requested by the COMMISSIONER, supporting the design;
(2) all applicable reports and results of socioeconomic and environmental studies and land use impact analyses for the alignment and siting of RELATED FACILITIES on STATE LANDS, if requested by the COMMISSIONER;

(3) all requirements stated in Stipulation 2.4.1 with respect to the *CONSTRUCTION SEGMENT* or *FIELD ACTIVITIES* to be covered by the *NOTICE TO PROCEED*;

(4) a map or maps, prepared in such manner as shall be acceptable to the *COMMISSIONER*, depicting the proposed location of:

- (a) the boundaries of all associated temporary use areas;
- (b) all improvements, buried or aboveground, that are to be constructed;
- (c) the relative location of any part of a *HIGHWAY* or the *TAPS* that is proximate to the proposed improvements; and
- (d) the relative location of resident populations including property, habitations, transportation and public facilities that are proximate to the proposed improvements.

(5) justification statements for all proposed design features or activities which may not be in conformance with the *LEASE* stipulations; and

(6) an analysis which addresses the effects, if any, of *PIPELINE SYSTEM* design and proposed activities on the *HIGHWAY* or *TAPS* and other existing facilities and, where necessary, which describes systems designed to ensure protection of the *HIGHWAY*, *TAPS* and other existing facilities from damage arising from the *CONSTRUCTION*, operation, maintenance and *TERMINATION* of the *PIPELINE SYSTEM*.

2.18.2.4 The *COMMISSIONER* shall review each application for a *NOTICE TO PROCEED* and all data submitted in connection therewith in accordance with schedules agreed to pursuant to Stipulation 2.18.3.1.

2.18.2.5 The *COMMISSIONER* shall issue a *NOTICE TO PROCEED* only when, in the *COMMISSIONER*'s judgment, applicable *FINAL DESIGNS* and other submissions required by Stipulations 2.5.1 and 2.5.3 conform to this section or are otherwise justified under Stipulation 2.18.2.3.

2.18.2.6 Where appropriate, a *NOTICE TO PROCEED* will contain specific provisions that must be satisfied prior to initiation of surface disturbing activities. When a *NOTICE TO PROCEED* contains such provisions (e.g., field approval), the initiation

of surface disturbing FIELD ACTIVITIES will be prohibited prior to written field verification by the COMMISSIONER.

2.18.2.7 Before applying for a NOTICE TO PROCEED for a CONSTRUCTION SEGMENT, the LESSEE shall locate and clearly mark on the ground the proposed centerline of the line of pipe in such manner as shall be acceptable to the COMMISSIONER, the location of all relevant RELATED FACILITIES and, where applicable, clearing limits and the location of temporary use areas in the proposed work area. When the LESSEE is engaged in activities proximate to the HIGHWAY or TAPS or, in any event, when such activities could pose a threat to the integrity of the HIGHWAY or TAPS, the LESSEE shall arrange with the owners of the TAPS or the DOT&PF, as the case may be, in accordance with industry practice, to survey and clearly mark on the ground relevant parts of the HIGHWAY or TAPS, including RELATED FACILITIES.

2.18.3 Procedures Governing Other Written Authorizations by the COMMISSIONER

2.18.3.1 Promptly after the COMMISSIONER determines, pursuant to Stipulation 2.18.1.1, that an activity or change may be initiated and undertaken pursuant to a written authorization from the COMMISSIONER other than a NOTICE TO PROCEED, the LESSEE and the COMMISSIONER will agree to a schedule for the submission, review, and approval of the request for such authorization, and on the scope of information to be contained therein. Such agreement may be reached verbally or in writing. The schedule shall allow the COMMISSIONER a reasonable time for review of the request, while ensuring a prompt decision on the request.

2.18.4 Procedures Governing Written Authorization by Other State and Federal Agencies Required by Statute or Regulation

2.18.4.1 In addition to authorizations by the COMMISSIONER addressed in Stipulations 2.18.1, 2.18.2 and 2.18.3, written authorization by other State and Federal agencies may be required under State or Federal statutes or regulations to authorize a particular FIELD ACTIVITY. The procedures for obtaining such written authorizations shall be those applicable to the particular statutory or regulatory authorities.

Lease Stipulation 2.18 also specifies that the Co-Applicants may not initiate any field activity pursuant to the authorization of which the Lease Stipulations are a part without prior specific written permission, if required by the Commissioner. Permission for field activities subject Stipulation 2.18 would be given by a NTP and field approval, if required, or other appropriate written authorization issued by the Commissioner or State Field Representative. A NTP and field approval, if required, or other written authorization would permit activities only as therein expressly stated and only for the particular activities therein described. A NTP and field approval, if required, or other written authorization may contain such site-specific terms and conditions that the Commissioner deems necessary to implement Lease requirements.

Pre-construction land use activities, such as fish and wildlife investigations, surveys and right-of-way clearing already performed by the Co-Applicants as part of the ANGTS Project, are permitted or authorized under AS 38.05.

The Co-Applicants have indicated their plans to protect State and private property interests and to avoid, abate and diminish problems that may arise from this Project through the implementation of a comprehensive program to ensure that the effects of construction, operation, and maintenance activities on public or private property within or adjacent to the pipeline corridor are minimized, consistent with Lease Stipulations.

The first component of this program is the Project planning and impact assessment process. During the final planning phase of the Project, the Co-Applicants will take steps to ensure pipeline system integrity and to prevent leaks, establish procedures to monitor performance to ensure continued integrity, develop a plan for response, and ensure the construction area is rehabilitated in accordance with permit conditions.

A major component of the program will be to ensure compliance with applicable pipeline design and operation standards, including:

- 49 CFR Part 190, “Pipeline Safety Programs and Rulemaking Procedures;”
- 49 CFR Part 191, “Transportation of Natural and Other Gas by Pipeline; Annual Reports, Incident Reports, and Safety-related Condition Reports;” and
- 49 CFR Part 192, “Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards.”

The proposed construction techniques are specifically designed to avoid or minimize impacts to public and private lands and the environment. Work in sensitive habitat will be conducted in a manner that minimizes damage to the underlying vegetation and inclusive wildlife. Design and construction measures will be employed to prevent, minimize, or repair any damage to Project area vegetation. The Co-Applicants have committed to work cooperatively with the State and its resource agencies to develop ways to mitigate the potential adverse environmental, social and economic effects of the ANGTS Project and to protect State and private property interests.

Physical Resources

The ANGTS Project may impact the physical environment through erosion, sedimentation, ice formation, mass wasting, thawing of permafrost areas, and the disruption of surface and ground water flow. The Co-Applicants will address these concerns through detailed design review and implementation of plans required by the lease stipulations. It is the intention of the State to minimize impacts to the physical environment.

The location of the ANGTS Project facilities has been selected specifically to minimize impacts through selection of a route that parallels existing transportation corridors (Dalton Highway and Alaska Highway). In addition, Lease Stipulation 2.12 requires the Co-Applicants to use existing facilities to the maximum extent feasible. This reduces the need to extend new roads to create access to construct and operate the pipeline and compressor stations. Existing right-of-way terrain, TAPS, and other pipelines and roads limit specific route locations within these corridors to some extent in certain locations.

Biological Resources

The ANGTS Project may have varying impacts on the biological environment including:

1. Anadromous and Resident Fish;
2. Wildlife, including Threatened, Endangered, or State Species of Special Concern;
and
3. Vegetation/Wetlands.

1. Anadromous and Resident Fish: Activities that pose a potential to impact anadromous and resident fish resources have been identified by ADF&G and OHMP. ADF&G and OHMP are involved in the various stages of the ANGTS Project and will continue to be involved in the design review, construction, and monitoring phases of the Project.

ADF&G and OHMP are concerned about the effect of the pipeline on groundwater, maintenance of fish passage, and sedimentation at or near known salmon spawning areas. The environmental plans required by the Lease Stipulation 2.5 (Design Criteria, Plans and Programs) are intended to address sedimentation and erosion, groundwater flow, stream and river crossings, and water quality as they affect anadromous and resident fish. In addition, Lease Stipulation 2.15.5 (Fish and Wildlife Protection) provides for specific fish and wildlife protection measures.

2. Wildlife may be affected in the following ways:

- a. Direct mortality from collisions with vehicles, shooting (hunting and destruction of nuisance animals), and stress (exhaustion) from harassment;
- b. Passive or active disturbance caused by human activities, especially during critical periods or seasons (calving, denning, nesting, breeding, winter);
- c. Indirect loss of habitat through displacement of animals or disruption of movements and migrations;
- d. Direct habitat loss through physical alteration;
- e. Attraction to artificial food sources; and
- f. Contact with and contamination of food by pollutants, especially fuel and oil spills.

The above effects to wildlife may occur along the entire pipeline route during construction and operation of the ANGTS Project. It is expected that the majority of any impacts would occur during construction. These potential impacts will be addressed in the plans and detailed design review required by the Lease Stipulation 2.5 (Design Criteria, Plans and Programs) and in Lease Stipulation 2.15.5 (Fish and Wildlife Protection).

The ADF&G or appropriate federal agency will address species listed as threatened or endangered under the Federal Endangered Species Act and the State administered Species of Special Concern program. Lease Stipulation 2.15.5.2 (Zones of Restricted Activity) provides the Commissioner a mechanism for the protection of such species. Currently, there are no federally listed species along the proposed ANGTS Project route; however, the Peregrine Falcon remains on the State of Alaska Species of Special Concern list, maintained by the Commissioner of ADF&G. This classification still requires the avoidance of nesting period disturbance from low-flying aircraft, other noisy activities, ground level activities, and construction near nest sites during critical nesting times. In addition, activities that could have negative impacts throughout the year (not only during nesting periods) include habitat alterations, construction of permanent facilities, and pesticide use.

The ANGTS Project will remove some fish and wildlife habitat from production through wetland fills, construction of gravel workpads, and development of mineral material sites. Such losses will be greatest in the short term and will be mitigated as restoration and revegetation occurs following construction. Some habitat losses will persist for the life of the Project or longer, such as areas covered by permanent facilities and certain drainage structures. Additional losses may occur from accidents such as large fuel spills or from construction activities resulting in the siltation of aquatic habitat. Finally, habitat may become unavailable as a result of Project-related activities that may disturb or displace wildlife or block fish migration. Habitat losses or reduced availability of habitat to fish and wildlife populations ultimately may adversely affect subsistence uses of such populations.

Some animals may suffer direct mortality as a result of the ANGTS Project from vehicle-animal collisions, fuel spills, stress, defense of life and property, or other mechanisms. However, such losses most likely will be small in relation to population size. Lease

Stipulation 2.15.5.4 (Hunting, Fishing and Trapping) requires the Co-Applicants to inform their employees, agents, contractors, subcontractors and their employees of applicable laws and regulations relating to hunting, fishing, trapping and feeding of animals.

The operational phase of the pipeline is not expected to result in significant wildlife behavioral changes. Wildlife could be disturbed during pipeline maintenance activities, but these impacts would be minimal and short-term.

3. Vegetation/Wetlands: The ANGTS Project will require the clearing of a construction zone on State land along the pipeline route. The width of the construction zone will vary depending on the topography, construction method, and the facilities to be placed on State land. The clearing of vegetation from the construction zone is one of the primary impacts during construction. In addition, the pipeline right-of-way lease parcel will experience compaction of the organic layers that may result in additional seasonal thawing. The vegetation removed will be burned, buried, chipped or hauled to a designated disposal site. Marketable timber will be cut and stacked along the route and made available to the public as firewood. The method of disposal will depend upon the location being cleared and the method being used. The improper disposal of the slash could result in insect infestations that could damage the adjacent forested areas.

The Lease contains several stipulations related to vegetation including Stipulation 4.4.1 (Buffer Strips), Stipulation 2.17.4.2 (Erosion), Stipulation 4.4.4 (Erosion and Sedimentation Control), Stipulation 4.4.2 (Purchase of Materials and Timber), Stipulation 4.4.5 (Clearing), Stipulation 2.15.8 (Visual Resources) and Stipulation 2.15.10 (Stabilization, Revegetation and Restoration of Disturbed Areas). The Lease requires the Co-Applicants to take advantage of opportunities to minimize injury to vegetation through the use of special construction methods, including the use of ice and snow pads to support working equipment and to provide access roads to haul pipe and equipment. The application of this and other construction methods will be determined by applying specific criteria as described in the application. In addition, the Project will take advantage of the natural protections provided to vegetation during winter dormancy. Rehabilitation of areas that are disturbed by construction

of the Project will be performed according to the criteria and methodologies described in the application, and the plans submitted and approved by the Commissioner in accordance with Stipulation 2.5.1 of the Lease. The rehabilitation program will integrate other programs such as drainage and erosion control, visual resource protection, and fish and wildlife protection, among others, in the selection of site-specific rehabilitation methods.

The Co-Applicants have received and maintained the COE 404 Permits for class “C” wetland construction activities associated with ANGTS Project. Impacts to wetlands will be minimized through the use of construction techniques and design measures that would minimize altering the characteristics of the wetlands.

Evaluation of the pipeline mode will be an element of the final design review process. The current construction mode for the gas pipeline is buried with the possible exception of some major river crossings (e.g., Tanana River). Over the past several decades, there has been the need for increased activity associated with buried pipelines north of Fairbanks, particularly TAPS. Corrosion digs to inspect and repair pipelines, restoration in area of thermal degradation, and remedial work at streams. As part of the final design review process, a complete evaluation of whether the gas pipeline should be buried for its entire length or whether there are areas (e.g., ice rich soils, unstable soils, ground water aquifers) where the gas pipeline should be elevated. It should be noted that reestablishment of cross pipeline water flow (sheet flow, surface flow, ground water) in permafrost soils after the area has been trenched may be very difficult. The end result of design review just prior to construction could result in portions of the pipeline being elevated to ensure the protection of the environment.

Public Safety

The ANGTS Project has the potential to affect public safety along the pipeline route. The Co-Applicants, in designing the Project, and the state and federal governments, in reviewing and monitoring design and construction, are interested in making the Project as safe as possible. In doing so, the State will focus its attention on fire protection, high-pressure relief and emergency venting, spills or leaks, shutdown systems, physical environmental

considerations, noise control, adherence to applicable design codes and regulations, personnel training, and quality assurance/quality control.

The pipeline component of the ANGTS Project is also a potential risk to public safety. The pipeline may be subject to gas leaks as a result of seismic activity, frost heave, and ground settlement. To reduce this potential risk, the Co-Applicants will be required to prepare environmental plans that address those areas. In addition, the Co-Applicants have indicated that block valves will be installed at intervals of 20 miles, or as required to shut down the pipeline in emergency situations or for routine repairs. Although most of the pipeline will be buried, the Co-Applicants have indicated that the above-ground portions of the pipeline, such as compressor stations, may have restricted access to reduce the potential for tampering and improve public safety. The pipeline will be designed with a system to reduce corrosion due to a chemical reaction between the soil and the carbon steel pipe. The pipeline features will be identified by signage as required by USDOT regulations. Additional security for the pipeline and public would be established through aerial and ground reconnaissance, in accordance with the Lease Stipulations.

The other major locations for public safety concerns are the compressor stations. The compressor stations are a potential source of gas leak related incidents. In order to reduce the potential for these occurrences, the compressor stations will be equipped with gas and fire detection systems, communication facilities, and utility systems. Each compressor station will be automated with monitoring and control equipment to provide for safe and efficient unattended operation. A compressor station operator will not be required to monitor and supervise the compressor station control system during normal operation. A local programmable logic controller based station control panel controls the compressor station. The station control panel will be capable of monitoring and controlling all the critical station functions and accepting control set points from the Supervisory Control and Data Acquisition System (SCADA) when the station is in "remote" mode or from the station human-machine interface when the station is in "local" mode. Lease Stipulation 2.8 requires the Co-Applicants to take measures necessary to protect the health and safety of all persons directly affected by activities performed by the Co-Applicants in the general vicinity of the right-of-

way or permit area in connection with construction, operation, maintenance or termination of the pipeline system, and to immediately abate any health or safety hazards.

After construction, a pipeline surveillance and maintenance program will be implemented by the Co-Applicants and approved by the Commissioner, as required by Stipulation 2.14 of the Lease. The goals of this program are to ensure pipeline operating integrity and safety, and also prevent, identify, and respond to any situations that could cause significant damage to the environment. This ongoing pipeline Surveillance and Maintenance Program will address potential adverse habitat or water-quality impacts resulting from unplanned events with pipeline performance.

The Co-Applicant will be required to mark and protect all land and geodetic survey monuments encountered during construction, operation, maintenance, and termination of the pipeline system. These monuments are not to be disturbed; however, if disturbance becomes necessary, the Co-Applicants will be required to notify the Commissioner in writing before any such disturbance occurs and the Commissioner will provide instructions. Lease stipulations will require the Co-Applicants to protect survey monuments. The Lease will also require the Co-Applicants to employ a qualified land surveyor to re-establish or restore damaged or disturbed survey monuments. The Commissioner may require additional measures to protect monuments and corners.

The State has reviewed the proposed design of the ANGTS Project and has determined that such design, subject to the Department of Transportation regulations in 49 CFR 192, "Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards," and other applicable standards and codes would perform safely and would withstand the conditions to which it will be subjected, so long as it is maintained adequately. The State has further determined that the pipeline will be properly maintained provided the Co-Applicants perform all pre-construction, construction, operation and maintenance, and termination activities of the pipeline system in accordance with all applicable State and Federal requirements, codes and standards, and lease conditions and stipulations.

Subsistence

Because most of the ANGTS Project will be buried, there should be little impact to subsistence resources other than temporary access issues to areas adjacent to the existing rights-of-way. The primary areas of concern would be river and stream crossings where subsistence fishing occurs. Design criteria and construction and operation procedures have been designed to minimize the negative impact to individuals using the area for subsistence purposes. These measures, which are also designed to protect the overall environment, include scheduling to minimize wildlife disturbance, route selection, and design to minimize adverse impacts to the environment. Increased access may impact subsistence users and is discussed below.

- **Access:** The ANGTS may make some subsistence resources more available through the use of new access roads. Likewise, wages earned as a result of the ANGTS Project may increase the availability of ATV's, snowmobiles, boats, and motors to local residents and allow them greater mobility during conduct of subsistence activities. These effects could increase the use of subsistence resources and the competition for subsistence resources.
- **Competition for Subsistence Resources:** A possible population increase as a result of ANGTS Project construction may increase pressure on, and competition for, fish and wildlife resources. In part, elimination of sport hunting and fishing seasons on depressed populations can protect subsistence harvests at the expense of urban users of those resources. Nevertheless, that portion of the ANGTS Project-related increase in human population that permanently resides in rural areas and becomes eligible to participate in subsistence harvests may increase competition for subsistence resources. All Alaska residents currently qualify to be subsistence users under state regulations, in areas where subsistence uses are authorized. The rural priority is present only in federal law and applies only to federal public lands, which are absent from a portion of the pipeline corridor. Eliminating or restricting state sport fishing and non-resident hunting seasons may not adequately protect subsistence uses and users. Increasing demand on a depressed population or in other instances where

demand outweighs supply could require imposition of state Tier II regulations. In areas involving federal public lands, uses by urban residents and other non-federally qualified subsistence users would be eliminated first, if necessary to protect opportunities for federally-qualified subsistence users. In both instances, local residents of the affected area generally will have priority access to fish and wildlife resources, but the state and federal regulatory bodies use different mechanisms to provide that preference.

- **Loss of Traditional Harvest Activities:** For those rural residents employed by the ANGTS Project, or employed indirectly by the ANGTS Project, opportunities to participate in traditional harvest activities may be diminished. Wage employment most likely will occur at locations away from local communities, and even where such employment occurs in or near an area of traditional subsistence use, employers are not likely to accommodate subsistence activities that take employees off their jobs. There are precedents in other large-scale projects for accommodating subsistence harvest activities by local residents working on the project, however, this subject to negotiation between the employer and local residents who might be employed during the construction and/or operational phase of the pipeline system.
- **Economic Impact:** Subsistence-oriented communities may experience economic impacts if the ANGTS Project reduces the availability of subsistence resources or reduces the local residents' ability to harvest those resources. Cash outlays for transportation, equipment, and store-bought food may increase to compensate for reduced harvest levels or the need to allocate additional time and effort to maintain previous harvest levels. Wage income may partially offset these economic impacts, but only to the extent that rural residents are able to obtain a significant number of jobs on the ANGTS Project.
- **Social and Cultural Impacts:** "Disruptions of traditional patterns of subsistence activity occurring as a result of the ANGTS Project may impact cultural identity and status, alter traditional diets, and aggravate social problems such as depression and

substance abuse. Such disruptions may occur as direct effects of the ANGTS Project on rural communities, which could be perceived as short-term impacts, but permanent state-wide population growth and economic development spurred by the Project likely could produce long-term socioeconomic changes in Alaska that will further diminish subsistence practices in rural communities.

- **Cumulative Impacts:** Rural communities will experience not only the effects of the ANGTS Project but also those generated by the spectrum of economic development that extends from past and existing projects to reasonable foreseeable future projects. These cumulative impacts on subsistence activities are particularly apparent on Alaska's North Slope where oil and gas exploration and development already extends from the Colville River to the Canning River, both onshore and offshore, and where future activity may include the Arctic National Wildlife Refuge, extensive areas south of Prudhoe Bay. The near- and long-term effects of these projects must be considered in concert with the incremental effects of the ANGTS Project on subsistence resources.

The Co-Applicants will develop, implement and maintain a Subsistence Users Protection (SUP) Program pursuant to Lease Stipulation 4.4.6.2. The purpose of the SUP Program will be to establish the criteria and methodologies to protect subsistence users during the design, construction and operation of the Project. The Project will implement the SUP through plans and procedures that are developed specifically to protect the interests of individuals living in the general area of the Project right-of-way who rely on fish, wildlife and biotic resources of the area for subsistence purposes.

Protection of subsistence users will require an understanding of which communities along the Project route rely on natural resources for subsistence, which resources are used for subsistence, the extent of associated subsistence use (both in harvest amounts and geographic use area, if available), the primary seasons of use, relevant socioeconomic information, issues of concern in rural communities along the proposed corridor, and the nature of the potential

effects the Project could have on those users. In order to protect subsistence users and/or mitigate potentially adverse Project-related effects, this basic information is necessary.

The SUP will be developed in cooperation with the State, local communities, Native organizations and affected individuals along the proposed right-of-way. The Commissioner, in consultation with ADF&G Subsistence Division, must approve the SUP prior to the start of construction activities.

Cultural Resources

On October 7, 1980, the Office of Federal Inspector submitted a proposal to the Advisory Council on Historic Preservation (ACHP) for a Memorandum of Agreement (MOA) pursuant to §106 of the National Historic Preservation Act of 1966 and 36 CFR Part 800.4(d). The MOA was approved by representatives of the Department of Interior, Bureau of Land Management and Bureau of Indian Affairs, SHPO, and U.S. Fish and Wildlife Service. ANNGTC initiated informal consultation with the SHPO in March 2002 and learned of SHPO's desire to develop a Programmatic Agreement (PA) to replace the old 1982 MOA.

Lease Stipulation 2.16 (Cultural Resources) requires the Co-Applicants to undertake the affirmative responsibility to protect any cultural, historic, prehistoric and archeological resources that may be impacted while conducting pipeline activities. The Alaska Historic Preservation Act prohibits the appropriation, excavation, removal, injury or destruction of any state-owned historic, prehistoric (paleontological) or archaeological site without a permit from the Commissioner. The Co-Applicants will be required to take the affirmative responsibility to require their employees, agents, contractors, subcontractors and their employees to comply with the Alaska Historic Preservation Act. If any sites are discovered during the course of pipeline construction, maintenance, operations, or termination activities, the activity will cease and the SHPO and the appropriate coastal district will be notified immediately.

The Co-Applicants' actions that have the potential for affecting cultural resources include construction of the pipeline, and its associated temporary and permanent facilities. This

includes compressor stations, construction camps, material sites, storage yards, airports and other ancillary facilities.

The primary objective for the Project design phase is to ensure that the areas involved with the Project are surveyed to identify significant cultural resources. ANNGTC expended considerable effort and resources during the years 1978 through 1981 in not only conducting extensive summer field data collection programs, but in clearing, prior to field entry, any land disturbing activities. Over 50 percent of the pipeline centerline route has been cleared, in addition to the anticipated material sites and many access roads. Subsequently, in 2001, Foothills Pipe Lines Alaska, Inc. coordinated with SHPO and obtained updated Alaska Heritage Resource Survey (AHRs) files of archaeological and historic site location data for the entire right-of-way. Other permanent and temporary facilities constructed or activities outside of the pipeline right-of-way that are part of the Project will be surveyed and cleared for cultural resources prior to construction.

Mining

ADNR closed the ANGTS Project pipeline route to mineral entry under Mineral Closure Order 67. The order closed state land to entry for one-half mile on either side of the ANGTS Project route.

Pipeline Termination Activities

Impacts from pipeline termination activities would be short-term and similar to those described during construction.

SUMMARY FOR CRITERIA 2:

The Co-Applicants have demonstrated an extensive history of pipeline construction and operation in the U.S. and Canada, including pipeline construction and operation in northern environments. Many of the measures and precautions pertaining to safeguarding the health and safety of the public will also protect property located adjacent to the Project. The technical capabilities of the Co-Applicants to protect private property are the same as those that are relevant to protect public property. The Commissioner has determined that the Co-

Applicants proposed measures to protect State and private property and that compliance with the requirements of Lease will ensure protection of State and private property. The Commissioner is therefore satisfied that the Co-Applicants have the technical capability to protect State and private property interests.

In addition, as presented in the Summary for Criteria 6, from the financial records submitted, the Commissioner has found that the Co-Applicants, through TCPL, have the financial resources to pay all reasonably foreseeable damages for claims arising from construction, operation, maintenance, and/or termination of the ANGTS Project, for which the Co-Applicants may become liable.

The book value of the TCPL's equity is approximately \$4.6 billion dollars, and the current market value of TCPL is approximately \$9.5 billion dollars. Both the book and market values far exceed the Alaska Stranded Gas Act's financial requirements for consideration of the Co-Applicants as the sponsor for the proposed Project.

CRITERIA 3: Does the applicant have the technical and financial capability to take action to the extent reasonably practical to prevent any significant adverse environmental impact, including but not limited to, erosion of the surface of the land and damage to fish, wildlife and their habitat?

The Commissioner will require that the Co-Applicants Quality Assurance Program be approved concurrent with the final design approval. The Quality Assurance Program shall include the documented, planned and systematic actions necessary to provide evidence that the Co-Applicants are satisfying the right-of-way lease requirements for maintaining or protecting pipeline integrity, health, safety, and the environment. The Co-Applicants Quality Assurance Program shall require that audits be performed to ensure and document compliance with lease and other commitments. The Right-of-Way lease will require the Co-Applicants to submit a Construction Plan that addresses the work schedule and other information related to the construction of the ANGTS Project. The Construction Plan will be used by the state to develop a comprehensive construction oversight strategy. Prior to natural

gas being transported through the pipeline, the Co-Applicants shall develop and submit a Surveillance and Maintenance Program to detect and abate situations that endanger health, safety, the environment or the integrity of the pipeline.

The Quality Assurance Program will continue to be used as the tool for monitoring commitments made by the Co-Applicants in the application and the design of the ANGTS Project during the maintenance, operation, and termination of the pipeline. The Co-Applicants, their contractors and subcontractors are required to comply with the Quality Assurance Program, which must be approved by the Commissioner prior to issuance of the right-of-way lease. The Lease will require that any amendment to the Quality Assurance Program be approved by the Commissioner.

The Co-Applicants must specifically plan and design, construct, operate and maintain, and terminate the pipeline system in a manner to prevent serious and irreparable harm or damages to fish and wildlife resources, and consistent with federal and state conditions and stipulations. The Co-Applicants overall approach for protecting fish and wildlife resources is presented in their application.

Following is a summary of the information provided by the Co-Applicants in their application. Prevention of harm or damage to fish and wildlife resources will provide the primary level of protection, and involves two key steps: 1). Identification of the fish and wildlife resources in the area of the Project and their sensitivities to Project activities or facilities; and 2). Applications of appropriate environmental protection criteria in the planning and design phases of the Project.

The fish and wildlife resources in the area of the proposed Lease were previously studied and the sensitive time periods and locations were determined from research and field studies done in coordination with and state and federal resource agencies. The documents that resulted from this work include:

- Project's Environmental Master Guide;

- List of Sensitive Environmental Areas and Activity Restrictions; and
- List of Stream Crossings and Activity Restrictions

These documents are described further in the application. The Co-Applicants will continue to coordinate with state and federal resource agencies to evaluate and update the baseline fish and wildlife information and associated activity restrictions.

The prevention of damage to fish and wildlife resources in the planning and design phase of the Project involves selection of several key Project elements, including:

- Pipeline route and facility locations;
- Pipeline system design;
- Construction methods;
- Construction schedules;
- Rehabilitation methods; and
- Right-of-way maintenance methods.

The pipeline route was selected to reduce, to the extent reasonably practicable, harm to fish and wildlife resources by exclusively utilizing two existing transportation corridors, the Dalton, Elliott, and Richardson Highways from Prudhoe Bay to Delta Junction and the Alaska Highway from Delta Junction to the U.S.-Canadian border. This early Project planning has reduced the need to extend new access roads to construct and operate the pipeline and compressor stations. Alternative pipeline routings would involve substantial habitat alteration and destruction to create road access into otherwise inaccessible areas. In addition, Lease Stipulation 2.12 requires the Co-Applicants to, subject to existing rights vested in other parties, use existing facilities to the maximum extent feasible.

The State and the Co-Applicants intend that the Co-Applicants' liability arising from or in connection with the release or threatened release of existing contamination at a site shall be limited to liability for those releases or threatened releases of existing contamination on, at, or in the vicinity of a site only to the extent caused by the Co-Applicants, its agents or

contractors, subcontractors, employees servants, representatives, parent companies, affiliates, subsidiaries, officers, directors, any entity acting at the direction of Co-Applicants, or their agents or employees during or after the Co-Applicant's initial field activity on the site. The Co-Applicants will not be liable for failing to prevent the passive leaching or migration of existing contamination at a site into the air, land, or water. The limitation on Co-Applicant's liability is subject to the conditions set forth in Lease Section 20.

Compressor station sites were selected to minimize, to the extent reasonably practicable, harm to fish and wildlife resources by applying the Project's baseline fish and wildlife information and the associated activity restrictions as criteria. The proposed number and location of the compressor stations is subject to final design approval. The other permanent Project facilities would be located in existing developed areas including maintenance facilities at Fairbanks.

Inherent in the Project design are key features that will help prevent, to the extent reasonably practicable, harm to fish and wildlife resources, including:

- The pipeline will be buried entirely except at compressor stations, certain large river crossings, and at major fault crossings in compliance with pipeline safety regulations;
- The buried design will avoid creating a potential obstruction to ungulate and other large mammal movements across the Right-of-Way (as opposed to the aboveground portions of TAPS). Wildlife will have unobstructed access across the Right-of-Way;
- Permanent work pads and access roads are not necessary throughout the system for spill response (as is the case with TAPS). Instead, native vegetation will be allowed to colonize and establish in the Right-of-Way; and
- Compressor stations will not be occupied, reducing the amount of human activity and the potential for interactions with wildlife at the stations. Overall, there will be very little human activity along the Right-of-Way associated with the Project operation.

Construction of the pipeline system will take advantage of reasonably available opportunities to minimize harm to fish and wildlife habitat through the use of special methods, including

the use of ice and snow pads to support working equipment and to provide access roads to haul pipe and equipment. This is a proven method for minimizing damage to tundra vegetation on the North Slope. The construction methods are described in the application.

Construction methods for pipeline crossings of rivers, streams and wetlands have been identified to minimize, to the extent reasonably practicable, harm to fish and fish habitat as described in the application. The approach includes categorization of crossing types and selection of appropriate methods by applying specific selection criteria.

The construction schedule selected for the Project contributes substantially toward reducing impacts to fish and wildlife resources. By avoiding, when practicable, the seasons when most fish and wildlife species are present and active, the opportunity for direct impacts to most organisms will be minimized. The conditions of frozen soil and dormant vegetation in the winter will provide natural protections to the habitat during construction.

Rehabilitation of fish and wildlife habitat that may be disturbed by construction of the pipeline system will be performed according to the criteria and methodologies described in the application. The rehabilitation program will integrate other programs such as drainage and erosion control, visual resource protection, and water resource protection, among others, in the selection of site-specific rehabilitation methods. The rehabilitation program will apply specific criteria for creating conditions that are suitable for colonization of the disturbed areas by adjacent native plants, including important wildlife browse and cover species.

The Co-Applicants will develop, establish, and maintain environmental protection programs pursuant to Lease Stipulation 2.5.1 that will be integrated into the planning and design, construction, and operation phases. These include programs directed specifically at fish and wildlife protection and others that are directed at habitat protection, including:

- Air Quality Protection;
- Waste Management;
- Oil and Hazardous Materials Management;

- Water Resources Protection;
- Contaminated Sites Management; and
- Noise Control.

A key component of the Project's approach for protecting fish and wildlife resources is the training and education of construction managers, supervisors, and workers through a Briefings, Orientation and Education Program.

Integration of fish and wildlife protection and other environmental protection approaches into the overall Project organization will be accomplished through a Project Environmental Management System (PEMS) as described in the application. The PEMS will focus on achieving a high level of environmental protection and ensuring compliance with regulatory requirements.

Monitoring of fish and wildlife protection during all phases of the Project will be accomplished through the inspection program initiated under the Quality Management Program. The inspection program will be integrated with the PEMS to provide a comprehensive Project-wide system, implemented through all Project phases, to detect and abate conditions that could cause serious and irreparable harm or damage to fish and wildlife resources.

SUMMARY FOR CRITERIA 3:

As discussed under Criteria 2, the Co-Applicants, through their parent company TCPL, have extensive history of pipeline construction and operation in the United States and Canada, including work in northern environments. The State has reviewed the Co-Applicants' proposed measures to prevent erosion of the surface of the land and damage to fish, wildlife and their habitat and determined them to be acceptable. The Commissioner is therefore satisfied that Co-Applicants have the technical capabilities to prevent, to the extent reasonably practical, any significant adverse environmental impact, including but not limited to, erosion of the surface of the land and damage to fish, wildlife and their habitat.

In addition, as presented in the Summary for Criteria 6, from the financial records submitted, the Commissioner has found that the Co-Applicants, through TCPL, have the financial resources to pay all reasonably foreseeable damages for claims arising from construction, operation, maintenance, and/or termination of the ANGTS Project, for which the Co-Applicants may become liable.

The book value of the TCPL's equity is approximately \$4.6 billion dollars, and the current market value of TCPL is approximately \$9.5 billion dollars. Both the book and market values far exceed the Alaska Stranded Gas Act's financial requirements for consideration of the Co-Applicants as the sponsor for the proposed Project.

CRITERIA 4: Does the applicant have the technical and financial capability to take action to the extent reasonably practical to undertake any necessary restoration or re-vegetation?

The Co-Applicants will plan and design, construct, operate and maintain, and terminate the pipeline in a manner to prevent serious and irreparable harm or damages to vegetation and timber, and in compliance with the state conditions and stipulations.

The Co-Applicants will prevent unnecessary damage to vegetation by applying appropriate environmental criteria in the planning and design phases. This includes the selection of key Project elements:

- Pipeline route and facility locations;
- Construction methods;
- Construction schedules;
- Rehabilitation methods; and
- Right-of-Way maintenance methods.

The ANGTS Project route was selected to reduce any negative impacts to vegetation and timber resources by exclusively utilizing two existing transportation corridors, the Dalton Highway from Prudhoe Bay to Delta Junction and the Alaska Highway from Delta Junction to the U.S.-Canadian border. This early Project planning reduces the need to extend new

access roads to construct and operate the pipeline and compressor stations. Alternative pipeline routings would involve substantial damage to vegetation and timber to create road access into otherwise inaccessible areas.

The Co-Applicants previously completed the first step in addressing the protection of vegetation and timber resources along the selected pipeline route by identifying and mapping the mosaic of vegetation community types along the entire 745-mile pipeline right-of-way.

The Co-Applicants will take advantage of opportunities to minimize injury to vegetation through the use of special construction methods, including the use of ice and snow pads to support working equipment and to provide access roads to haul pipe and equipment. This is a proven method to minimize damage to tundra vegetation on the North Slope. The application of this and other construction methods will be determined by applying specific criteria as described in the application. In addition, the Project will take advantage of the natural protections provided to vegetation during winter dormancy.

Rehabilitation of areas that are disturbed by construction of the Project will be performed according to the criteria and methodologies described in the application, and the plans submitted in accordance with Stipulation 2.5.1 of the Lease. The rehabilitation program will integrate other programs such as drainage and erosion control, visual resource protection, and fish and wildlife protection, among others, in the selection of site-specific rehabilitation methods. The revegetation program will focus on creating conditions that are suitable for colonization of the disturbed areas by adjacent native plants, including timber-producing species. Native vegetation, including timber-producing species, will be allowed to colonize and establish in the right-of-way. Within the permanent right-of-way, some clearing of invading trees and brush will be necessary to allow aerial inspection and maintenance in accordance with company policies, specifications and procedures, and federal pipeline safety regulations. The pipeline right-of-way will cross approximately 17 miles of the Tanana Valley State Forest between MP 510 and MP 527 located about 40 miles southeast of Fairbanks. Timber within the Forest will be cleared and managed in accordance with applicable laws, regulations, and Forest policies.

Operation and routine maintenance of the pipeline system will impact vegetation and timber within the right-of-way. Routine brushing to allow for access and surveillance will be necessary along portions of the right-of-way. Major maintenance work such as the replacement of pipe sections, valves, or other buried components of the system may impact vegetation and timber that have colonized the right-of-way. Clearing and grading necessary to provide access to and clearing for work pads could impact the vegetation and timber.

The pipeline will have an expected life of at least 50 years. Any decommissioning of the pipeline facilities would be subject to approval by the appropriate state and federal agencies, including FERC abandonment approval under section 7(b) of the NGA.

Areas disturbed by construction of the pipeline system will be rehabilitated to restore the natural functions of vegetation and timber production, as well as erosion control, wildlife habitat, visual resources, and other relevant resource functions, in compliance with State conditions and stipulations.

Cleanup and erosion control work will be applied to all areas used or disturbed during the construction of the pipeline system. This includes the pipeline construction zones, access roads, material sites, temporary storage areas, disposal sites, and campsites. Temporary structures and debris will be removed. Large rock fragments will be used for riprap material or will be blended into the surrounding terrain within the right-of-way. Materials that cannot be used for revegetation will be disposed of in approved sites. All waterways will be cleared of temporary structures placed during construction and will be rehabilitated to prevent interference with fish migrations and natural drainage patterns.

Revegetation will include seeding and planting of all disturbed areas suitable for vegetation, in accordance with written recommendations from the local soil conservation authority or the State. The revegetation program will focus on creating conditions that are suitable for colonization of the disturbed areas by adjacent native plants, including timber-producing species. Revegetation will be used as appropriate for controlling erosion. Planting schedules

will be planned for optimum seasonal growth periods. Seeding of the final grade of the construction zone, material sites, and disposal sites will be done with conventional equipment and methods including aerial seeding and hydroseeding. Fertilizer, mulches, and soil stabilizers may be used appropriately to enhance growth and prevent erosion

Native vegetation, including timber-producing species, will be allowed to colonize and establish in the right-of-way. Within the permanent right-of-way, some clearing of invading trees and brush will be necessary to allow aerial inspection and maintenance in accordance with company policies, specifications and procedures, and federal pipeline safety regulations. Methods for restoring areas of vegetation harmed during operation and maintenance and termination activities will be the same as those described for construction.

The Right-of-Way Leasing Act requires consideration of the applicant's technical capability to undertake any necessary restoration and revegetation. Review of the application and the Co-Applicants' qualifications demonstrate that they have the requisite technical capability.

SUMMARY FOR CRITERIA 4:

As discussed under Criteria 2, based on their extensive history of pipeline construction and operation, including work in northern environments, the Co-Applicants exhibit the technical capabilities, to take action, to the extent reasonably practical and consistent with Lease terms, to undertake any necessary restoration, rehabilitation or revegetation. The State has reviewed the Co-Applicants' proposed measures to undertake any necessary restoration, rehabilitation or revegetation and determined them to be acceptable. The Commissioner is therefore satisfied that Co-Applicants have the technical capabilities to take action, to the extent reasonably practical, to undertake any necessary restoration, rehabilitation or revegetation.

In addition, as presented in the Summary for Criteria 6, from the financial records submitted, the Commissioner has found that the Co-Applicants, through TCPL, have the financial resources to pay all reasonably foreseeable damages for claims arising from construction, operation, maintenance, and/or termination of the ANGTS Project, for which the Co-Applicants may become liable.

The book value of the TCPL's equity is approximately \$4.6 billion dollars, and the current market value of TCPL is approximately \$9.5 billion dollars. Both the book and market values far exceed the Alaska Stranded Gas Act's financial requirements for consideration of the Co-Applicants as the sponsor for the proposed Project.

CRITERIA 5: Does the applicant have the technical and financial capability to protect the interests of individuals living in the general area of the right-of-way who rely on fish, wildlife and biotic resources of the area for subsistence purposes?

With the Commissioner's approval under Lease Stipulation 4.4.6.2, the Co-Applicants will develop, implement and maintain a Subsistence Users Protection (SUP) Program. The purpose of the SUP Program is to establish the criteria and methodologies to protect subsistence users during the design, construction and operation of the Project. The Project will implement the SUP through plans and procedures that are developed specifically to protect the interests of individuals living in the general area of the Project right-of-way who rely on fish, wildlife and biotic resources of the area for subsistence purposes.

Protection of subsistence users will require an understanding of which communities along the Project route rely on natural resources for subsistence, which resources are used for subsistence, the extent of associated subsistence use (both in harvest amounts and geographic use area, if available), the primary seasons of use, relevant socioeconomic information, issues of concern in rural communities along the proposed corridor, and the nature of the potential effects the Project could have on those users. In order to protect subsistence users and/or mitigate potentially adverse Project-related effects, this basic information is necessary.

The Commissioner, in consultation with the ADF&G, Division of Subsistence, shall approve the SUP Program prior to the start of construction activities.

SUMMARY FOR CRITERIA 5:

The State has reviewed the Co-Applicants' proposed measures to protect the interests of individuals living in the general area of the right-of-way who rely on fish, wildlife and biotic resources of the area for subsistence purposes and has determined them to be acceptable. Based on the implementation of these protective measures as approved by the Commissioner under Lease Stipulation 4.4.6.2, including consultation with ADF&G, Subsistence Division, the Commissioner is satisfied that Co-Applicants have the technical capabilities to protect the interests of individuals living in the general area of the right-of-way who rely on fish, wildlife and biotic resources of the area for subsistence purposes.

In addition, as presented in the Summary for Criteria 6, from the financial records submitted, the Commissioner has found that the Co-Applicants, through TCPL, have the financial resources to pay all reasonably foreseeable damages for claims arising from construction, operation, maintenance, and/or termination of the ANGTS Project, for which the Co-Applicants may become liable.

The book value of the TCPL's equity is approximately \$4.6 billion dollars, and the current market value of TCPL is approximately \$9.5 billion dollars. Both the book and market values far exceed the Alaska Stranded Gas Act's financial requirements for consideration of the Co-Applicants as the sponsor for the proposed Project.

CRITERIA 6: Does the applicant have the financial capabilities to pay reasonably foreseeable damages for which they may become liable or claims arising from the construction, operation, maintenance or termination of the pipeline?

AS 38.35.100 requires the applicant to have financial capability to protect State and private property interests and to take action to the extent possible: to prevent any significant adverse environmental impact; to restore or re-vegetate disturbed areas; to protect the interests of individuals in the general area who rely on fish, wildlife, and biotic resources for subsistence purposes; and to pay reasonably foreseeable damages for which the applicant may become liable on claims arising from the construction, operation, maintenance, and termination of the pipeline.

The book value of the TCPL's equity is approximately 4.6 billion, and the current market value of TCPL is approximately 9.5 billion, which far exceeds 10 percent of the estimated 6.8 billion dollar (2004) capital cost of the Project. Evidence of TCPL's net worth can be found in their first quarter 2004 Quarterly Report to Shareholders and the 2003 audited Annual Report.

Pursuant to AS 38.35.120(a)(14), if the Commissioner determines that the net assets of the Co-Applicants are insufficient to protect the public from damage arising out the construction or operation of the pipeline for which the Co-Applicants may be liable, the Commissioner may require that the Co-Applicants obtain and furnish liability and property damage insurance from a company licensed to do business in the state or furnish other security or undertaking upon the terms and conditions the Commissioner considers necessary.

Considering the financial capability of the Co-Applicants, the Commissioner will require that parent company TCPL execute an unconditional guaranty to construct, operate, maintain, and terminate the ANGTS Project.

From the financial records submitted, the Commissioner finds that TCPL, as the Guarantor for the Co-Applicants, has current financial resources sufficient to unconditionally guarantee the construction, operation, maintenance, and termination of the ANGTS Project consistent with the terms of the lease and all applicable laws and regulations. The requirement and form of the guarantee is set forth in Lease Section 21.

The Co-Applicants will be required to observe and abide by the stipulations contained in the Right-of-Way Lease for the ANGTS Project. These stipulations provide for: safeguards and plans to prevent damage to persons, the public and the environment; prevention of erosion and damage to fish and wildlife habitat; restoration and re-vegetation; protection of subsistence rights of the people who live in the general area of the right-of-way; and the protection of the public health and safety.

SUMMARY FOR CRITERIA 6:

The State has reviewed the Co-Applicants' financial resources with respect to the capability to pay all reasonably foreseeable damages for which the Co-Applicants may become liable on claims arising from construction, operation, maintenance, and/or termination of the ANGTS Project. TCPL will guarantee the Co-Applicants' commitments made under this Lease. The book value of the TCPL's equity is approximately \$4.6 billion dollars, and the current market value of TCPL is approximately \$9.5 billion dollars. Both the book and market values exceed the financial requirements for consideration of the Co-Applicants as Project sponsor for the proposed pipeline. While the ultimate financing of the construction of a \$6.8 billion pipeline will not be determined and obtained by any potential builder/carrier until terms and commitments for the long term shipment of natural gas through the completed system are consummated, TCPL's capitalization -- combined with its industry leading expertise in construction and operation of major natural gas pipeline systems in northern latitudes, and extensive portfolio of required permits and certificates already held -- establishes that TCPL and its Co-Applicants have the financial and technical capabilities to construct and operate the proposed ANGTS Project.

In addition, the State will not issue a NTP or other written authorization for the Co-Applicants to initiate any construction activity under the Lease, prior to the State's receipt from the Co-Applicants of an unconditional guarantee, meeting all requirements of Lease Section 21, guaranteeing the performance of all of Co-Applicants' duties and obligations under and by virtue of the Lease. If the Co-Applicants at the time of the initial request for construction authorization are a subsidiary of TCPL, then the guarantee shall be executed by TCPL. If an assignment of the Lease to an entity that is not a subsidiary of TCPL has been approved by the Commissioner prior to the initial request for construction authorization, the guarantee shall be executed by the assignee's guarantor as approved by the Commissioner under Section 23 of the Lease. The precise form of the guarantee the Commissioner may require will be finalized as the Project is developed, permitted and financed.

From the financial records submitted, the Commissioner finds that the Co-Applicants, through their Guarantor TCPL, have current financial resources sufficient to unconditionally guarantee the construction, operation, maintenance, and termination of the ANGTS Project

consistent with the terms of the lease and all applicable laws and regulations. The Lease provides a continuing right of the Commissioner to review the Lessees'/guarantors' financial resources throughout the Lease term.

PROPOSED DECISION AND ACTION

Transportation of hydrocarbons results in significant contributions to the general welfare of the people of Alaska. It is State policy that the development, use, and control of a pipeline transportation system be directed to make the maximum contribution to the development of the human resources of this state, increase the standard of living for all its residents, advance existing and potential sectors of its economy, strengthen free competition in its private enterprise system, and protect its incomparable natural environment.

The ADOR estimates that benefits from construction of the ANGTS Project for which this State Right-of-Way Lease application has been submitted to the State would include: \$6.8 billion spent on pipeline construction costs in Alaska; approximately 8,000 jobs during the peak of construction; approximately 105 permanent jobs; and at least \$18 billion in State revenues from royalty, severance, income taxes and property taxes during the construction phase and the initial 30 years of operation.

The ANGTS Project, as an interstate natural gas pipeline regulated by FERC, will be subject to the NGA requirements for accepting natural gas from other sources for transportation to market. Previously uneconomical or undeveloped gas fields in the State may become economically viable with the construction of the pipeline, as pipelines are the only viable means to transport the natural gas to market. Tie-ins to the main line for distribution of natural gas to the communities in the vicinity of ANGTS Project by a public utility in the future are possible, subject to approval by FERC and the Commissioner. The Co-Applicants will cooperate and provide interested parties information related to interconnection with the pipeline system. Currently, there are provisions for six intermediate gas take-off points along the pipeline. For planning purposes, these points are located in Anaktuvuk Pass, Fairbanks, Delta Junction, Dot Lake, Tok, and Northway.

The ANGTS Project will also directly and indirectly benefit local governments and the State through payment of royalty, severance, income tax and property tax. The ANGTS Project will also result in capital expenditures being distributed into local economies. Gas-related employment includes direct and indirect employment in the oil and gas and construction industries. In addition, vendors will provide gas supplies and services and private and public sector jobs are generated throughout a stimulated economy.

The ANGTS Project will utilize air, truck, and existing roads to support the Project. The increases in each form of transportation will have benefits and impacts. Benefits include increased revenues and employment. Any impact would be localized and of short duration. No long lasting effects are anticipated.

The State is encouraging the Co-Applicants to fill jobs with residents to the extent practical and possible. The Co-Applicants shall comply with, and shall require contractors and subcontractors to comply with, applicable laws and regulations regarding the hiring of residents of the State. Approximately 8,000 workers are expected to be employed at the peak of construction activity. The Co-Applicants have committed to take all appropriate steps to enhance employment and training opportunities for Alaska contractors and businesses, and their subsequent hiring of Alaskans. This will include sufficient notice time to Alaska businesses of the Co-Applicants' needs, so that Alaska firms may collaborate or compete with non-Alaska firms if so desired.

The ANGTS Project is the only natural gas transportation project currently authorized under U.S. and Canadian statutes to transport ANS gas to the lower-48 states. The comprehensive statutory and regulatory foundation for the ANGTS Project — including the ANGTA of 1976 in the U.S., the Northern Pipeline Act in Canada, and the Agreement between the United States and Canada on Principles Applicable to a Northern Natural Gas Pipeline (Agreement on Principles) — provides unique and streamlined procedures for expediting pipeline permitting and construction that are applicable only to the ANGTS Project. ANNGTC, as a Lease Co-Applicant, was selected and designated by the President, the

United States Congress, and the FERC to construct and operate the Alaska segment of the ANGTS Project. As such, the Co-Applicants are holders of the conditional FERC certificate of public convenience and necessity issued for the Project, the grantees of a right-of-way for the Project across federal lands in Alaska, and the holders of Clean Water Act Section 401 and Section 404 and Coastal Zone Management Act/ACMP Determinations for the ANGTS Project.

AS 38.35.100 requires that the Commissioner determine whether an applicant is fit, willing, and able to perform the transportation or other acts proposed in a pipeline Right-of-Way Lease application in a manner that is required by the present or future public interest. This Commissioner's Analysis has reviewed and considered the Co-Applicants' proposals and commitments, as set out in their application for the ANGTS Project, under the statutory requirements of the Alaska Right-of-Way Leasing Act (AS 38.35). Based upon this Analysis, and subject to my further consideration of any and all comments and submissions that may be submitted during the course of the public comment and hearing process for this Lease application, I make the following determinations:

1. The proposed ANGTS Project does not unreasonably conflict with existing uses of the land involving a superior public interest. The ANGTS Project will not unreasonably interfere with free access to navigable or public waters, nor will it unreasonably interfere with subsistence harvests or access to subsistence areas. The ANGTS Project, as proposed, will not conflict with state statutes, regulations, or ADNR policy. Stipulations to ensure protection of the public, fish, wildlife, and the environment are incorporated into the right-of-way Lease.
2. The Co-Applicants have the technical and financial capability to protect State and private property interests.
 - a. The Co-Applicants are technically and financially capable to design, construct, operate, maintain, and terminate the proposed pipeline. TCPL owns and operates one of the largest, and most sophisticated natural gas pipeline networks in the world, including over 24,000 miles of gas pipeline that transports the majority of Western Canada's natural gas

production. TCPL and its subsidiaries have accumulated a significant base of knowledge and information pertaining to building and operating a gas transportation system through Alaska and northern Canada, and have in place (with currently operating pipeline systems) the essential policies and management systems necessary to construct and operate the ANGTS Project and shall provide this expertise to the Co-Applicants throughout the Project.

b. The Co-Applicants, through TCPL, have the financial resources to pay all reasonably foreseeable damages for claims arising from construction, operation, maintenance, and/or termination of the ANGTS Project, for which the Co-Applicants may become liable. The book value of the TCPL's equity is approximately \$4.6 billion dollars, and the current market value of TCPL is approximately \$9.5 billion dollars. Both the book and market values far exceed the Alaska Stranded Gas Act's financial requirements for consideration of the Co-Applicants as the sponsor for the proposed Project. While the ultimate financing of the construction of a \$6.8 billion pipeline will not be determined and obtained by any potential builder/carrier until terms and commitments for long term shipment of natural gas through the completed system are consummated, TCPL's capitalization -- combined with its industry leading expertise in construction and operation of major natural gas pipeline systems in northern latitudes, and extensive portfolio of required permits and certificates already held -- establishes that TCPL and its Co-Applicants have the financial and technical capabilities to construct and operate the proposed ANGTS Project.

c. Issuance of a NTP or other written authorization for the Co-Applicants to initiate any construction activity under the Lease will be contingent upon the Co-Applicants providing an unconditional guarantee from TCPL (the "Guarantor"), guaranteeing the performance of all of Co-Applicants' duties and obligations under and by virtue of the Lease. The precise form of the guarantee the Commissioner may require will be finalized as the Project is developed, permitted and financed. If the Commissioner determines at any time, in the Commissioner's sole discretion, that the Guarantor's guarantee is insufficient to satisfactorily guarantee the performance of all the Co-Applicants' duties, obligations, and potential liabilities under and by virtue of the Lease, the Commissioner may require the substitution and delivery of a supplementary guarantee from the Co-Applicants or from a substitute guarantor or insurer, with any provisions the Commissioner reasonably finds necessary. The Co-Applicants shall submit, on an annual basis, the Guarantor's annual financial statement and balance sheet, or

such financial documentation of any required substitute guarantor, that the Commissioner requests.

d. If the Co-Applicants, at their option or as required by the Commissioner under (c) of this section, obtain commercially available insurance coverage for the Lease and the Co-Applicants' activities in, on or related to the Lease, the Co-Applicants shall cause the State to be named as an additional insured on all such insurance policies obtained and maintained by the Co-Applicants, except that such insurance coverage shall not cover or apply where the sole proximate cause of the injury or damage is the willful misconduct by the State or anyone acting on behalf of the State. Any commercially available insurance purchased by Co-Applicants under this section will not be construed to limit in any way the Co-Applicants' liabilities or responsibilities under the Lease.

3. The Co-Applicants, through TCPL, have the technical and financial capability to: take action to the extent reasonably practical to prevent any significant adverse environmental impact, including erosion of the surface of the land and damage to fish and wildlife and their habitat; undertake any necessary restoration or re-vegetation; and protect the interests of individuals living in the general area of the ANGTS Project who rely on fish, wildlife, and biotic resources of the area for subsistence purposes.

a. The ANGTS Project Lease application proposes to utilize proven natural gas pipeline construction design. The USDOT Research and Special Programs Administration (RSPA), acting through the Office of Pipeline Safety (OPS), administers the USDOT's national pipeline safety regulatory program, pursuant 49 USC 601 to assure safe transportation of natural gas, petroleum and other hazardous materials by pipeline. The USDOT/ OPS is the primary governmental authority responsible for ensuring the ANGTS Project design is compliant with 49 CFR 192. The State Right-of-Way Lease therefore relies on final USDOT/OPS compliance verification of the ANGTS Project technical design as a condition precedent to initiation of pipeline construction activities.

b. Prior to initiating construction activities, the Co-Applicants are required (pursuant to Lease Stipulation 2.5) to submit 25 final, Project-specific plans developed to meet all of the specific performance standards set out in the Lease Stipulations regarding protection and management of land, water and air resources that are potentially affected by the construction

and operation of the pipeline for State review and approval. Several of the required plans have been submitted and tentatively approved -- subject to revision/updating/final approval prior to initiation of construction to ensure compliance with any revised regulatory standards in effect at that time. All remaining plans, and updates of the tentatively approved plans, will be prepared and submitted as a part of the final design and construction planning process.

c. Prior to initiating construction activities, the Co-Applicants are required to submit for State and Federal review and approval: a Construction Plan and Summary Network Analysis that outlines and describes work schedules; all permits or authorizations required prior to initiation of specific construction activities and their interrelationship; construction sequencing, including maps depicting the boundaries of the construction zones; and providing for the following: public awareness programs; notice and scheduling of disturbance to public and private improvements; air quality; blasting; camps; clearing; corrosion control; cultural resource preservation; environmental briefings; erosion and sedimentation control; fire control; liquid waste management; material exploration and extraction; oil and hazardous substance contamination management; oil and hazardous substances control, cleanup and disposal; overburden and excess material disposal; pesticides, herbicides and chemicals; pipeline contingency; quality assurance/quality control; restoration; river training structures; solid waste management; surveillance and maintenance; visual resources; wetland construction; seismic; and human/carnivore interaction. The Co-Applicants are not authorized to initiate any construction activity until the Construction Plan is reviewed and approved by the Commissioner.

d. Prior to any construction of the ANGTS Project, the Co-Applicants are required to enter into an agreement with the State DOT/PF which shall include: compensation for costs of increased maintenance or repair of facilities and highways; permits; costs of permits, design/plan reviews, on-site inspections; insurance, indemnification and defense of 3rd party claims; safety issues; use of Yukon River Bridge; conflicts with existing permit holder or utility uses; relocation of highways or utilities; security measures; environmental protection, clean-up or mitigation during construction; use of airports and airport facilities; Atigun Pass issues; traffic Controls; encroachments; highway integrity, repair and maintenance; mineral/material removal and use; DOT/PF access to construction sites; coordination and Scheduling of construction activities; coordination with approvals by other affected agencies

or jurisdictions; potential off-set of existing DOT/PF state highway rights-of-way; and other issues relating to Co-Applicants' use of the DOT/PF rights-of-way, transportation facilities or state highways or impacts related to construction (Lease Stipulation 3.1).

e. Prior to final design approval, the Co-Applicants are required to submit for State and Federal review and approval a Quality Assurance Program. The Quality Assurance Program shall include the documented, planned and systematic actions necessary to provide evidence that the Co-Applicants are satisfying the right-of-way lease requirements for maintaining or protecting pipeline integrity, health, safety, and the environment. The Co-Applicants' Quality Assurance Program shall require that audits and assessments be performed to ensure and document compliance with the lease and other commitments. The Quality Assurance Program will continue to be used as the tool for monitoring commitments made by the Co-Applicants in the application and the design of the ANGTS Project during the maintenance, operation, and termination of the pipeline.

f. Prior to natural gas being transported through the pipeline, the Co-Applicants are required to develop and submit a Surveillance and Maintenance Program (Lease Stipulation 2.14), providing for detection and abatement of situations that endanger health, safety, the environment or the integrity of the pipeline for review and approval by the Commissioner. This program will be implemented in all maintenance, operations, and termination activities of the ANGTS Project. The Co-Applicants will, as part of the Annual Report provided under Lease Stipulation 2.7, submit to the Commissioner a written analysis of changes in conditions as documented by records gathered from this Surveillance and Maintenance Program. This annual report will document cumulative changes and changes from the previous year, effects of the changes, and the proposed actions to be taken related to the noted changes.

g. prior to construction, the Co-Applicants are required to develop a Subsistence Users Protection (SUP) Program (Lease Stipulation 4.4.6.2). The Commissioner, in consultation with the ADF&G, Division of Subsistence, shall approve the SUP Program.

5. The Co-Applicants shall agree in the Lease that, in the construction, maintenance, operation, and termination of the ANGTS Project, they will comply with, and require contractors and their subcontractors to comply with, all applicable and valid laws and

regulations regarding the hiring of residents of the state. The right-of-way lease encourages the Co-Applicants, contractors and subcontractors to employ local and Alaska residents and contractors for work performed on the leased area.

6. Failure of the Co-Applicants to begin construction of the pipeline system within four (4) years after commercial arrangements sufficient to secure financing for construction are available to the Co-Applicants or to the Guarantor, subject to possible extension by the Commissioner, in the Commissioner's sole discretion, for good cause upon the Co-Applicants' request to the Commissioner, shall be grounds for forfeiture of the Lease in an action brought by the Commissioner in the Superior Court of Alaska.

CONCLUSION

Based on the foregoing, and supported by all information contained in and considered by this Analysis, I reach the preliminary conclusion that the Co-Applicants are fit, willing and able to construct, operate, maintain and terminate the proposed ANGTS Project as presented and described in their application for State Right-of-Way Lease, and direct that the following three actions be taken:

1. The Department of Natural Resources shall make copies of this Commissioner's Analysis, copies of the Lease application and its supporting documents, and copies of the draft ANGTS Project Right-of-Way Lease available at cost to any member of the public requesting copies.
2. The Department shall solicit written comments and provide for public hearings regarding the leasing of state land for the ANGTS Project, as depicted in the application (ADL 403427), the Commissioner's Analysis, and the draft ANGTS Project Right-of-Way Lease. To solicit public comments, ADNDR will place public notices in newspapers of general circulation and public buildings in Anchorage, Fairbanks, Tok, Northway, Barrow, Delta Junction, and Salcha. Public hearings will be held in Anchorage, Barrow, Fairbanks, Delta Junction, Tok, and Northway between November 16 and December 10, 2004. The North Slope and Fairbanks North Star Boroughs, local governments, and local ANCSA

corporations, and Native Tribal governments will be notified. Written comments must be received by the Alaska Department of Natural Resources, State Pipeline Coordinator's Office, 411 West Fourth Avenue, Suite 2C, Anchorage, Alaska 99501, on or before 5:00 p.m. on December 15, 2004.

3. The Co-Applicants shall provide to the ADNR a corporate resolution authorizing a particular individual to represent and sign for the Co-Applicants in the execution of the lease on behalf of the Co-Applicants.

Following completion of the public comment and hearing process, and consideration of all comments received, I will make a final determination on the application under AS 38.35.100. The Commissioner of the Department of Natural Resources is charged under AS 38.35.100 with the duty to make the determinations required by this statute. On the basis of the entire record developed before and during the public comment period, I will determine whether the applicant is "fit, willing, and able" to perform all of the acts proposed by the ANGTS Project Right-of-Way Lease application in a manner required by the present or future interest as set forth in AS 38.35.100. For this Analysis I have reviewed all of the required areas of AS 38.35.100, and this Analysis will form the basis of my decision under AS 38.35.100. If I do not alter my Analysis following the period of public comment and if the Co-Applicants meet all of the conditions precedent, then this Analysis shall constitute the Commissioner's Final Decision and I will offer the Co-Applicants the Right-of-Way Lease. The ANGTS Project Right-of-Way Lease will include covenants and stipulations determined necessary to protect the interests of the residents of the State of Alaska.

Within one year from the date that natural gas is transported through the pipeline system, the Co-Applicants are required to provide to ADNR an approved survey of the pipeline depicting the as-built location of the pipeline and a request to relinquish the construction portion of the Right-of-Way.

/s/ Tom Irwin
Tom Irwin, Commissioner
Alaska Department of Natural Resources

October 13, 2004
Date

REFERENCES

Alaska Department of Community and Economic Development, prepared by Global Insight. 2004. The Alaska Tourism Satellite Account (A Comprehensive Analysis of the Economic Contribution of Travel and Tourism).

Alaska Department of Fish and Game, 1985. Alaska Habitat Management Guides.

Alaska Department of Fish and Game, Division of Subsistence, 1987-88. Technical Paper No. 168. Juneau.

Alaska Department of Fish and Game website 2004.
http://www.wildlife.alaska.gov/division_info/overview.cfm.

Alaska Department of Labor, 2004. Alaska Economic Trends, September 2004 Newsletter.

Alaska Department of Natural Resources, 2001. Oil and Gas Lease Sale, North Slope Foothills Areawide 2001: Final Finding of the Director. ADNR, Division of Oil and Gas, Anchorage.

Alaska Department of Revenue, 2004. Draft Stranded Gas Development Act Municipal Impact Analysis. Prepared for the Department of Revenue by Information Insights Inc.

Alaska Department of Transportation and Public Facilities website, 2004.
www.dot.state.ak.us/stwdplng/scenic/abyways.shtml.

Bureau of Land Management, 1989a. Utility Corridor Proposed Resource Management Plan and Final Environmental Impact Statement. Arctic District Office, Fairbanks, Alaska.

Bureau of Land Management and Minerals Management Service, 1998. Northeast National Petroleum Reserve-Alaska, Final Integrated Activity Plan/ Environmental Impact Statement, Vols. 1 and 2, U.S. Department of the Interior, Anchorage, Alaska.

Environmental Protection Agency, 2003. Draft Pogo Gold Mine Environmental Impact Statement. Prepared with assistance of Michael Baker Jr., Inc. U.S. Environmental Protection Agency, Region 10, Seattle, WA.

Marcotte, James, Clarence A. Alexander, Cheryl Scott, and Priscilla Wheeler, 1991. Wild Fish and Game Harvest and Use by Residents of Five Upper Tanana Communities, Alaska,

National Park Service, 1994. Proposed Conclusions on Customary and Traditional Use Eligibility for the Upper Tanana Region, for the Communities of: Dot Lake, Tanacross, Tetlin, Northway, Tok. Analysis prepared for the Federal Subsistence Board. Anchorage.

National Park Service, 1995. Maps and Summary Conclusions on Customary and Traditional Use Eligibility for the Upper Tanana Region, for the Communities of: Dot Lake,

Tanacross, Tetlin, Northway, and Tok. Prepared for the Federal Subsistence Board. Anchorage.

Spearman, Grant, Sverre Pedersen, and William Brown, 1979. Anaktuvuk Pass Synopsis. In Native Livelihood and Dependence: A Study of Land Use Values Through Time, pp. 121-140. 105(C) Land Use Study, Field Study 1. Report prepared by North Slope Borough Contract Staff for National Petroleum Reserve in Alaska Work Group 1. US Department of the Interior, Anchorage.

Trans-Alaska Pipeline System Owners, 2001. Environmental Report for Trans-Alaska Pipeline System Right-of-Way Renewal. Anchorage, Alaska.

TransCanada Alaska and Foothills Alaska, 2004. Alaska State Right-of-Way Application for the Alaska Natural Gas Transportation System.

TransCanada Corporation and Alaskan Northwest Natural Gas Transportation Company, 2004. Application of TransCanada Corporation (“TransCanada”) and Alaskan Northwest Natural Gas Transportation Company (“ANNGTC”) Submitted to the Alaska Department of Revenue Pursuant to AS 43.82.120 For Approvals under the Alaska Stranded Gas Development Act.

University of Alaska Anchorage, Institute of Social and Economic Research, 2003. New Revenues to Fill the Fiscal Gap-Gas Pipeline, Alaska Citizen’s Guide to Budget.

U.S. Fish and Wildlife Service – Alaska <http://tetlin.fws.gov/>

ATTACHMENT A

RIGHT-OF-WAY LEASE FOR THE
ALASKA NATURAL GAS TRANSPORTATION SYSTEM
ADL 403427