

MEDICAL CONCERNS
OF THE
THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM

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I. INTRODUCTION

The physical and mental health of a population is an issue that, to varying extents, concerns government agencies, private health care agencies, and individuals. A more select group of individuals will be of concern to any corporation that plans a major project through Alaska. The builders of the proposed gasline have a responsibility for health planning since the construction work force will be placed in isolated camps, in most cases far from community based health care and in a climate that is often harsh.

This report will highlight major health related needs of the pipeline community and emphasize their importance, the reasons they are important, and the time needed to implement them.

It is the contention of this paper that a medical plan needs to be established to provide prevention programs, treatment programs, and emergency care to employees who will be dependent upon their gasline employers for all services. In addition, local communities that will be affected by gasline construction must also be a part of this plan. Their proximity and the availability of their services will influence the quality of care the work force and community members will receive. Finally, the gasline stockholders and national consumers must be considered by ensuring the most efficient and cost effective plan is devised.

To help ensure the production of such a plan, the Office of the Federal Inspector has initiated this project, designed to study the local health care systems and the only comparable plan of this type, the Trans Alaska Pipeline System. This information will help to formulate and augment the development of a medical service program that will successfully meet the needs of the project and the local health service providers. The research done on the local health care services includes discovering what agencies exist, determining their function, their present loads, capacities and potential for expansion. Representatives for area health facilities that are likely to be impacted have been given an opportunity to voice their theories on what they expect the impact of the pipeline to be and how and/or if they are prepared to meet that impact. Several health planning agencies, including the State of Alaska, private, and Federal services (represented by the Public Health Services,) were contacted to obtain input and to use their expertise to ensure the technical viability of this report. Since the TAPS medical records have been declared proprietary information by Alyeska, many valuable experiences are lost to ANGTS planners. However, various documents, articles and interviews are available which make it possible to piece together an outline of their Medical Services plan. An analysis was conducted with this plan as a base and integrated with the community stated needs, the problems seen in the TAPS plan, and special needs indicated by gasline planners were to produce a list of recommendations that will make the ANGTS medical system more efficient and workable for the employers, employees, and impacted communities.

The reason for this study may not be immediately clear, since it is reasonable to assume that the gasline Company will prepare their own medical services plan. At this time, however, only vague notices of intent exist.¹ The local community has expressed concern that health planning, when it comes, will be too little and too late. One of the major complaints about the TAPS program was not

enough time was taken for planning and too many things were left to crisis management. This report emphasizes two conclusions. One is the need for integrated planning by the gasline company in cooperation with the local communities. The second is that the company be made aware that their ultimate goal, an efficient, smooth running, cost effective medical services system, is going to take a certain amount of lead time.²

This material should be used by the ANGTS planners to help develop the most comprehensive and cost effective medical system possible. Since it is based on a plan for a similar project (TAPS) and has had the input of the local health community including representatives in the health planning field, it should be a good foundation for the gasline planners to begin to build their medical services plan. Most important, it should ensure that the time will be made available to make this possible.

II. A REVIEW OF THE TAPS MEDICAL SYSTEM AND PROBLEMS WITH THE TAPS MEDICAL CARE SERVICES

Using the Alyeska Medical procedures Manual, the Medical Protocol and Formulary, and interviews with various Alyeska health personnel, the TAPS medical services plan can be outlined.

The TAPS medical system was based on approximately 72 physician assistants (PA's) with at least two stationed at each of the camps.³ There were three doctors on staff, a medical records team and various other technical persons. Medical evacuations were handled in a three class system. Class I required immediate physician attention out of camp, Class II was physician care recommended by the PA, and Class III was evacuation at personal request of the individual. This latter class was protected from abuse by requiring a physician signed release to return to work. PA's were responsible for determining the seriousness of an injury and assigning it an evacuation class. Once Alyeska health care providers had seen a patient, they became legally and medically liable for the disposition and care of the patient. For this reason, PA's were required to travel with all emergency evacuations, having to return on a later flight.

Camp medical facilities included basic life support equipment, x-ray equipment for extremities, basic laboratory equipment, and a small pharmacy.

A contract was awarded to a local clinic to perform pre-employment physicals. Alyeska provided safety classes, required by OSHA regulations.⁴ The company also provided cold weather hypothermia orientation for all employees. As part of government prescribed standards the foreman, or any person in direct supervision of a crew, was required to have a current certificate of first aid.⁵

The medical record system was set up so that an employee's records followed him to camp and were also kept at the central headquarters in Fairbanks. It was not until after the project was completed, however, that these records were finally compiled and microfiched.

In the original plan an employees' assistance program (EAP) was to provide treatment for alcohol and drug abuse, and coping with personal problems. However, it appears it was never effectively initiated.⁶ A 1.5 million dollar Federal grant was finally necessary to provide these services through an EAP

program set up by a private corporation. The Alaska Labor Management Employees Association, with a three year grant, established counseling positions in Fairbanks, Anchorage, and Valdez to try to deal with and make referrals for employee problems.

The Alyeska Insurance policy was fairly comprehensive in its coverage of most medical problems and some EAP associated problems. The unions also had coverage for its employees.

There was some coordination with local communities, although, for the most part, there was little lead time for detailed planning. Alyeska had a mutual aid agreement with Delta and to some extent with Faith Hope Hospital in Glenallen. The Delta ambulance service fire department and clinic were all part of the aid agreement with Alyeska.

Alyeska also provided medical evacuations and the medical services of the camp to non-pipeline persons along the route.

The Department of Health and Social Services Venereal Disease Control Staff worked with the Alyeska medical team, and the PA's in camp were equipped to diagnose, treat and report cases of gonorrhea and syphilis.

There are five main problem areas in the TAP system:

1. Not enough concentrated time and effort given to medical planning.
2. A lack of coordinated planning with local health interests.
3. The Employees Assistance program was never developed properly.
4. The records keeping system was not organized until after the projects completion and there was little access for Public Health officials.
5. The medical area of the plan needed to be more efficiently organized.

These problems have been continually pointed out in the Federal Energy Regulatory Commission's hearings and impact studies such as the one done on Fairbanks by Mim Dixon.⁷

The first two areas are related and essentially hold the key to effectively dealing with the other issues.

1. The first area deals with planning time. Not enough concentrated time and effort was given to the socioeconomic material in the application and the Alyeska Medical Procedures Plan shows that medical matters were dealt with incompletely. Exactly to what degree limited planning did occur is unclear since Alyeska medical directors are not allowed to discuss the program.

2. Part of the planning that should have occurred was coordination with local communities. There is no documented evidence of a procedure for coordinating with local communities and the FERC hearing transcripts re-emphasize the

absence of this type of planning.

This lack of coordination may have led to greater stress being placed on the local communities than was necessary. Instead of using the experiences of local health care representatives, Alyeska reacted to problems with crisis management. Mutual aid, when it did occur, was generally not preplanned. It was a product of necessity and therefore, usually unorganized. Delta had a fairly good mutual aid agreement with Alyeska which was partly a product of the determination of local authorities. Glenallen also had a mutual aid agreement between Faith Hope Hospital and Alyeska for medical evacuations, personnel and services. But while Delta came out ahead after the pipeline with equipment, Glenallen received some equipment but also had a \$40,000 pipeline bill.⁸ Faith Hope is a small church operated hospital, and this a substantial impact for them.

Some of the small communities along the gasline route, (e.g. Delta) will be dealing with the stress of having a 1,000 to 2,000 man camp close to town. This will create a strain on systems equipped to handle only their present loads. They are going to need time and assistance to deal with the medical impacts that are sure to occur as a result of the pipeline.

Gasline planners have an opportunity that Alyeska did not have to help deal with these impact problems. State and local health authorities have expressed willingness to assist in the planning and implementation of a mutually beneficial plan.

3. The Employee Assistance Program (EAP) is another example where prior coordination with local health representatives could have been an enormous benefit in producing a more efficient system. With more detailed planning and given the amount of services available at that time there was an opportunity to supply EAP services through already existing agencies. At this time, the agencies are being stressed by recent budget cuts. These local agencies are specially useful because they are more experienced in dealing with the special problems found in the Alaskan environment.

The real problem with the Alyeska EAP program, though, was that it was never really implemented. Though originally written into the plan, the EAP program was not initiated until after construction commenced. Then, the State of Alaska, faced with serious alcohol and drug abuse problems and the absence of a system to deal with them applied for a grant from the Federal government to develop a system to handle these growing problems.⁹ Under the current administration these funds do not exist, however. Because of this emergency system there were other problems. Counselors were made available to assist pipeline workers with various problems. Unfortunately some of the Alaskan workers, especially the natives, felt that these counselors were not competent to deal with the special problems of the Alaskan situation.

4. The Alyeska Records Keeping System was not fully organized or developed. For the company's use it functioned well.¹⁰ However, the Public Health Service complained there was very limited access. Their access was necessary to obtain needed information for their communicable disease control program. Consequently, there is no consistency in the final company statistics and those of the Public Health Service.

The records were not microfiched until after TAPS was completed. Until that time they were stored in cardboard boxes. The job of putting this material together in a coherent manner took a professional microfiche team three years to complete.

Hospitals also complained that some pipeliners came into the emergency room with very little information on them. Since many were out of state residents there was a need of medical histories and other vital information. Sometimes there was not even an emergency contact or next of kin. The central records office was very reluctant to give out information, even to the hospital, from employees files.

5. The camp medical service system, with a few exceptions functioned fairly efficiently. A few areas can be improved, however. The first of these was the system for PA's to travel with medical evacuations. There were two PA's in a camp of 1,000 to 2,000 persons. They split a twenty-four hour day and in an emergency an off duty PA was required to come on duty until the other PA returned, taking several hours or possibly over night. This led to an understaffed medical facility and potential trouble if another emergency should occur. In one case, a PA chose to allow an pneumonia patient to travel alone while the PA stayed at camp to handle other medical problems. The man died enroute. The PA was fired for failing to follow company policy.

Another problem, pointed out by public health officials, was the rise in tuberculosis converters and recontacts. This, they claim was due to poor access to medical supplies. Isolated in camps, pipeliners were often too busy to take medication, unable or unaware of how to obtain it.

These problems can be corrected with proper foresight and planning. The recommendations at the end of this paper have been constructed to address the five major problems described above.

III. DESCRIPTION OF EXISTING FACILITIES

Alaska's environment provides a unique set of problems for health services. The bulk of the health system lies in a few urban areas with most of the villages being served by community health aids, trained primarily for emergency stabilization, and visited by itinerant health care professionals.

Along the pipeline route, beginning in Prudhoe Bay, the first city of significant size is Barrow. Northwest Pipeline Company has said they do not plan to use Barrow for health services. Barrow has a public health hospital with 14 beds. It is only able to handle light cases, acute problems are sent to Fairbanks or Anchorage. For the majority of the pipeline workers a trip to Barrow would probably mean the eventual retracing of their footsteps since once in Barrow they would probably be referred to Fairbanks.

From Barrow to Fairbanks the pipeline passes through small villages whose only health care is in the form of small clinics staffed by community health aids. Most of these areas have already experienced the impacts of a pipeline during the TAPS construction.

At Fairbanks, the line turns to follow the Alaska highway to the border. Of these small communities along this portion of the route, Delta and Tok are the largest.

Delta has a clinic staffed by a PA and nurse and visited by doctors and dentists. There is a volunteer ambulance service. Delta has had experience with pipeline impacts and was able to obtain a mutually beneficial agreement with Alyeska.

Tok has a system similar to Delta. The clinic is equipped with basic life support equipment, an x-ray, laboratory, and pharmacy and examining rooms. Their ambulance service recently received a grant enabling them to fully equip their ambulance. The ambulance itself, however, is in bad repair from constant service on rough roads and the city wishes to purchase a new one.

The Tok Clinic is generally busy. Cases that can not be handled at the clinic are sent to either Glenallen or Fairbanks.

As to the present load of the Tok Clinic the PA says that, though busy, the clinic does not yet have a large enough load for a second PA. However, with the expected population impacts that might come with ANGTS another PA would be necessary.¹¹ The clinic staff is very positive about working with ANGTS planners to create a mutually beneficial agreement such as Delta had.

The other communities along the highway are serviced by community health aids and itinerant public health nurses. The Tok and Delta ambulance services share the areas' emergency calls. In addition, the Military Assistance for Safety and Traffic (MAST) provides medical evacuation when not on other duty. These are primarily native villages, for the most part, off the main highway. Northway, near the border, is one example. At this time they are in need of their own ambulance and emergency equipment. Several villagers have already been trained as Emergency Medical Technicians. At this time, they can only handle very basic problems in their clinic, however they express great interest in a mutual aid agreement that will help them to cope with the impacts of transients in their fairly isolated area.¹² Tanacross, Dot Lake, Tetlin and other areas along this route should also be contacted for their input.

Fairbanks has come a long way since the beginning of the Trans Alaska Oil Pipeline. In 1973 there were 40 private physicians practicing in Fairbanks, by 1980 there were 71.¹³

Since 1970 there has been a great increase in the amount of physician specialization, which did not exist previously. It is now possible to obtain most types of services at Fairbanks Memorial Hospital. Patients need rarely to be sent out of town for treatment. Those who go to specialized hospitals in the lower 48 are usually in need of long term intensive care.

The present patient load is being handled well by the doctors. Most of the physicians are located in one of the three clinic buildings in town and the hospital has just set up a system of three doctors to cover the emergency room.

Fairbanks Memorial Hospital has just begun building a new wing in attempt to ease their present load. At this time the facilities are running at almost recommended capacity. With 145 beds the hospital has been seeing occupancy rates in excess of eighty percent. This has often made it necessary to wait

for elective surgery. This new wing is needed to meet predicted population increases.

During the TAPS period, the hospital experienced occupancy rates as high as 100.6 percent. Administrators expect again to see some over crowding, but with the new wing they feel they will be ready to meet the challenge.¹⁴ The new wing will include two floors that will be made fully operational and two others that will be shelled in to accomodate later needs.

Other health agencies in the city are optimistic, even enthusiastic about their ability to handle pipeline impacts.

Health organizations are already taking a real interest in health planning for the pipeline. Besides state and local medical health agencies, several mental health and substance abuse concerns are anxious to help plan a workable system. Some of these include the Tanana Chiefs Conference, the Fairbanks Native Association, and the Alaskan Mental Health Association. Present patient loads of the substance abuse are heavy, especially since budgets are tight. With careful planning and a controlled personnel increase, however, these agencies are confident they can handle the pipeline service requirements.¹⁵ Mental health facilities in Fairbanks are more limited. The hospital now has inpatient beds for patients requiring mental health assistance, but there are few of these. The main facilities for mental health in the state are in Anchorage, and they are usually fairly busy. This problem of how to handle mental patients from pipeline camps will require special study by pipeline planners.

The ambulance system in Fairbanks is currently under strain as it attempts to deal with constraints placed on it by the current service area divisions. There are currently four ambulance services in the area. The city, having received a large budget cut has found it necessary to provide services only within the city limits and there are currently only verbal mutual aid agreements between the services. At this time only Chena Goldstream Voluteer Fire Department serves the Airport area where many of the gasline medivacs might be expected to land. A proposal that has been considered for some time is the creation of a borough wide ambulance system. This would require added manpower and equipment, but would relieve the strain of the existing system and be much more effective. This is an important area of concern to ANGTS planners since they will require ambulance service for their medivacs.

There are several reasons for choosing Fairbanks over Anchorage for primary medical services for the gasline. Now that most services are available in Fairbanks, one of the major reasons going to Anchorage for medical services is gone. Also, costs are only very slightly lower in Anchorage. This cost difference is balanced by two factors. One is the savings in transport time (and therefore fuel money.) This may save lives and time away from the job. The second reason is the enthusiasm shown by Fairbanks health service providers toward the idea of handling the gasline services.

IV. WHAT MEDICAL PLANNING HAS ALREADY BEEN DONE FOR ANGTS

The health planning that has been so far completed by Northwest Pipeline Company is very limited in scope.¹⁶ Included in the appendices are the Northwest health related material. Mim Dixon has also prepared a health study for

the pipeline company but it has not been made available.

The present ANGTS health and safety plan has identified these planned services; medical facilities, services, personnel and programs that will be available to workers, appropriate medivac procedures for emergencies, plans to provide counseling and referral services to assist workers to manage alcohol abuse, drug abuse, and personal and family problems, plans for coordination with local medical and public safety providers, an analysis of the potential impact of the project on local health services and facilities, and measures that can be taken to avoid or minimize adverse impacts on local health services and facilities.¹⁷ In addition, Cuba Wadlington, representing Northwest Alaska Pipeline Company, has said that paramedics will be in charge of camp medical facilities. This last is the only detailed plan put out by Northwest. There are no other functional details to ensure that these services will be supplied or to what level they will be provided. The state and local providers have, however, made detailed recommendations for the gasline medical services.¹⁸ Both the state Emergency Medical Services (EMS) and the local health planning service, The Northern Alaska Health Resources Association (NAHRA) have expressed willingness to assist in planning for a mutually beneficial health service program.

Medical services must be top priority. There will be certain services that must be supplied by the company. There will also be impacts to local services that will be required to provide assistance to pipeline workers above and beyond their normal loads.

The Alaska State Department of Health and Social Services has asked for an effort at coordination between the state, the local communities and the gasline sponsors.¹⁹ This is to ensure that the local emergency medical services do not become over burdened by gasline usage. The state has also recommended that socioeconomic stipulation require that a qualified nurse practitioner or physician's assistant or trained paramedic with medical emergency equipment be located at each camp. EMS pointed out that having a nurse practitioner or PA, rather than a paramedic, will cut down on the number of evacuations for non-emergency problems. The state also recommends that medevac equipped air transport and trained medivac personnel be available at all times. The state believes that any comprehensive medical services plan for on-scene medical care rely on evacuation to a hospital that may be several hours away. EMS would like to see all camp medical personnel to have training in air transport stabilization.

EMS has also requested that there be a separate channel for medical communications. This communication system should allow voice contact between on site medical persons and physicians.

From Delta to Northway, along the Alaskan Highway, there will be a lot of new ground to break. This area has not felt a direct pipeline impact. There is, therefore, some very basic health planning to do here. In interviews with local health representatives and review of the existing health material on this area it is evident that the first priority is early planning and coordination. Delta, having already experienced an impact of this type, should serve as model for Tok. Again Tok has expressed willingness to work with ANGTS planners in providing service to pipeline personnel in emergencies. A mutual aid agreement should be developed between willing communities.

The state has also recommended that the company provide some type of assist-

ance to ambulance services who will be responding to pipeline emergencies. Tok and Delta services, the only ambulance service along the highway at this time will need some assistance in serving this 250 mile stretch of road. Northway is currently hoping to obtain an ambulance and emergency equipment so they can start serving part of this stretch of road and provide service to Americans over the Canadian border. There will be an increase in traffic accidents in this area creating the impact on ambulance services.

There are also mental health needs to consider. The state wishes to see screening of persons before employment in Alaskan worksites. They also recommend the implementation of an adequate troubled employees program for alcohol, drug abuse, and problems resulting from poor mental health.

The idea of an employees assistance program has been stressed extensively by both state and local representatives. They emphasize that this program should also include insurance coverage for alcohol and drug abuse and mental health care. Services should be provided through existing agencies and these agencies should be provided with the means to handle the extra workload. Because of their experience in the Alaskan setting it is believed they can deal more effectively with these problems.

Local health personnel are uneasy about the lack of real planning that has been done for health matters by the pipeline company. As experts in the health field, they realize the amount of time necessary for the production of a sound health plan. Northwest should use the information and services available to ensure the technical viability of any plan they attempt and that it will be cost effective both in the planning and implementation stage.

V. PROBLEMS WITH THE TAPS MEDICAL SERVICE SYSTEM: SOLUTIONS IN ANGTS

There are five major problem areas in the TAPS medical service system which have been listed previously in this paper. There are nineteen recommendations that can be applied to these areas to create a better system.

Advanced planning is the first area of concern. There was not enough time and effort put into health planning by Alyeska. Evidence of this can be seen in the lack of coordination between the company and the local communities. There is also the example of the never initiated EAP program. Certain changes in state regulations have made prior planning even more important. Since the building of the oil pipeline, the state has implemented a new rating system for emergency medical training. In the near future the federal and state government will implement a certification system for all persons operating x-ray equipment. Time will also be necessary to recruit medical personnel, most of whom won't be available in the state. Medivac persons and equipment will have to be obtained and a system for ground ambulance transportation in Fairbanks will have to be arranged.

Coordination with local areas, the second area of concern, is related directly to prior planning. Local representatives have asked for cooperative planning in hopes that local resources can be utilized fully, and in a way that is mutually beneficial for all concerned. This will be cost effective for the company and lead to better community relations.

One of the areas that needs to be dealt with cooperatively with local rep-

representatives is ambulance services. Neither the Fairbanks area services or those along the highway are presently equipped to handle the type of impacts that are expected with the pipeline. The company and communities should work together in drawing up a mutual aid agreement along the highway, similar to the TAPS agreement with Delta. Since there is already a plan to provide another ambulance in the area, the company might provide some supplies or make available emergency vehicles for local emergencies. In return, community services could be available to pipeline workers and camp site emergencies. The clinics in Delta and Tok might be utilized for services such as x-rays and laboratories, making it unnecessary for the company to have this equipment in camp.

Since only one ambulance service in Fairbanks is currently available to respond to the airport, and it is volunteer, Northwest should encourage the plan for a borough wide system. One possible way of doing this is to provide funds for an extra paramedics for the city service area. With added personnel and equipment, the Fairbanks Emergency Medical Service representatives would be better able to respond to medical emergencies, including the evacuations expected to occur during the gasoline, (there was an average of 3.5 medivacs per day during the TAPS project.) The other alternative is a company ambulance. This would, however, require a special license, equipment, personnel, and an assortment of red-tape. Using existing facilities would be much more cost effective.

The creation of a working Employees Assistance Program would also require planning and coordination. The expertise of local health representatives would be invaluable in the planning process and in assisting in the eventual treatment. Several substance abuse and mental health concerns exist in Alaska and patients could be treated through these agencies. Coordination and planning is necessary to insure funds will be available to provide extra services to pipeline employees. Local persons experienced in counseling people with these problems (made somewhat unique by the Alaskan situation) could be used as counselors in camps. There should be a psychologist experienced in Alaskan situations to be used for consultation and the training of medical personnel at campsites. Insurance coverage should be available for mental health, substance abuse, as well as medical problems.

Since the Employees Assistance Program was not effectively developed by Alyeska, a greater effort needs to be made by ANGTS planners. EAP programs, in the past, have been proven to reduce lost time away from the job and since time is money they are also cost effective.

Certain medical matters need to be addressed also. There needs to be at least two PA's. One doctor should be available in the hospital emergency room to handle pipeline medevacs. This will help ensure validity of claims and possibly help avoid lawsuits.

During TAPS ten beds were contracted for at Careage North, a Fairbanks residential facility. This should be done again because for non-acute problems and recovery, residential facilities provide comparative care at substantial discount.

Two to three paramedics should be available in Fairbanks to fly out with medevacs. There are several reasons for this, one, it will reduce the PA's time away from camp leaving him to deal with other medical problems and emergencies. A qualified paramedic is also intensely trained in emergency transport, most PA's are more generally trained in this area. The paramedic could also be used to supplement local ambulance services since only an ambulance driver would be necessary for those flights with their own paramedic. Related to this, all medical personnel should be trained in air emergency transport preparation.

Finally, the medical records system must be addressed. Accessibility and organization are the first priorities. Public Health officials must be able to obtain information for their communicable disease statistics. They need to be involved in the medical system so they can assist in preventing and treating any outbreaks of the various communicable disease. An isolated population such as those that will be located in the pipeline worksites, run a higher danger of epidemics.

Doctors of injured pipeline employees must have access to patient information necessary for comprehensive treatment.

The key is timely organization by either microfiche or computerization. Organizing the records as the project proceeds will save both time and money and make the system much more efficient. It will then not be necessary to hire a professional service after completion of the project to complete a job that could have been much easier all along.

Public health officials should be approached with the possibility of having a public health person who could work with pipeline personnel to gather the needed information and at the same time provide assistance to PA's in the recognition, prevention and treatment of venereal disease and tuberculosis.

In conclusion, there are nineteen recommendations that can, using the TAPS medical system, help to create a more efficient medical system for the gas pipeline.

END NOTES

1. See Appendix. Socioeconomic Plans for Health and Safety.
2. Health Related Testimony from the Federal Energy Regulatory Commission Hearings, 1982. p. VII-28.
3. From "Preparing for the Gas Pipeline Impacts: A Guide to Upper Tanana Communities in Eastern Interior Alaska," by Terry Haynes and the "Alyeska Medical Procedures Manual."
4. The Occupational Health and Safety Act of 1970.
5. Article 5 of Subchapter 1 of the Alaska Occupational Safety and Health Act.
6. Health Related Testimony from the FERC Hearings, 1982. p. I-3.
7. "What Happened to Fairbanks? The Effects of the Trans-Alaskan Oil Pipeline on the Community of Fairbanks, Alaska." Mim Dixon. p. 63.
8. Alyeska Impact on Glenallen, Alaska, 1970-1980. Holly Rockford. p. 222.
9. Health Related Testimony from the FERC Hearings, 1982. p. I-3.
10. Communication with Alyeska Medical Records Person.
11. Interview with Tom Wilson, P.A. Tok Community Clinic. July 1982.
12. Interview with Sylvia Sam, CHA. Northway Clinic, July 1982.
13. Northern Health Resources Health Plan, 1982.
14. Interview with Jan Emmert, Assistant Administrator, Fairbanks Memorial Hospital. June 1982.
15. Health Related Testimony from the FERC Hearings p. VII-1 - VII-29.
16. See Appendix for Socioeconomic material.
17. From NAPC Socioeconomic Planning Activities Health and Safety Impact Plan. As part of the FERC Transcripts.
18. Alaska State Agency Socioeconomic Concerns and Involvement in the ANGTS Project.
19. Health Related Testimony from the FERC Hearings, p. VII-1.

APPENDIX

2/16/82

Northwest Alaskan Pipeline Company
Socioeconomic Planning Activities

1. MANPOWER PLAN will include the following components:
 - (a) Manpower Projections (1982 to completion, by quarters, updated annually).
 - By construction segment (spread, conditioning plant, compressor station, Fairbanks, etc.)
 - By job category and craft.
 - By job classification within category and craft.
 - (b) Summaries of Major Job Classifications involved in pipeline construction, conditioning plant, compressor and meter station construction, on-site and support services, field project administration and inspection, and management/administrative support. These summaries, which shall be a one-time submission, will include:
 - Minimum entry requirements.
 - Explanation of primary work tasks and responsibilities, equipment used or operated, etc.
 - Description of normal entry stream.
 - Usual union affiliation, if applicable.
 - (c) Alaska Employment Opportunity Measures--Description of the reasonable, practicable, and legal measures Northwest intends to take to enhance employment opportunities for Alaskans, particularly those residing in communities along the pipeline corridor.
2. ALASKA BUSINESS OPPORTUNITY PLAN will describe the reasonable, practicable, and legal measures which Northwest shall take to enhance contracting opportunities for Alaska businesses.
3. HEALTH AND SAFETY IMPACT PLAN will include the following components:
 - (a) Description of Project Health and Safety Programs including:
 - Medical facilities, services, personnel and programs available to workers.

- Medivac procedures.
- Plans to provide counseling and/or referral services to assist workers to manage alcohol abuse, drug abuse, personal and/or family problems.
- Safety programs.
- Plans for coordination with local medical and public safety services.

(b) Impact Analysis and Mitigation

- Analysis of the potential impact of the project on local and regional health services and facilities.
- Measures to be used to avoid or minimize adverse impacts on health services and facilities.

4. PUBLIC INFORMATION PLAN will outline the following:

- Policies and procedures for handling project information requests from the general public and the news media/press.
- Plans to publish a quarterly report which summarizes project-related information.

5. EMPLOYEE MANAGEMENT PLAN will describe plans for processing, orienting, and providing support services for employees including:

- Camp operation policies.
- Camp facilities and services.
- Employee orientation program.
- Assistance in voter registration.

6. GAS TAPS DESIGN PLAN will specify the proposed location and size of each gas tap and explain the technical, regulatory and other requirements which must be met to acquire gas from the pipeline.

7. COMMUNICATIONS IMPACT PLAN will include the following components:

- (a) Description of Project Requirements -- General description of project communications plans and requirements including projections of the need to use state and local communications facilities and services.
- (b) Impact Analysis -- Analysis of the potential impact of project communication requirements on state and local communication facilities and services.

8. TRANSPORTATION IMPACT PLAN will include the following components:

- (a) Project Transportation Requirements -- A summary schedule and description of project transportation estimates for personnel and commodities by quarter, by mode and gross volume.
- (b) Impact Analysis and Mitigation
 - Analysis of the potential impact of the project on transportation services and facilities.
 - Measures to be used to minimize adverse impacts on transportation services and facilities.
- (c) Transportation Data Reporting
 - Quarterly updates of the projections outlined above.

9. HOUSING IMPACT PLAN will include the following components:

- (a) Project Housing Requirements
 - Estimates of the quarterly housing requirements of project personnel to be relocated to pipeline corridor communities by type and size (i.e., excluding camps).
 - Estimate of the need for transient (e.g., hotel, motel) housing.
- (b) Impact Analysis and Mitigation
 - Analysis of potential impact of project housing requirements on the local housing market.
 - Description of project plans regarding housing of project personnel.

°Measures Northwest will take to minimize adverse housing impacts on local residents during and after construction.

(c) Housing Data Reporting -- Procedures to provide updated projections of future private-sector housing requirements annually.

10. LAW ENFORCEMENT AND PUBLIC SAFETY IMPACT PLAN will have the following components:

(a) Description of Project Security Procedures including:

- ° Agreements between Northwest and the North Slope Borough's Department of Public Safety and between Northwest and the State Department of Public Safety regarding the working relationship between their personnel and project security personnel.
- ° Establishment of procedures for the involvement of law enforcement personnel incident to criminal violations.

(b) Impact Analysis and Mitigation:

- ° Analysis of the potential impact of project activities on law enforcement and public safety facilities and services.
- ° Mitigative measures that Northwest will take to minimize such impacts.

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