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HYDROELECTRIC PROJECT

FEDERAL ENERGY REGULATORY COMMISSION
PROJECT No. 7114

ANCHORAGE/FAIRBANKS INTERTIE TRANSMISSION LINE AND TERROR LAKE HYDROELECTRIC PROJECT WORKER SURVEYS: SPRING 1984

FINAL REPORT

HARZA-EBASCO
SUSITNA JOINT VENTURE

JUNE 1985
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Alaska Power Authority

SUSITNA HYDROELECTRIC PROJECT

ANCHORAGE/FAIRBANKS INTERTIE TRANSMISSION LINE
AND TERROR LAKE HYDROELECTRIC PROJECT
WORKER SURVEYS: SPRING 1984

Report by

Harza-Ebasco Susitna Joint Venture

Prepared for
Alaska Power Authority

Final Report
June 1985

NOTICE

**ANY QUESTIONS OR COMMENTS CONCERNING
THIS REPORT SHOULD BE DIRECTED TO
THE ALASKA POWER AUTHORITY
SUSITNA PROJECT OFFICE**

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1.0 INTRODUCTION

1.1 BACKGROUND

Alaska, with its abundance of resources, has been experiencing rapid growth and change catalyzed by the development of various energy-related projects. The construction and operation of the Susitna Hydroelectric Project will be one such project. Large-scale development such as that required by the Susitna Project, generates a variety of impacts on the physical, biological, and socioeconomic environment. The Alaska Power Authority authorized the Social Science Program of the Susitna Hydroelectric Project to research the numerous social impacts that the Susitna Project might have. This report will be utilized to support the needs of the Social Science Program. Although the report presents only a small portion of the socioeconomic data that has been collected on the construction of large-scale resource projects, it can be utilized in conjunction with other socioeconomic data to help project various impacts that may be associated with the construction and operation of the Susitna Hydroelectric Project.

Contained in this report are the results of two separate 1984 worker surveys: 1) workers employed in the construction of the Intertie Transmission Line Project and 2) workers employed in the construction of the Terror Lake Hydroelectric Project. In addition, a summary of the results from the 1983 Intertie Workers Survey is included, along with a comparison of the three surveys, and a comparison of the results from the three surveys with the assumptions used in the Susitna socioeconomic model.

1.2 APPROACH

1.2.1 Objectives

The 1984 Intertie and Terror Lake surveys were developed to supplement the information obtained in the 1983 Intertie survey, and to make comparisons among the three surveys, and to be used to help evaluate assumptions made in the Susitna Project's socioeconomic model. Information on the characteristics (such as occupation, age, union status) of the construction workers was sought. In addition, the effect of project management decisions (such as the use of union labor and the provision of housing) on the origin, relocation, and current residence of workers and their dependents was also sought.

1.2.2 Procedures

Questionnaires were prepared on 5" by 8" cards that were distributed by the contractors to all workers on the Intertie and Terror Lake projects in the spring of 1984. A copy of the 1984 Intertie questionnaire is displayed in Figure 1-1 and a copy of the Terror Lake questionnaire is displayed in Figure 1-2. Approximately 214 Intertie questionnaires were distributed, with 119 responses being completed, for a fifty-six percent response rate from the 1984 Intertie survey. Approximately 77 Terror Lake questionnaires were distributed, with 70 responses being completed and usable, for a 91 percent response rate.

FIGURE 1-1

CONSTRUCTION WORKER SURVEY INSTRUMENT

ALASKA POWER AUTHORITY ANCHORAGE / FAIRBANKS INTERTIE WORKER SURVEY

1. What do you do on the Intertie Project? _____
 2. Is your job: _____ Union; _____ Non-union?
 3. Did you work on the Intertie Project in 1983? _____ Yes; _____ No
 4. What town do you live in now during the work week? _____
 5. What type of housing do you live in during the week? (Check one)
☐ Travel Trailer ☐ Apartment ☐ Tent ☐ Other ()
☐ Mobile Home ☐ House ☐ Lodge/Hotel/Motel
 6. Is this housing provided by your employer? _____ Yes; _____ No
 7. What town do you usually live in on weekends and other time off work?
_____ Town; _____ State
 8. What town did you live in before you took this job? _____ Town; _____ State
 9. Where do you plan to live after your job on this project is completed?
_____ Town; _____ State
 10. What is your age? _____ years
 11. Are you: _____ Male; _____ Female?
- IF YOU HAVE DEPENDENTS, PLEASE ANSWER THE FOLLOWING QUESTIONS:
- 12a. What town did your dependents live in before you took this job?
_____ Town; _____ State
 - 12b. What town do your dependents live in now? _____ Town; _____ State
 - 12c. What are the ages of each of your dependents? _____; _____; _____; _____; _____; _____; _____
 - 12d. How many of your dependents are currently employed? _____

THANK YOU FOR YOUR COOPERATION

(See reverse side of card for more information about this survey.)

The Alaska Power Authority requests your cooperation on completing this survey of Intertie workers. This survey will be used to help develop information about people who may be working on the proposed Susitna Hydroelectric Project. Your cooperation in this effort is greatly appreciated. All answers are voluntary and confidential.

Thank You.

FIGURE 1-2 CONSTRUCTION WORKER SURVEY INSTRUMENT

ALASKA POWER AUTHORITY TERROR LAKE WORKER SURVEY

1. What is your job (occupation, craft) on the Terror Lake Project? _____
 2. Is your job: _____ Union; _____ Non-union?
 3. What months did you work on the Terror Lake Project in 1983 and 1984? (Circle months):
1983 — J F M A M J J A S O N D 1984 — J F M A M
 4. What is your usual work schedule at Terror Lake?
☐ Six-tens ☐ Eight wks on — two wks off ☐ Other (_____)
 5. Where do you live now during the work week? _____
 6. What type of housing do you live in during the week? (Check one)
☐ Travel Trailer ☐ Apartment ☐ Work Camp ☐ Other (_____)
☐ Mobile Home ☐ House ☐ Hotel/Motel
 7. Is this housing provided by your employer? _____ Yes; _____ No
 8. What town do you usually live in on your leave time or other time off work?
_____ Town; _____ State
 9. What town did you live in before you took this job? _____ Town; _____ State
 10. Where do you plan to live after this job is completed?
_____ Town; _____ State
 11. What is your age? _____ Years
 12. Are you: ☐ Male; ☐ Female?
 13. Do you have any dependents? ☐ Yes ☐ No
- IF YOU HAVE DEPENDENTS, PLEASE ANSWER THE FOLLOWING QUESTIONS; Otherwise, please turn to back of card and continue with question 14 ----->
- 13b. What town did your dependents live in before you took this job?
_____ Town; _____ State
 - 13c. What town do your dependents live in now? _____ Town; _____ State
 - 13d. What are the ages of each of your dependents? _____; _____; _____; _____; _____; _____
 - 13e. How many of your dependents are currently employed? _____
- CONTINUED ON BACK: PLEASE GO ON TO QUESTION 14 ON THE OTHER SIDE OF THIS CARD
14. During 1983-84, did you hunt, fish, or trap for any of the following animals in ALASKA?

Deer	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Moose	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Caribou	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Brown Bear	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Other Big Game	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Furbearers	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Game Birds	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
King Salmon	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Other Salmon	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Trout/Grayling	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Salt-water Fish	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
 15. During 1983-84, did you do any of the following in ALASKA?

Sightseeing	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Tourist Trips	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Hiking	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Camping	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Recreational Boating	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
Winter Sports	<input type="checkbox"/> No	<input type="checkbox"/> Yes—> Where _____
 16. Between May 1983 and now, how many times did you participate in the following activities within about 10 miles of the project site?

Hunting	<input type="checkbox"/> 0	<input type="checkbox"/> 1-2	<input type="checkbox"/> 3-10	<input type="checkbox"/> 11-25	<input type="checkbox"/> Over 25 times
Fishing	<input type="checkbox"/> 0	<input type="checkbox"/> 1-2	<input type="checkbox"/> 3-10	<input type="checkbox"/> 11-25	<input type="checkbox"/> Over 25 times
Boating	<input type="checkbox"/> 0	<input type="checkbox"/> 1-2	<input type="checkbox"/> 3-10	<input type="checkbox"/> 11-25	<input type="checkbox"/> Over 25 times
Hiking	<input type="checkbox"/> 0	<input type="checkbox"/> 1-2	<input type="checkbox"/> 3-10	<input type="checkbox"/> 11-25	<input type="checkbox"/> Over 25 times
Camping	<input type="checkbox"/> 0	<input type="checkbox"/> 1-2	<input type="checkbox"/> 3-10	<input type="checkbox"/> 11-25	<input type="checkbox"/> Over 25 times
Winter Sports	<input type="checkbox"/> 0	<input type="checkbox"/> 1-2	<input type="checkbox"/> 3-10	<input type="checkbox"/> 11-25	<input type="checkbox"/> Over 25 times

THANK YOU FOR YOUR COOPERATION

The Alaska Power Authority requests your cooperation on this survey of Terror Lake workers. The survey will be used to help develop information about people who may be working on the proposed Susitna Hydroelectric Project. Your cooperation in this effort is greatly appreciated. All answers are voluntary and confidential. Thank You.

The data analyses presented here involve both response frequencies for single variables and relationships between two or more variables. The results from both 1984 surveys were compared to the 1983 Intertie survey results.

In general, the small size of the groups prevented the use of standard statistical tests of significance, such as the x^2 (chi-square) test for goodness-of-fit. Where the x^2 test was used to determine statistical significance, it is noted in the text.

The remainder of this section presents a summary of the most significant worker characteristics from the 1983 Intertie Worker's Survey, while the following sections concentrate on each 1984 worker survey. Section 2.0 delineates the important characteristics of people working on the Intertie. Section 3.0 describes the chief characteristics of the workers on Terror Lake. A final section (Section 4.0), examines the similarities and differences of worker characteristics among all three surveys and compares them with assumptions used in the Susitna socioeconomic model.

1.3 SUMMARY OF THE 1983 INTERTIE WORKER SURVEY

The 1983 Intertie Worker Survey report was prepared by Frank Orth and Associates, Inc., under contract to Harza-Ebasco Susitna Joint Venture. The survey was conducted early in the construction process; site clearing and construction began in 1983. The overall response rate for the survey was 59 percent. The two general contractors were Susitna Constructors, with project headquarters located in Cantwell, and Irby-Northface Joint Venture,

with project headquarters in Talkeetna. These two contractors used different work force management techniques. Susitna Constructors used union labor and provided housing for workers while Irby-Northface used non-union labor and provided housing only for administrative/engineering employees.

Key findings of the 1983 Intertie Survey are summarized below:

- 1) Eighty-nine percent of the respondents were male, 11 percent were female.
- 2) The largest categories of workers were: construction trades, mostly involved in laying tower foundations (24%); brushcutters and tree-fellers (23%); managers (13%); quality assurance employees (10%); engineering and surveying personnel (8%); and clerical workers (8%).
- 3) Approximately 36 percent of the responding workers indicated they held union jobs.
- 4) The average age of the respondents was 36 years.
- 5) Twenty percent of the workers hired were local people (people who were residents of the Talkeetna or Cantwell areas before beginning work on the project).
- 6) Seventy-seven percent of the workers hired were residents of Alaska before beginning work on the project.
- 7) Origin of the work force appeared to be correlated with union status. Eighty-two percent of the workers previously from Anchorage were union members and 75 percent of the workers previously from Fairbanks were union members.

- 8) As indicated above, 80 percent or 70 workers who were hired on the Intertie project were non-locals. Thirty-seven of the 70 non-local workers (53%) were movers (individuals who moved their weekend residence to the Talkeetna or Cantwell area after obtaining a job on the Intertie project). Thirty-three of the 70 non-locals (47%) were weekly commuters (individuals who lived in the Talkeetna or Cantwell area during the work week, but commuted to their previous residence during weekends or time off).
- 9) Twenty-seven percent of the workers that moved to the Talkeetna or Cantwell area were accompanied by dependents.
- 10) The survey showed an average of 0.39 dependents present in the local communities (Talkeetna or Cantwell) per non-local worker. Accompanied non-local workers in the community had 2.25 dependents.
- 11) Approximately 16 school-age children accompanied the 12 non-local workers with dependents present. This was an average of 1.3 school children per accompanied worker.
- 12) In Cantwell, 58 percent of the work force lived in housing provided by the employer. In contrast, only 12 percent of the Talkeetna work force lived in housing provided by the employer.
- 13) Overall, 13 percent of the non-local workers indicated that they planned to remain in the community (Talkeetna or Cantwell) they were working in upon completion of the project. In addition, 79 percent of the non-locals who planned to stay indicated they would remain in Talkeetna.
- 14) The survey also suggested that workers with dependents (whether dependents are present in the Talkeetna or Cantwell area or not) were more likely to remain in the local community (17%) than workers without dependents (7%).

2.0 1984 INTERTIE SURVEY

2.1 INTRODUCTION

In the spring of 1984 a survey was conducted with workers employed in the construction of the Power Authority's Intertie Project. The purpose of the 1984 survey was to provide further information on the characteristics of people working on transmission line construction in the area of the proposed Susitna Hydroelectric Project's proposed transmission line. As in the 1983 survey, workers were asked questions about their prior, present, and future residence; occupation; union status; type of housing; prior work on the Intertie project; age; and number, age, residence, and employment status of dependents.

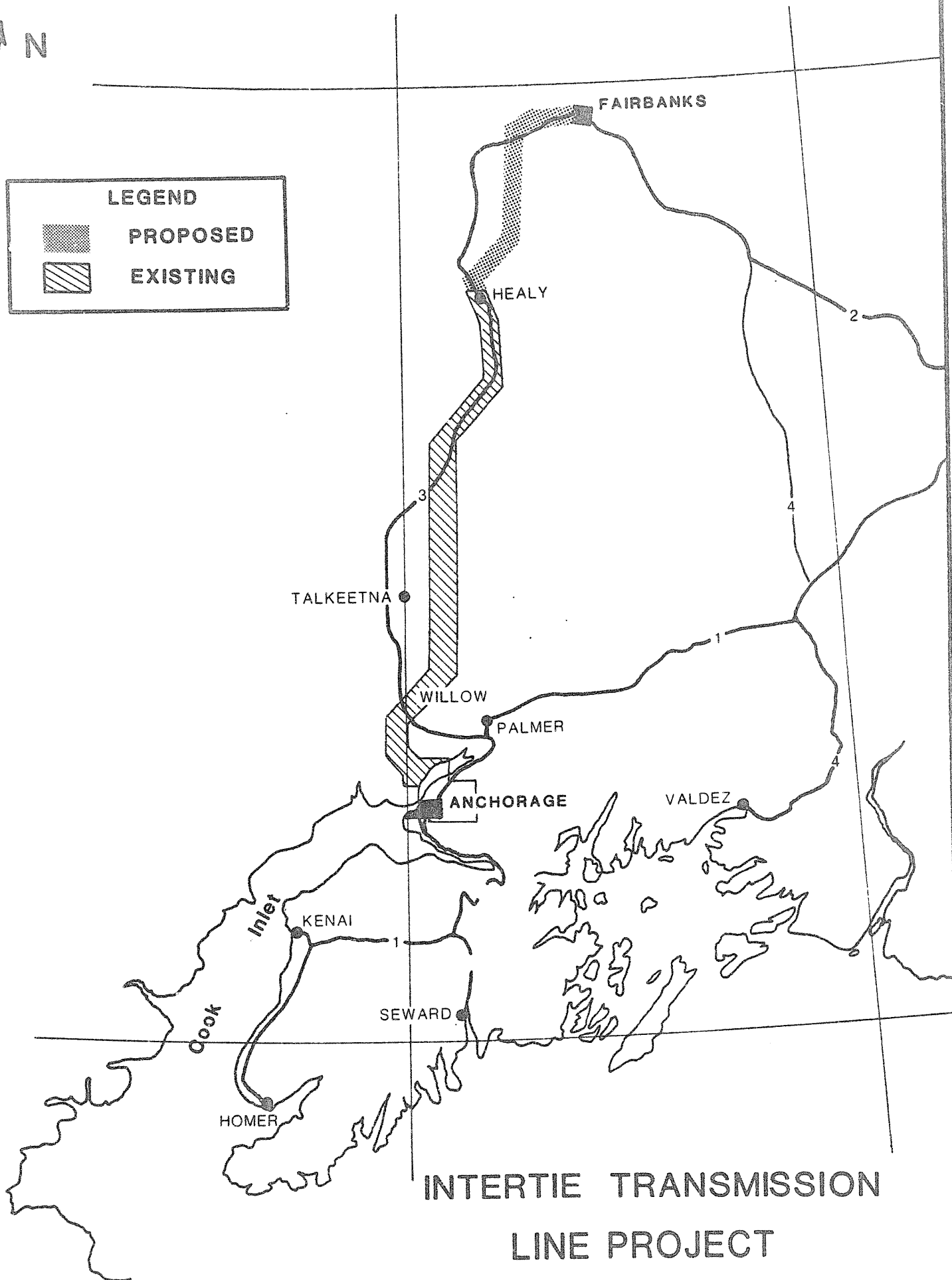
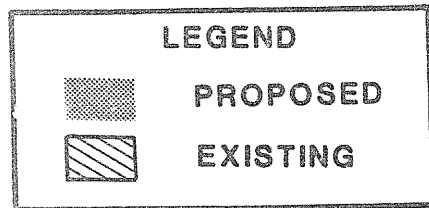
The most recent survey was conducted in the spring of 1984 near the end of construction. At the time of the survey, construction trade workers comprised the largest component of the Intertie work force. In contrast, the 1983 survey was conducted early in the construction process, when brushcutters and treefellers comprised the largest component of the Intertie work force.

2.2 BACKGROUND

The Power Authority constructed the Intertie Transmission Line, a 170-mile, 345 kV transmission line between Willow and Healy. Construction was completed in the summer of 1984. The Intertie links the electric power distribution systems in Anchorage and Fairbanks. A map of the Intertie is displayed in Figure 2-1.

In 1984 there were five contractors on the Intertie Project: Susitna Constructors, Alaska International Constructors, Morrison-Knudsen Company, Irby-Northface, and Gilbert Commonwealth. The general contractors, Susitna Constructors and Irby-Northface, used different work force management

FIGURE 2-1



techniques. Susitna Constructors used union labor, whereas Irby-Northface used non-union labor. Morrison-Knudsen was the Intertie construction manager; Gilbert Commonwealth was the design engineer, while Alaska International Constructors were new contractors to the Intertie Project in 1984.

2.3 KEY FINDINGS

The profile of respondents indicates the following (see Appendix A for frequency tables):

- 1) Ninety-three percent were male, seven percent were female.
- 2) The largest categories of workers were: construction trades (29.6 percent); managers (15.3 percent); laborers (15.3 percent); quality assurance employees (9.3 percent); and engineering and surveying personnel (8.5 percent).
- 3) Approximately 19 percent indicated they held union jobs. Two-thirds of the respondents who came from Fairbanks were union members.
- 4) The average age was 33 years.
- 5) Fifty-one percent reported they had worked on the Intertie Project in 1983.
- 6) Home^{1/} during the work week differed substantially by union status. None of the 64 respondents living in Talkeetna during the work week were union members, while approximately half of the responding workers living in Cantwell or Healy during the work week were members of a union.

^{1/}Town where worker resides during the work week.

- 7) Fifty-seven percent that were union members reported that their employer provided their housing.
- 8) During the work week approximately 90 percent reported living in or near Talkeetna, Cantwell, or Healy.
- 9) Forty-three percent were locals and 57 percent were non-locals (i.e., had not lived in the community prior to obtaining a job on the project).
- 10) Fifty-two percent of workers with dependents listed the local communities (Talkeetna, Cantwell, or Healy) as their dependents' current residence.
- 11) There were approximately 2.4 dependents per accompanied non-local worker. Also, there were approximately 1.08 school-age children per accompanied non-local worker.
- 12) Thirty-six percent of the workers indicated they would choose Talkeetna as their future residence. All 36 percent of these workers were non-union.

2.4 STUDY RESULTS

2.4.1 Local and Alaska Employment

Overall, 83 percent (96) of the workers in the survey were residents of Alaska^{1/} prior to beginning work on the project. Approximately 27 percent (31) of the responding workers were from Anchorage or Fairbanks.

^{1/}For purposes of this report, the term "Alaska resident" refers to an individual statement that they had lived in Alaska prior to beginning work on the project.

As shown in Table 2-1, approximately 41 percent (47 workers) of the 116 respondents were local residents (residents who lived in communities near the Intertie project or within daily commuting distance--Talkeetna, Cantwell, and Healy--prior to beginning work on the project). Of the 47 local residents hired, 37 were previous residents of Talkeetna while 10 workers were previous residents of Cantwell or Healy.

2.4.2 Previous Residence by Occupation and Union Status

Local workers were employed in jobs representing all occupations of the Intertie work force except engineering (Table 2-2). They were strongly represented in the laborer and construction trade classifications. Local workers accounted for 72 percent and 44 percent of the total jobs in those occupations, respectively.

In addition, union membership appeared to be correlated with the origin of the non-local work force. Two-thirds of the respondents who came from Fairbanks, where union hiring halls are located for the Fairbanks subcontractor, were union members (Table 2-3). In contrast, 88 percent of the workers from Anchorage, 83 percent of the workers from other parts of Alaska, and 95 percent of the workers from the other 49 states were not union members. A chi-square statistical test of independence supported the supposition that union membership was significantly associated with the origin of the non-local work force. Of the locally originating workers, all 37 from Talkeetna were not union members, while workers from Cantwell or Healy indicated a 60 percent union/40 percent non-union ratio (Table 2-3).

2.4.3 Women in the Work Force

Eight of the 114 respondents were women. Seventy-five percent of the women in the survey lived in Cantwell or Healy during the work week (Table 2-4); two lived in Talkeetna during the work week. Half of the women held clerical positions; the remaining female respondents held a variety of non-clerical jobs (Table 2-5).

TABLE 2-1

INTERTIE SURVEY
PREVIOUS RESIDENCE

Location	Number	Percent of Respondents
Cantwell/Healy	10	9
Talkeetna	37	32
Anchorage	16	14
Fairbanks	15	13
Other Alaska	18	15
Other 49 States	20	17
TOTAL	116	100

No response 03

Source: Harza-Ebasco Computer Run, SAS Program "Survey-06,
Jan. 1985.

TABLE 2-2

INTERVIEW SURVEY
PREVIOUS RESIDENCE BY OCCUPATION

	Talkeetna ^{1/}			Cantwell/Healy			Anchorage			Fairbanks			Other Alaska			Other 49 States			Total No. by Occupation
	No.	Per- cent by Occup.	Per- cent of Resp.	No.	Per- cent by Occup.	Per- cent of Resp.	No.	Per- cent by Occup.	Per- cent of Resp.	No.	Per- cent by Occup.	Per- cent of Resp.	No.	Per- cent by Occup.	Per- cent of Resp.	No.	Per- cent by Occup.	Per- cent of Resp.	
Engineer	0	0	0	0	0	0	2	13	2	2	13	2	1	6	1	5	25	4	10
Laborer	10	27	8	3	30	2	1	6	1	2	13	2	2	11	2	0	0	0	18
Construction																			
Trades	14	38	12	1	10	1	6	38	5	8	53	7	4	22	3	1	5	1	34
Mechanic	1	3	1	0	0	0	1	6	1	0	0	0	1	6	1	0	0	0	3
Secretarial	0	0	0	2	20	2	0	0	0	0	0	0	1	6	1	1	5	1	4
Manager	2	5	2	1	10	1	3	19	2	0	0	0	3	17	2	9	45	8	18
Quality Assurance	2	5	2	1	10	1	0	0	0	0	0	0	4	22	3	3	15	2	10
All Other	8	22	7	2	20	2	3	19	2	3	20	2	2	11	2	1	5	1	19
TOTAL	37	100	32	10	100	9	16	100	13	15	100	13	18	100	15	20	100	17	116

No Response = 3.

Note: Resp. = Respondents
Occup. = Occupation

^{1/}Talkeetna includes : Willow, Trapper Creek, and Montana Creek.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-3

INTERTIE SURVEY
PREVIOUS RESIDENCE BY OCCUPATION

Union Status	Total Resp. No.	Talkeetna ^{1/}		Cantwell/Healy		Anchorage		Fairbanks		Other Alaska		Other 49 States							
		Per- cent by Status	Per- cent of Resp.	Per- cent by Status	Per- cent of Resp.	Per- cent by Status	Per- cent of Resp.	Per- cent by Status	Per- cent of Resp.	Per- cent by Status	Per- cent of Resp.	Per- cent by Status	Per- cent of Resp.						
Nonmember	94	37	100	32	4	40	3	14	88	12	5	33	4	15	83	13	19	95	16
Member	22	0	0	0	6	60	5	2	12	2	10	67	9	3	17	3	1	5	1
TOTAL	116	37	100	32	10	100	8	16	100	14	15	100	13	18	100	16	20	100	17

No Response = 3

 $\chi^2 = 25.4$

Sig. level = .005

Df = 1

15 Note: Resp. = Respondents

^{1/}Talkeetna includes: Willow, Trapper Creek, and Montana Creek.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-4

INTERTIE SURVEY
HOME^{1/}/DURING THE WORK WEEK BY GENDER

Home During the Work Week	GENDER					
	MALE			FEMALE		
	Number	Percent by Com- munity	Percent of Total Workers	Number	Percent by Com- munity	Percent of Total Workers
Talkeetna ^{2/}	64	60	56	2	25	2
Cantwell/ Healy	31	29	27	6	75	5
Fairbanks	7	7	6	0	0	0
Other Alaska	4	4	4	0	0	0
TOTAL	106	100	93	8	100	7

No Response = 5

^{1/}Town where worker resides during the work week.

^{2/}Talkeetna includes: Willow, Trapper Creek, and Montana Creek.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-5
INTERTIE SURVEY
OCCUPATION BY GENDER

Occupation	GENDER					
	MALE			FEMALE		
	Number	Percent by Occup.	Percent of Total Workers	Number	Percent by Occup.	Percent of Total Workers
Engineer	10	9	9	0	0	0
Laborer	17	15	14	1	13	1
Construction						
trades ^{1/}	34	31	29	1	13	1
Mechanic	3	3	3	0	0	0
Clerical	0	0	0	4	50	3
Quality Assurance	11	10	9	0	0	0
Manager	17	15	14	1	12	1
All Others	18	16	15	1	12	1
TOTAL	110	99 ^{2/}	93	8	100	7

^{1/} Construction trade workers include: pipefitters, truck drivers, inspector linemen, drillers, piledrivers, operators, and carpenters.

^{2/} Total does not equal 100% due to rounding.

Note: Occup. = Occupation

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

2.4.4 Union Status

Home^{1/} during the work week differed dramatically by union status (Table 2-6). All 64 respondents that lived in Talkeetna (southern staging area) during the work week were non-union. Of the workers living in Cantwell (northern staging area) or Healy during the work week, approximately half were union and half were non-union. Overall, union employees accounted for approximately 19 percent of the total survey respondents. Approximately 45 percent of the union workers lived in Fairbanks prior to working on the project (see Table 2-3).

None of the engineering, clerical workers, quality assurance personnel, nor mechanics were members of a union. The only occupational category with more than ten workers belonging to a union was the construction trades category (Table 2-7).

Fifty-seven percent of the respondents who were union members reported that their employer provided their housing, while only 30 percent of the respondents that were of non-union status reported their housing was provided by their employer (Table 2-8).

Additionally, it appeared that respondent age was related to union status. All respondents under the age of 20 years were non-union. Of respondents between the ages of 20-29 years, 83 percent were non-union. As age increased so did the percent of union membership, except for a slight decrease in the 50-59 year age category (Table 2-9). A chi-square statistical test does not find the relationship between union membership and age to be statistically significant.

^{1/} Town where worker resides during the work week.

TABLE 2-6

INTERTIE SURVEY
UNION STATUS BY HOME^{1/} DURING WORK WEEK

Union Status	<u>Talkeetna^{2/}</u>			<u>Cantwell/Healy</u>			<u>Fairbanks</u>			<u>Other Alaska</u>		
	No.	Percent by Status	Percent of Total Workers	No.	Percent by Status	Percent of Total Workers	No.	Percent by Status	Percent of Total Workers	No.	Percent by Status	Percent of Total Workers
Nonmembers	64	100	57	19	51	17	4	57	3	4	100	4
Members	0	0	0	18	49	16	3	43	3	0	0	0
Total	64	100	57	37	100	33	7	100	6	4	100	4

^{1/} No Response = 7

^{1/} Town where worker resides during the work week.

^{2/} Talkeetna includes: Willow, Trapper Creek, and Montana Creek.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-7

INTERTIE SURVEY
UNION STATUS BY OCCUPATION

Occupation	UNION STATUS					
	NONMEMBER			MEMBER		
	Number	Percent by Occup.	Percent of Respondents	Number	Percent by Occup.	Percent of Respondents
Engineer	10	10	8	0	0	0
Laborer	14	15	12	4	18	3
Construction trades ^{1/}	23	24	19	12	54	10
Mechanic	3	3	3	0	0	0
Secretary	4	4	3	0	0	0
Quality Assurance	11	11	9	0	0	0
Manager	15	16	13	3	14	3
All Others	16	17	14	3	14	3
TOTAL	96	100	81	22	100	19

No Response = 1

Occup. = Occupation

^{1/} Construction trade workers include: pipefitters, truck drivers, inspectors linemen, drillers, piledrivers, operators, and carpenters.

Source: Harza-Basco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-8

INTERTIE SURVEY
UNION STATUS BY HOUSING PROVIDED

Housing Provided	UNION STATUS					
	NONMEMBER			MEMBER		
	Number	Percent by Housing Provided	Percent of Total Workers	Number	Percent by Housing Provided	Percent of Total Workers
No	67	71	58	9	43	8
Yes	28	29	24	12	57	10
Total	95	100	82	21	100	18

No Response = 3

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-9

INTERTIE SURVEY
UNION STATUS BY AGE

Age Group	PREVIOUS RESIDENCE																	
	20 Years			20-29 Years			30-39 Years			40-49 Years			50-59 Years			60 and Older		
	No.	Per- cent by Status	Percent of Respond.	No.	Per- cent by Status	Percent of Respond.	No.	Per- cent by Status	Percent of Respond.	No.	Per- cent by Status	Percent of Respond.	No.	Per- cent by Status	Percent of Respond.	No.	Per- cent by Status	Percent of Respond.
Nonmember	3	100	3	35	83	30	40	82	34	10	77	7	7	78	6	1	50	1
Member	0	0	0	7	17	6	9	18	8	3	23	2	2	22	2	1	50	1
Total by Age Group	3	100	3	42	100	36	49	100	42	13	100	9	9	100	8	2	100	2

No response = 1

$$\chi^2 = 1.352$$

Sig. level = 10%, therefore not considered statistically significant.

Df = 2

Note: Respond. = Respondents

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

2.4.5 Worker In-Migration

During the work week, approximately 91 percent of the respondents reported living in or near Cantwell and Healy or Talkeetna. Fifty-eight percent lived in Talkeetna while 33 percent lived in Cantwell or Healy (Table 2-10).

Overall, workers can be divided into two groups, locals and non-locals, depending upon their relationship to the local communities. Non-locals can be further delineated into movers and weekly commuters, as defined below:

Locals - Individuals from the local work force who state that they lived in or near Cantwell, Healy, or Talkeetna prior to gaining employment on the Intertie Project. These workers did not change their place of residence due to their employment on the project and can be considered non-movers.

Non-locals -

1. Movers: Individuals from outside the local area who moved their weekend residence after obtaining this job. In most cases, these workers moved their weekend residence to Cantwell, Healy, or Talkeetna.

2. Weekly Commuters - Individuals whose previous residence was within weekend commuting distance from the work site. These workers lived in or near Talkeetna, Cantwell, or Healy during the work week and commuted to their previous residence during their time off.

Overall, 43 percent of the respondents (47 workers) were locals and 57 percent (62 workers) were non-locals. Of the 62 non-locals, 19 percent (21

TABLE 2-10
INTERVIEW SURVEY
HOME^{1/} DURING WORK WEEK

Location	Number	Percent of Respondents
Cantwell/Healy	37	33
Talkeetna ^{2/}	66	58
Fairbanks	7	6
Other Alaska	4	3
TOTAL	114	100

No response = 5

^{1/}Town where worker resides during the work week.

^{2/}Talkeetna includes: Willow, Trapper Creek, and Montana Creek.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

workers) were weekly commuters and 30 percent (33 workers) were movers. Seven percent (8 workers) responded that they lived during the work week, on weekends, and other time off in Fairbanks and other parts of Alaska.

Using these data and the information on response rates (Section 1.2.2), the total in-migration (including survey respondents and workers that did not respond) into the communities of Talkeetna, Cantwell, or Healy can be estimated. If the survey results are representative of the overall work force, approximately 59 workers were movers while 38 workers commute weekly to the communities. This information is summarized in Table 2-11.

2.4.6 Dependents Accompanying Non-Local Workers

As previously indicated, 57 percent of the responding workers were non-locals (i.e., had not lived in the community prior to obtaining a job on the project). Workers were also questioned about their dependents in order to obtain information on the population influx into the communities of Talkeetna, Cantwell, or Healy. The responses are tabulated in Table 2-12.

Dependents could include spouses, children, or other individuals that lived with the worker or that were otherwise dependent on the worker. However, in this survey, it was found that many respondents did not list a spouse as a dependent, instead they listed only their children as dependents.

As indicated by the tabulations above, 60 percent of the in-migrant workers that were surveyed answered that they had dependents. Of this 60 percent (37 workers), only 19 percent (12 workers) of all non-local workers were accompanied by dependents.

The survey showed an average of 0.47 dependents per worker present in the communities of Talkeetna, Cantwell, and Healy for all non-local workers, or 2.4 dependents per accompanied non-local worker. The average number of dependents was 2.6 dependents per accompanied mover and 2.0 dependents per

TABLE 2-11

INTERTIE SURVEY
WORKER IN-MIGRATION

	INTERTIE WORK FORCE	
	Survey Respondents	Estimated Total
Movers into Talkeetna, Cantwell, and Healy	30	54
Movers into Other Areas	<u>3</u>	<u>5</u>
Subtotal of Movers	33	59
Weekly Commuters	21	38
Intertie Workers in Fairbanks and Other Alaska Areas	<u>8</u>	<u>14</u>
TOTAL NON-LOCAL WORKERS	62	111

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-12

INTERTIE SURVEY
DEPENDENTS ACCOMPANYING NON-LOCAL WORKERS

	Number	<u>Percent of Total Non-local Respondents</u>	<u>Percent of Total Respondents</u>
Non-Local Workers	62	100	57
Non-Local Workers w/Dependents	37	60	31
Non-Local Workers w/Dependents Present	12	19	10

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

accompanied weekly commuter (i.e., those individuals, accompanied by their dependents, who lived in or near Talkeetna, Cantwell, or Healy during the work week and commuted to their previous residence during their time off). Approximately 13 school-age children accompanied the 12 non-local workers with dependents present. This was an average of 1.08 school-age children per accompanied non-local worker.

Table 2-13 shows the population in-migration for the survey respondents and the estimated in-migration associated with the total work force.

Table 2-14 presents a breakdown of the communities where workers' dependents currently reside. Forty percent of the responding workers indicated that Talkeetna was their dependent's current residence, while only 12 percent responded that Cantwell or Healy was their dependent's current residence. Overall, approximately half of the workers responding said their dependents currently lived in the local communities. Twenty-three percent of responding workers identified other states as their dependents' current residence.

Only 4 of the 29 non-local dependents that in-migrated into the local communities were employed. This resulted in approximately 0.33 employed dependents per accompanied non-local worker.

2.4.7 Housing

Overall, 39 percent of the respondents reported they lived in single-family dwelling units, 24 percent in mobile homes, 13 percent in apartments, while a total of 24 percent reported living in hotel/motel, work camp, and other types of housing (Table 2-15).

The majority (71%) of the respondents from Talkeetna lived in single-family dwelling units or mobile homes, with no respondents reporting that they lived in a motel/hotel (Table 2-16). In contrast, 32 percent of the respondents in Cantwell or Healy lived in a motel/hotel. These differences appear

TABLE 2-13

INTERTIE SURVEY
ESTIMATED IN-MIGRATION

	INTERTIE WORK FORCE	
	Surveyed Number	Estimated Number in the Total Work Force
Total Non-Local Worker	62	111
Total Accompanied Non-Local Workers	12	21
Accompanied Movers	8	14
Accompanied Weekly Commuters	4	7
Total In-Migrating ^{1/} Dependents	29	52
In-Migrating ^{1/} School-Age Children	13	23

^{1/} In-migrating includes only those dependents that have their current residence in Talkeetna, Healy, or Cantwell.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-14

INTERTIE SURVEY
DEPENDENTS BY DEPENDENTS' CURRENT RESIDENCE

Location	Percent of Respondents with Dependents	Percent of Total Respondents
Talkeetna ^{1/}	40	20
Cantwell/Healy	12	6
Anchorage	8	4
Fairbanks	10	5
Other Alaska	7	3
Other 49 States	23	12
TOTAL	100	50

No response and/or respondents with no dependents = 59. Responses = 60.

^{1/}Talkeetna includes: Willow, Trapper Creek, and Montana Creek.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-15
INTERTIE SURVEY
TYPE OF HOUSING

Type of Housing	Number	Percent of Respondents
Mobile Home and Travel Trailer	28	24
Apartment	15	13
Single Family Dwelling Unit	45	39
Work Camp	4	3
Hotel/Motel/Lodge	13	11
Other (Includes Tent)	11	10
TOTAL	116	100

No response = 3

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-16

INTERTIE SURVEY
HOME^{1/} DURING THE WORK WEEK BY TYPE OF HOUSING

HOME DURING THE WORK WEEK

(Usual Residence)

Type of Housing	Talkeetna ^{2/}			Cantwell/Healy			Fairbanks			Other Alaska		
	No.	Percent by Type of Housing	Percent by Total Workers	No.	Percent by Type of Housing	Percent by Total Workers	No.	Percent by Type of Housing	Percent by Total Workers	No.	Percent by Type of Housing	Percent by Total Workers
Mobile Home and Travel Trailer	17	26	15	10	27	9	1	14	1	0	0	0
Apartment	10	15	9	2	5	2	2	29	2	1	25	1
32 Single Family Dwelling Unit	30	45	24	8	22	7	3	43	3	3	75	3
Work Camp	1	2	1	2	5	2	0	0	0	0	0	0
Motel/Hotel/ Lodge	0	0	0	12	33	10	1	14	1	0	0	0
Other (includes tent)	8	12	7	3	8	3	0	0	0	0	0	0
TOTAL by Usual Residence	66	100	56	37	100	33	7	100	7	4	100	4

No Response = 5

^{1/}Town where worker resides during the work week.

^{2/}Talkeetna includes: Willow, Trapper Creek, and Montana Creek.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

to result from differences in housing policies by the employers. In Cantwell and Healy, at least 59 percent of the work force lived in housing provided by the employer, whereas in Talkeetna only 30 percent of the work force lived in housing provided by the employer (Table 2-17).

As would be expected, the majority of project workers that were accompanied by their families resided in single family dwelling units and mobile homes (66%) (Table 2-18).

2.4.8 Plans to Remain in Community

Four percent of the non-local workers who responded to this question indicated that they planned to remain in the communities of Talkeetna, Cantwell, or Healy upon completion of the Intertie. Furthermore, 75 percent of those remaining planned to stay in the community of Talkeetna. Twenty-one percent did not respond or were uncertain where they would live after completion of the project.

The intention to remain in the communities of Cantwell, Healy, or Talkeetna was higher among movers than among commuters. However, the vast majority of non-local workers indicated other areas such as Anchorage, Fairbanks, and the other 49 states as their intended future residence.

The survey also showed that 36 percent of the total workers who responded to this question indicated they would choose Talkeetna as their future residence. Of this 36 percent, none were union members (Table 2-19).

In addition, the survey revealed that 41 percent of the workers with dependents reported Talkeetna, Cantwell, or Healy as their intended future residence. Furthermore, 78 percent of the workers accompanied by dependents in the local communities (Talkeetna, Cantwell, and Healy) responded that they intended to stay in the local communities after the Intertie project was completed.

TABLE 2-17

INTERTIE SURVEY
HOME^{1/} DURING THE WORK WEEK BY HOUSING PROVIDED

Home During the Work Week	HOUSING PROVIDED					
	NO			YES		
	Number	Percent by Housing Provided	Percent of Total Workers	Number	Percent by Housing Provided	Percent of Total Workers
Talkeetna ^{2/}	55	73	49	11	30	10
Cantwell/Healy	13	17	11	22	59	19
Fairbanks	4	5	3	3	8	3
Other Alaska	3	4	3	1	3	1
TOTAL	75	99 ^{3/}	66	37	100	33

No Response = 6

^{1/}Town where worker resides during the work week.

^{2/}Talkeetna includes: Willow, Trapper Creek, and Montana Creek.

^{3/}Total does not equal 100% due to rounding.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-18

INTERTIE SURVEY
TYPE OF HOUSING BY DEPENDENTS

Type of Housing	DEPENDENTS					
	NO			YES		
	Number	Percent by Type of Housing	Percent of Respondents	Number	Percent by Type of Housing	Percent of Respondent
Mobile Home and Travel Trailer	13	24	11	15	25	13
Apartment	4	7	3	11	18	10
Single Family Dwelling Unit	20	37	17	25	41	22
Work Camp	3	6	3	1	2	1
Hotel/Motel/Lodge	6	11	5	6	10	5
Other (includes tent)	8	15	7	3	5	3
TOTAL	54	100	46	61	101 ^{1/}	54

^{1/}Total does not equal 100% due to rounding.

No Response = 4

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE 2-19

INTERVIEW SURVEY
UNION STATUS BY FUTURE RESIDENCE

Union Status	No.	Talkeetna ^{1/}		No.	Cantwell/Healy		No.	Anchorage		No.	Fairbanks		No.	Other Alaska		No.	Other 49 States	
		Per- cent by Status	Per- cent by Resp.		Per- cent by Status	Per- cent by Resp.		Per- cent by Status	Per- cent by Resp.		Per- cent by Status	Per- cent by Resp.		Per- cent by Status	Per- cent by Resp.		Per- cent by Status	Per- cent by Resp..
Nonmembers	36	100	36	1	12	1	14	93	14	3	27	3	16	80	16	8	89	8
Members	0	0	0	7	88	7	1	7	1	8	73	8	4	20	4	1	11	1
TOTAL	36	100	36	8	100	8	15	100	15	11	100	11	20	100	20	9	100	9

No Response or Undecided = 20

Note: Resp. = Respondent

^{1/}Talkeetna includes: Willow, Trapper Creek, and Montana Creek.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

3.0 TERROR LAKE SURVEY

3.1 INTRODUCTION

A survey of workers employed in the construction of the Terror Lake Project was conducted in the spring of 1984. The purpose of the survey was to provide information on the characteristics of people working on the Terror Lake project, located on Kodiak Island, 25 miles southwest of the community of Kodiak. Workers were asked questions about their prior, present, and future residence; occupation; union status; type of housing; age; number, residence, and employment status of dependents; and recreational activities.

This survey was conducted late in the construction process, past the peak work force phase of 300 employees. At the time of the survey, construction trade workers comprised the largest component of the 77 person work force. It should be noted that the composition of the work force probably varied over the course of construction.

Information gained from this survey will be compared to the assumptions on work force characteristics and relocation patterns that are applied in the model used to project socioeconomic impacts of the Susitna Hydroelectric Project.

3.2 BACKGROUND

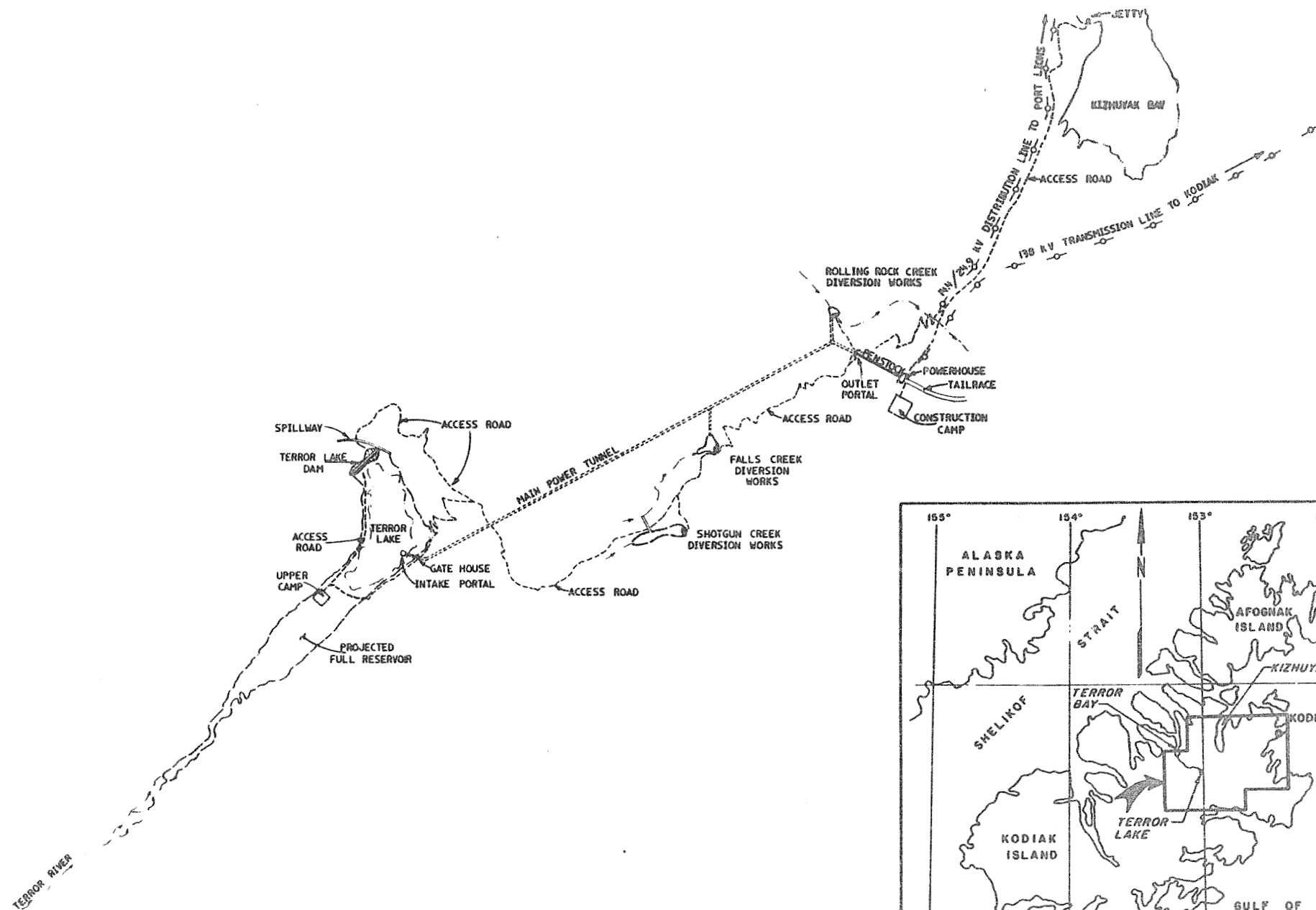
The Power Authority constructed the \$190 million project, which is maintained and operated by Kodiak Electric Association. A map of the Terror Lake

Project area is displayed in Figure 3-1. There were three general contractors on the Terror Lake project: Boatel Alaska, Ebasco Services, and Peter Kiewit.

3.3 KEY FINDINGS

The profile of respondents indicates the following (see Appendix B for frequency tables):

1. Ninety-six percent were male, four percent were female.
2. The largest categories of workers were: construction trades (29 percent); supervisors (23 percent); laborers (16 percent); and engineering and surveying personnel (13 percent).
3. Approximately 64 percent of the workers indicated they held union jobs. In addition, 86 percent of the locally hired work force were union members. The non-local hire also had a majority of workers belonging to the union (61 percent union and 39 percent non-union).
4. The average age was 40 years.
5. Thirty-nine percent had worked on the Terror Lake project for at least 17 months.
6. Forty-three percent worked six 10-hour days per week.
7. During the work week, 92 percent lived at the work camp near the construction site at Terror Lake. The remaining 8 percent lived in Kodiak during the work week.
8. Ninety percent were non-locals (i.e., stated that they had not lived in the Kodiak area prior to obtaining a job on Terror Lake) and 10 percent were locals.



TERROR LAKE HYDROELECTRIC PROJECT
PROJECT FEATURES

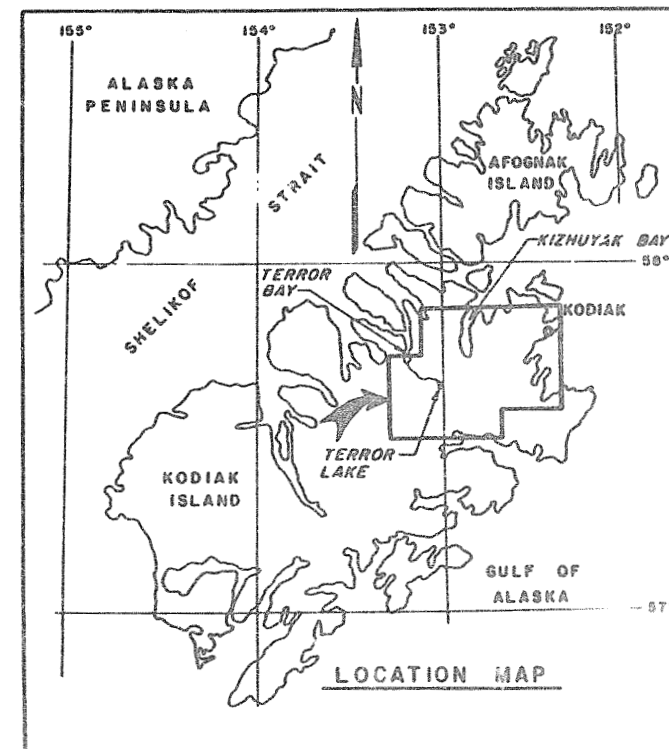


FIGURE 3-1

9. Thirty percent of the workers with dependents listed the local community of Kodiak as their dependents' current residence.
10. There were approximately 3.0 dependents per accompanied non-local worker. Also, there were approximately 1.7 school-age children per accompanied non-local worker.
11. Forty percent of the workers indicated they would choose the Anchorage/Kenai area as their future residence.
12. It appears that the majority of workers did not fish or hunt in Alaska in 1983-84.
13. The majority of workers did not engage in the other types of recreational activities identified in this survey. For example, in 1983-84, 46 percent reported sightseeing, 30 percent reported recreational boating, 23 percent reported hiking, 13 percent reported camping and winter sports, and 12 percent reported taking tourist trips.

3.4 STUDY RESULTS

3.4.1 Local and Alaska Employment

Overall, 60 percent of the workers in the survey were residents of Alaska^{1/} prior to beginning work on the project. Forty percent of the workers on Terror Lake were not residents of Alaska; of this 40 percent, 22 percent came from the state of Washington.

As shown in Table 3-1, only 10 percent of the workers hired were local residents (residents of the communities near the Terror Lake project or within daily commuting distance).

The low percentage of local hiring on Terror Lake relative to other large construction projects is not surprising. The project is located on the

TABLE 3-1
TERROR LAKE SURVEY
PREVIOUS RESIDENCE

Location	Number	Percent of Respondents
Kodiak area	7	10
Anchorage/Kenai area	26	39
Other Alaska	7	10
Washington State	15	22
Other (U.S. or non-U.S. sites)	12	18
TOTAL	67	99

No response = 3

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03,"
Jan. 1985.

island of Kodiak, which is a remote area where only 13,000 people reside, mostly near the town of Kodiak. Home for Alaska's largest fishing fleet, it also contains a 2,780 square mile National Wildlife Refuge and a U.S. Coast Guard Support Center. Therefore, most of Kodiak's relatively small work force were already employed and local construction workers were seldom available for the Terror Lake Project.

In addition, of the seven workers hired from Kodiak (local area), six (86 percent) were union members and only one was non-union (Table 3-2). Local workers were employed in only three of the eight occupational categories listed in Table 3-3. These three included engineer, laborer, and construction trades. Table 3-3 also illustrates that 55 percent of the workers from non-Alaskan areas were supervisors and 18 percent of the workers from non-Alaskan areas were engineers.

3.4.2 Women in the Work Force

Three of the seventy respondents were women. The female respondents were represented in the occupational categories of engineer, secretary, and other (Table 3-4).

3.4.3 Union Status

Overall, union employees accounted for 64 percent (44) of the survey respondents. Differences in union status by various occupations are presented in Table 3-5. All 19 of the workers in the occupational categories of laborer, mechanic, and food service personnel were union members. In contrast, the majority (19 of 30) of engineers and supervisors were not union members.

^{1/} For purposes of this report, the term "Alaska resident" refers to an individual statement that they had lived in Alaska prior to beginning work on the project.

TABLE 3-2

TERROR LAKE SURVEY
PREVIOUS RESIDENCE BY UNION STATUS

Previous Residence	UNION STATUS					
	NONMEMBER			MEMBER		
	Number	Percent by Resid.	Percent of Respond.	Number	Percent by Resid.	Percent of Respond.
Kodiak	1	4	1	6	14	9
Anchorage/Kenai	2	8	3	5	12	8
Other Alaska	2	8	3	24	57	36
Non-Alaskan	19	79	29	7	17	11
TOTAL	24	99 ^{1/}	36	42	100	64

^{1/}Total does not equal 100% due to rounding.

No response = 4

Note: Resid. = Residence
Respond. = Respondents

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE 3-3

TERROR LAKE SURVEY
PREVIOUS RESIDENCE BY OCCUPATION

Occupation	Kodiak Area			Anchorage/Kenai			Other Alaska			Non-Alaskan Area		
	Number	Percent by Occup.	Percent of Respondents	Number	Percent by Occup.	Percent of Respondents	Number	Percent by Occup.	Percent of Respondents	Number	Percent by Occup.	Percent of Respondents
Engineer	1	14	1	1	4	1	1	14	1	5	18	7
Laborer	3	43	4	5	19	7	1	14	1	1	4	1
Construction Trades ^{1/}	3	43	4	12	46	18	1	14	1	3	11	4
Mechanic	0	0	0	2	8	3	0	0	0	1	4	1
Food Service	0	0	0	4	15	6	0	0	0	2	4	1
Secretarial	0	0	0	1	4	1	0	0	0	0	0	0
Supervisor	0	0	0	0	0	0	1	14	1	15	55	22
All Others	0	0	0	1	4	1	3	43	4	1	4	1
TOTAL	7	100	9	26	100	37	7	99 ^{2/}	8	28	100	37

No Response = 3

Note: Occup. = Occupation

^{1/}Construction trade workers include: pipefitters, truck drivers, and inspectors.

^{2/}Total does not equal 100% due to rounding.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

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TABLE 3-4

TERROR LAKE SURVEY
OCCUPATION BY GENDER

Occupation	UNION STATUS					
	MALE			FEMALE		
	Number	Percent by Occup.	Percent of Respond.	Number	Percent by Occup.	Percent of Respond.
Engineer	8	12	11	1	33	1
Laborer	11	16	16	0	0	0
Construction Trades ^{1/}	20	30	29	0	0	0
Mechanic	3	5	4	0	0	0
Food Service	5	8	7	0	0	0
Secretarial	0	0	0	1	33	1
Supervisor	16	24	23	0	0	0
All Others	4	6	6	1	33	1
TOTAL	67	101 ^{2/}	96	3	99 ^{2/}	3

Note: Resp. = Respondents
Occup. = Occupation

^{1/}Construction trade workers include: pipefitters, truck drivers,
and inspectors.

^{2/}Total does not equal 100% due to rounding.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE 3-4

TERROR LAKE SURVEY
OCCUPATION BY GENDER

Occupation	UNION STATUS					
	MALE			FEMALE		
	Number	Percent by Occup.	Percent of Respond.	Number	Percent by Occup.	Percent of Respond.
Engineer	8	12	11	1	33	1
Laborer	11	16	16	0	0	0
Construction Trades ^{1/}	20	30	29	0	0	0
Mechanic	3	5	4	0	0	0
Food Service	5	8	7	0	0	0
Secretarial	0	0	0	1	33	1
Supervisor	16	24	23	0	0	0
All Others	4	6	6	1	33	1
TOTAL	67	101 ^{2/}	96	3	99 ^{2/}	3

Note: Resp. = Respondents
Occup. = Occupation

^{1/}Construction trade workers include: pipefitters, truck drivers,
and inspectors.

^{2/}Total does not equal 100% due to rounding.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE 3-5
TERROR LAKE SURVEY
OCCUPATION BY UNION STATUS

Occupation	UNION STATUS					
	NONMEMBER			MEMBER		
	Number	Percent by Occup.	Percent of Respond.	Number	Percent by Occup.	Percent of Respond.
Engineer	7	28	10	2	4	3
Laborer	0	0	0	11	25	16
Construction Trades ^{1/}	2	8	3	18	41	26
Mechanic	0	0	0	3	7	4
Food Service	0	0	0	5	11	7
Secretarial	1	4	1	0	0	0
Supervisor	12	48	17	3	7	4
All Others	3	12	4	2	4	3
TOTAL	25	100	35	44	99 ^{2/}	63

No response = 1

Note: Resp. = Response

^{1/}Construction trade workers include: pipefitters, truck drivers, and inspectors.

^{2/}Total does not equal 100% due to rounding.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

Differences in work schedules by union status are displayed in Table 3-6. Seventy-seven percent of the respondents working six 10-hour days per week were unionized. In contrast, of the 10 respondents working eight weeks on/two weeks off, 80 percent were non-union.

3.4.4. Worker In-Migration

During the work week, all but two of the respondents on the Terror Lake Project lived at the construction site camp (Terror Lake barracks).

Overall, workers can be divided into two groups, locals and non-locals, depending upon their relationship to the local communities. Non-locals can be further delineated into movers and weekly commuters, as defined below:

Locals - Individuals from the local work force who lived on Kodiak Island prior to gaining employment on Terror Lake. These workers did not change their place of residence due to their employment on the project and can also be considered non-movers.

Non-locals -

1. Movers: Individuals from outside the local area who moved their weekend residence after obtaining this job. In most cases, these workers moved their weekend residence to the Kodiak area.
2. Weekly Commuters: Individuals whose previous residence was within weekend commuting distance from the staging site. These workers lived on Kodiak Island during the work week, but commuted to their previous residence during their time off.

Overall, 12 percent of the respondents (7 workers) were locals, and 88 percent (51 workers) were non-locals. Of the non-locals, 90 percent (46 workers) were weekly commuters and 10 percent (5 workers) were movers.

TABLE 3-6

TERROR LAKE SURVEY
WORK SCHEDULE BY UNION STATUS

Union Status	WORK SCHEDULE								
	SIX TEN-HOUR DAYS			EIGHT WEEKS ON/TWO WEEKS OFF			OTHER SCHEDULES ^{1/}		
	Number	Percent by Union Status	Percent of Respond.	Number	Percent by Union Status	Percent of Respond.	Number	Percent by Union Status	Percent of Respond.
Nonmember	7	23	10	8	80	12	10	35	14
Member	23	77	33	2	20	3	19	65	28
TOTAL	30	100	43	10	100	15	29	100	42

No response = 1

Note: Resp. = Respondents

^{1/} Other Schedules include: combinations of six 10-hour/days and 8 weeks on/2 weeks off; 10 weeks on/2 weeks off; 6 weeks on/2 weeks off; 7 days a week; and continuous.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

Using these data and the information on response rates (see Section 1.2.2), the total in-migration (including survey respondents and workers that did not respond) into the island of Kodiak can be estimated. If the survey results are representative of the overall work force, approximately 6 workers were movers while 50 workers commuted weekly to the community. This information is summarized below (Table 3-7).

3.4.5 Dependents Accompanying Non-Local Workers

As previously indicated, 88 percent of the responding workers were non-locals (i.e., stated that they had not lived in the community of Kodiak or on the island prior to obtaining a job on the Terror Lake Project). Workers were also questioned about their dependents in order to obtain additional information on the population influx into the community of Kodiak and the surrounding area of the island. The responses are tabulated in Table 3-8.

Dependents could include spouses, children, or other individuals who lived with the worker or that were otherwise dependent on the worker. However, in this survey it was found that many respondents did not list a spouse as a dependent; instead, they listed only their children as dependents.

As indicated by the tabulations above, 53 percent of the in-migrant workers that were surveyed answered that they had dependents. Of this 53 percent (27 non-local workers), only 6 percent (3 workers) were accompanied by dependents.

The survey showed an average of 0.18 dependents per non-local worker present in the community of Kodiak, or 3.0 dependents per accompanied non-local worker (mover) present in Kodiak. None of the weekly commuters (i.e., those individuals who lived at the campsite or in the community of Kodiak during the work week and commuted to their previous residence during their time off) were accompanied by their dependents. Approximately five school-age children accompanied the three non-local workers with dependents present. This was an average of 1.7 school-age children per accompanied non-local worker.

TABLE 3-7

TERROR LAKE SURVEY
WORKER IN-MIGRATION

	TERROR LAKE WORK FORCE	
	Survey Respondents	Estimated Total
Movers into Kodiak	5	6
Weekly Commuters	46	50
TOTAL Non-Local Workers	51	56

Source: Harza-Ebasco Computer Run, SAS Program "Survey 01," Jan. 1985.

TABLE 3-8

TERROR LAKE SURVEY
DEPENDENTS ACCOMPANYING NON-LOCAL WORKERS

	Number	Percent of Total Non-Local Workers	Percent of Total Respondents
Non-Local Workers	51	100	88
Non-Local Workers w/Dependents	27	53	47
Non-Local Workers w/Dependents Present	3	6	5

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

The tabulation on the following page (Table 3-9) shows the population in-migration for the survey respondents and the estimated in-migration associated with the total work force.

Table 3-10 presents a breakdown of the communities where the responding worker's dependents resided at the time of the survey. Thirty percent of the responding workers replied that Kodiak was their dependents' current residence, 38 percent noted the Anchorage/Kenai area, and 32 percent noted non-Alaska as their dependents' current residence.

Only one of the nine dependents that in-migrated into the local community of Kodiak was employed.

3.4.6 Housing

Because the project site is situated in a remote, narrow mountain valley about 25 miles southwest of the city of Kodiak, an overwhelming majority (92 percent) of the respondents reported living in a work camp near the project site. Portable housing other than barracks was also located at the project site. Three workers indicated living in single family dwelling units, one worker indicated living in a mobile home, one worker indicated an apartment and one worker indicated "other" as the type of housing.

3.4.7 Plans to Remain in Community

Only one non-local worker (2 percent of all non-local workers) who responded to this question planned to remain in the community of Kodiak after completion of the project. Forty-six percent of the non-local workers who responded to this question indicated the Anchorage/Kenai area as their intended future residence, 40 percent indicated a non-Alaskan place as their intended future residence, and 12 percent indicated other parts of Alaska as their intended future residence. The low percentage of non-locals choosing Kodiak as their future residence is not surprising since few of the

TABLE 3-9

TERROR LAKE SURVEY
ESTIMATED IN-MIGRATION

	WORK FORCE	
	Survey Respondents	Estimated Total
Total Non-Local Workers	51	56
Total Accompanied Non-Local Workers	3	3
Accompanied Movers	3	3
Accompanied Weekly Commuters	0	0
Total In-Migrating ^{1/} Dependents	9	10
In-Migrating ^{1/} School-age children	5	5

^{1/}In-migrating includes only those dependents that maintain a current residence in Kodiak.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE 3-10

TERROR LAKE SURVEY
DEPENDENTS BY DEPENDENTS' CURRENT RESIDENCE

Location	Number	Percent
Kodiak	11	30
Anchorage/Kenai	14	38
Non-Alaskan	12	32
TOTAL	37	100

No response or no dependents = 33

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

non-local workers brought their dependents with them to Kodiak. Nineteen percent indicated they were uncertain where they would live after the project is completed.

In addition, all three of the non-local workers whose dependents lived in Kodiak reported Kodiak as their intended future residence. The overwhelming majority of responding workers, whether their dependents were present in Kodiak or not, reported Anchorage/Kenai, other places in Alaska, or non-Alaskan places as their intended future residence and not the community of Kodiak.

3.4.8 Recreational and Resource Use

Fishing Activity

Overall, fifteen percent of the respondents reported they had fished for king salmon during 1983-84; 26 percent fished for other types of salmon, 17 percent for trout and grayling, and 43 percent for salt-water fish (Table 3-11). In addition, 15 percent of the respondents reported they had fished 3 to 10 times within 10 miles of the project site since May 1983; 13 percent reported fishing 11 to 25 times within 10 miles of the project site, and 8 percent reported fishing more than 25 times (Table 3-12).

Hunting Activity

As shown in Table 3-11 there was even less hunting than fishing reported by the respondents of this survey. Overall, only four percent of the respondents reported hunting deer and four percent reported hunting moose. None of the 70 respondents reported hunting caribou, brown bear, other big game, or game birds; nor did any of the respondents report having trapped furbearers during 1983-84. In addition, only 3 percent of the respondents reported they had hunted 3 to 10 times within 10 miles of the project site since May 1983 (Table 3-12).

TABLE 3-11

TERROR LAKE SURVEY
HUNTING, FISHING, AND TRAPPING IN ALASKA DURING 1983-84

Type of Animal	NON-PARTICIPANTS		PARTICIPANTS	
	Number	Percent of Respondents	Number	Percent of Respondents
Deer	66	96	3	4
Moose	66	96	3	4
Caribou	69	100	0	0
Brown Bear	69	100	0	0
Other Big Game	69	100	0	0
Furbearers	69	100	0	0
Game Birds	69	100	0	0
King Salmon	57	85	10	15
Other Salmon	51	74	18	26
Trout/Grayling	57	83	12	17
Saltwater Fish	39	57	30	43

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE 3-12

TERROR LAKE SURVEY
PARTICIPATION IN RECREATIONAL ACTIVITIES WITHIN 10 MILES
OF THE PROJECT SITE BETWEEN MAY 1983 AND SURVEY

Type of Activity	FREQUENCY OF ACTIVITIES									
	None		1 or 2		3 to 10		11 to 25		More than 25 times	
	No.	Percent of Respond.	No.	Percent of Respond.	No.	Percent of Respond.	No.	Percent of Respond.	No.	Percent of Respond.
Hunting	60	97	0	0	2	3	0	0	0	0
Fishing	35	57	5	8	9	15	8	13	5	8
Boating	37	60	6	10	9	15	6	10	4	7
Hiking	44	71	1	2	8	13	6	10	3	5
Camping	58	94	3	5	0	0	0	0	1	2
Winter Sports	55	89	2	3	4	7	0	0	1	2

Note:

No Response = 8

No. = Number

Respond. = Respondents

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985,.

Recreational Activity

Respondents of the survey were asked if they had participated in the following recreational activities during 1983-84: sightseeing, tourist trips, hiking, camping, recreational boating, and winter sports. Forty-six percent of the respondents reported sightseeing during 1983-84; 30 percent reported recreational boating, 23 percent reported hiking, 13 percent reported camping and winter sports, respectively, and 12 percent reported taking tourist trips (Table 3-13).

The recreational activities listed in Table 3-13 are more popular with responding workers than are hunting or fishing. Sightseeing, recreational boating, and hiking appear to be the favorite types of recreational activities. But, overall, Table 3-13 does not show a majority of the responding workers participating in any of the listed recreational activities in 1983-84.

Table 3-12 summarizes participation of responding workers in recreational activities within 10 miles of the project site. Small percentages of responding workers participated in fishing, boating, and hiking activities within 10 miles of the project site. A majority of workers responded that they had not participated in any of the recreational activities since May 1983.

It is possible that with the type of work schedules construction workers maintained on this project, the majority of workers had insufficient leisure time to participate in recreational activities near the project site. Surprisingly, hunting and fishing in other parts of Alaska are no more frequent than hunting and fishing within 10 miles of the project site.

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TABLE 3-13

TERROR LAKE SURVEY
RECREATIONAL ACTIVITIES DURING 1983-84

Type of Activity	NON-PARTICIPANTS		PARTICIPANTS	
	Number	Percent of Respondents	Number	Percent of Respondents
Sightseeing	37	54	32	46
Tourist Trips	61	88	8	12
Hiking	53	77	16	23
Camping	60	87	9	13
Recreational Boating	48	70	21	30
Winter Sports	60	87	9	13

No response = 1

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03,"
Jan. 1985.

4.0 COMPARISONS

4.1 Comparisons

Table 4-1 contains a comparison of data from the 1983 and 1984 Intertie surveys, the 1984 Terror Lake survey, and the assumptions used in the Susitna socioeconomic model that were related to construction worker characteristics.

4.1.1 Percent Locals

The socioeconomic model assumes that six percent of the work force will be comprised of locals (residents of the local impact area or within daily commuting distance). Each of the surveys (1983 and 1984 Intertie surveys and Terror Lake survey) showed a greater percentage of locals constituting the project work force. The Terror Lake survey data were closer to the Susitna model in terms of percentage of locals in the project work force (10 percent and 6 percent, respectively), than were the 1983 or 1984 Intertie surveys. It seems reasonable that a low percentage of locals were employed on the Terror Lake project, since it was constructed on the remote island of Kodiak, where a large portion of the local people are currently, and have been for years, employed in commercial fishing.

4.1.2 Percent of Alaska Residents

The socioeconomic model assumption and data from the 1983 and 1984 Intertie surveys were fairly close in estimating the percentage of Alaskan residents that comprised the project work force (86 percent, 77 percent, and 83 percent, respectively). The Terror Lake survey data showed a lower percentage, with only 60 percent of the project's work force comprised of Alaskan residents.

TABLE 4-1

COMPARISON OF SELECTED SURVEY RESULTS WITH ASSUMPTIONS USED
IN THE SUSITNA SOCIOECONOMIC MODEL

Category	Susitna Model Assumptions ^{1/}	1983 Intertie Survey Data	1984 Intertie Survey Data	1984 Terror Lake Survey Data
Percent Locals	6	20	40	10
Percent Alaska Residents	86	77	83	60
Origin of Work Force				
Railbelt	81	68	77	49 ^{4/}
Other Alaska	5	9	6	12 ^{4/}
Out-of-State	14	23	17	39 ^{4/}
Percent of Non-Local Workers that are Movers	33	53	30	10
Percent of Movers that are Accompanied by Dependents	90	27	27	56
Number of Dependents per Accompanied Worker	2.51	2.25	2.44	2.21
Number of School Children per Accompanied Worker	1.003	1.3	1.08	1.16
Percent of Movers that Plan to Remain in the Local Community	74	20 ^{2/}	16 ^{3/}	20

^{1/}From the Susitna Hydroelectric Project Socioeconomic Impact model (December 1983 Update, Car Transportation)

^{2/}In the 1983 Intertie Survey, respondents answered that they were planning to stay, not planning to stay, or uncertain. For purposes of this table, it was assumed that approximately 50 percent of those answering "uncertain" would remain.

^{3/}In the 1984 Intertie Survey, respondents were asked where they planned to live after the project was completed. For purposes of this table, it was assumed that anyone responding "Talkeetna, Cantwell," or nearby areas within daily commuting distance (Healy or Willow) planned to remain in the community.

^{4/}See Appendix Table B-6 for Previous Residence without the locations presented in collapsed (grouped) form.

Sources: Harza-Ebasco Computer Run, SAS Program "Survey 06" and "Survey 03", Jan. 1985.

4.1.3 Origin of Work Force

The socioeconomic model assumptions were closer to the data from the 1983 and 1984 Intertie survey than the Terror Lake survey. Reasons for the difference in origin of work force on the Terror Lake project can be surmised because the Terror Lake project was constructed on a remote island, whereas the Intertie project was constructed on the mainland, as will the Susitna Project. Twenty-two percent of the Terror Lake work force were previously from Washington State. The location of the contractor's home office in Washington probably accounts for the large percentage of Washington workers in the Terror Lake work force.

4.1.4 Percent of Non-Local Workers that Are Movers

The socioeconomic model assumes that approximately 33 percent of the non-local work force would be movers. This is similar to the data obtained from the 1984 Intertie survey, in which 30 percent of the non-local work force were movers. It can be presumed that the low percentage (10%) of non-locals that are movers on the Terror Lake project can be attributed to remote location of the project and the fact that the nearby local communities are very small (all under 1,000 people).

4.1.5 Percent of Movers Accompanied by Dependents

The most striking difference between the Susitna socioeconomic model assumptions and the other three surveys is that the model assumed that 90 percent of the movers would be accompanied by dependents. The 1983 and 1984 Intertie survey results pointed out that only 27 percent of the movers on the Intertie project were accompanied by dependents. The Terror Lake survey results showed that only 56 percent of the movers brought their dependents with them. The Intertie and Terror Lake projects were of much shorter duration, however, than the Susitna Project's 17-year construction schedule. The duration of Susitna construction is likely to result in more workers being accompanied by their dependents.

4.1.6 Number of Dependents per Accompanied Worker and Number of School Children per Accompanied Worker

The Susitna socioeconomic model assumptions and the results from the other three surveys appeared very similar on the number of dependents and number of school children that accompany the construction worker.

4.1.7 Percent of Movers that Plan to Remain in Local Community

The Susitna socioeconomic model assumes 74 percent of the movers will remain in the local community after completion of the Project. The results from the surveys are considerably lower than the 74 percent assumed in the Susitna model. The extended construction period of the Susitna Project makes it reasonable, however, to assume that a higher percentage of workers may choose to remain in the local area.

4.1.8 Summary

There are several possible reasons for the differences between the Susitna socioeconomic model projections and the 1983 and 1984 Intertie surveys and Terror Lake survey. First, the 1983 and 1984 Intertie work force had few union positions, while the majority of workers on the Terror Lake project were unionized, and thus origin of the work force was different between the 3 surveys and the Susitna model projections. (The Susitna model assumed a unionized work force.) In addition, the Terror Lake Project was constructed in a remote geographic location relative to the Intertie Project and the proposed Susitna Project. Also, the small number of people in each work force surveyed causes some uncertainty as to whether the survey results are representative of the overall work force. Finally, there is a significant difference in the length and type of the various construction projects. The two-year construction period and relatively small size of the Intertie and Terror Lake projects would be expected to attract different workers with different characteristics than the Susitna Project, which will have a larger workforce and be built over a 17-year period.

4.2 COMPARISON OF KEY FINDINGS FROM THE 1983 AND 1984 INTERTIE SURVEYS AND THE TERROR LAKE SURVEY

Key findings from the surveys indicate that the gender of the work force was similar in all three surveys, with a large majority of male project workers. The largest occupational categories of workers were very similar in all three surveys, with the largest two categories in all three surveys being construction trades and managers/supervisors. The use of union labor did differ between projects. Survey results revealed that 64 percent of the responding Terror Lake project workers held union jobs, while only 36 and 19 percent of the responding 1983 and 1984 Intertie project workers indicated they held union jobs, respectively. Some of the differences among the three surveys, which are highlighted in the key findings sections, may be associated with the difference in work force management techniques (using union labor versus non-union labor). For example, 97 percent of the respondents on the Terror Lake project reported living at the company provided work camp during the work week, while only 34 percent of respondents from the 1984 Intertie survey reported that their housing was provided by their employer.

APPENDICES

APPENDIX A

Intertie Survey Additional Tables

TABLE A-1
INTERTIE SURVEY
UNION STATUS

	Number	Percent of Respondents
Member	22	19
Non-Member	96	81
TOTAL	118	100

No Response = 1

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE A-2

INTERTIE SURVEY
RESPONDENT GENDER

	Number	Percent of Respondents
Male	110	93
Female	8	7
TOTAL	118	100

No Response = 1

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE A-3
INTERVIEW SURVEY
WORKER OCCUPATIONS

Occupation	Number	Percent of Respondents
Engineer, Surveyor, or Staker	10	8
Laborer	18	15
Construction Trades ^{1/}	35	30
Mechanics	3	3
Clerical and Secretaries	4	3
Managers and Foremen	18	15
Quality Assurance Personnel	11	9
All Other	19	16
TOTAL	118	

No Response = 1

^{1/}Construction trades includes: pipefitters, truck drivers, inspectors, linemen, drillers, piledrivers, operators, and carpenters.

^{2/}Total does not equal 100% due to rounding.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE A-4
INTERTIE SURVEY
RESPONDENT AGE

Age (Years)	Number	Percent of Respondents
<20	3	2
20-29	42	36
30-39	49	41
40-49	13	11
50-59	9	8
60 and greater	2	2
TOTAL	118	100

No Response = 1

Average age of respondent = 33 years.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

APPENDIX TABLE A-5

INTERVIEW SURVEY
HOUSING PROVIDED BY EMPLOYER

	Number	Percent of Respondents
Provided by Employer	40	35
Not Provided by Employer	76	65
TOTAL	116	100

No Response = 3

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE A-6
 INTERTIE SURVEY
 WORKED ON INTERTIE IN 1983

	Number	Percent of Respondents
Yes	60	51
No	58	49
TOTAL	118	100

No Response = 1

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE A-7

INTERTIE SURVEY
WHERE WORKERS LIVED ON WEEKENDS
AND OTHER TIME OFF (USUAL RESIDENCE)

Location	Number	Percent of Respondents
Cantwell/Healy	22	19
Talkeetna ^{1/}	57	50
Anchorage	8	7
Fairbanks	14	12
Other Alaska	13	11
Other 49 States	1	1
TOTAL	115	100

No Response = 4

^{1/}Talkeetna includes Willow, Trapper Creek, and Montana Creek.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE A-8
INTERTIE SURVEY
WORKERS WITH DEPENDENTS

	Number	Percent of Respondents
Yes	61	53
No	55	47
TOTAL	116	100

No Response = 3

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE A-9
INTERTIE SURVEY
NUMBER OF DEPENDENTS

Number of Dependents	Number of Workers	Percent of All Workers
0	58	49
1	16	13
2	15	13
3	20	17
4	7	6
5	3	2
<hr/>		
TOTAL	119	100
All Workers	119	
Workers with Dependents	61	
Average Dependents per Worker with Dependents		2.4
Standard Deviation		1.1
Average Dependents per Worker		1.3

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE A-10
 INTERTIE SURVEY
 DEPENDENTS' PRIOR RESIDENCE

Location	Number	Percent of Respondents
Cantwell/Healy	6	10
Talkeetna ^{1/}	12	19
Anchorage	7	11
Fairbanks	7	11
Other Alaska	9	15
Other 49 States	21	34
TOTAL	62	100

No Response = 57

^{1/}Talkeetna includes Willow, Trapper Creek, and Montana Creek.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE A-11

INTERTIE SURVEY
DEPENDENTS' CURRENT RESIDENCE

Location	Number	Percent of Respondents
Cantwell/Healy	7	12
Talkeetna ^{1/}	24	40
Anchorage	5	8
Fairbanks	6	10
Other Alaska	4	7
Other 49 States	14	23
TOTAL	60	100

No Response = 59

^{1/}Talkeetna includes Willow, Trapper Creek, and Montana Creek.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

TABLE A-12

INTERTIE SURVEY
WORKERS' FUTURE RESIDENCE

Location	Number	Percent of Respondents
Cantwell/Healy	36	36
Talkeetna ^{1/}	8	8
Anchorage	15	15
Fairbanks	11	11
Other Alaska	20	20
Other 49 States	9	9
TO TAL	99	99 ^{2/}

No Response = 20

^{1/}Talkeetna includes Willow, Trapper Creek, and Montana Creek.

^{2/}Total does not equal 100% due to rounding.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 06," Jan. 1985.

APPENDIX B

Terror Lake Survey
Additional Tables

TABLE B-1

TERROR LAKE SURVEY
WORKER OCCUPATIONS

Occupation	Number	Percent of Respondents
Engineer, Surveyor or Staker	9	13
Clerical & Secretaries	1	1
Managers & Foremen	16	23
Construction Trades ^{1/}	20	29
Mechanics	3	4
Food Service	5	7
Laborer	11	16
All Other	5	7
TOTAL	70	100

^{1/}Construction trade workers include: pipefitters, truck drivers, and inspectors.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE B-2
TERROR LAKE SURVEY
TYPE OF HOUSING

Type	Number	Percent of Respondents
Mobile Home	1	1
Apartment	1	1
Single-family Dwelling Unit	3	4
Work Camp (Barracks)	64	92
Other	1	1
TOTAL	70	99 ¹ / ₁

¹/Total does not equal 100% due to rounding.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE B-3
TERROR LAKE SURVEY
HOUSING PROVIDED BY EMPLOYER

Housing Provided	Number	Percent of Respondents
Provided by Employer	65	94
Not Provided by Employer	4	6
TOTAL	69	100

No response = 1

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE B-4
TERROR LAKE SURVEY
WORK SCHEDULE

Work Schedule	Number	Percent of Respondents
Six 10-hour days per week	30	43
Eight weeks on/2 weeks off	10	14
Other	30	43
TOTAL	70	100

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE B-5

TERROR LAKE SURVEY
TOTAL MONTHS WORKED ON TERROR LAKE IN 1983 AND 1984

Months Worked	Number	Percent of Respondents
<u>1983</u>		
1. Month	2	3
2 Months	7	10
3 Months	2	3
4 Months	4	6
5 Months	1	1
6 Months	2	3
7 Months	1	1
8 Months	1	1
9 Months	1	1
10 Months	1	1
11 Months	5	7
12 Months	3	4
1983 Subtotal	30	41
<u>1984</u>		
13 Months	5	7
14 Months	4	6
15 Months	1	1
16 Months	3	4
17 Months	27	40
1984 Subtotal	40	58
TOTAL	70	99 ¹ / ₁

¹/Total does not equal 100% due to rounding.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE B-6

TERROR LAKE SURVEY
PREVIOUS RESIDENCE^{1/}

Location	Number	Percent of Respondents
Kodiak area	7	10
Railbelt		
Mat-Su	2	3
Anchorage	21	31
Kenai area	5	8
Other Alaska	5	8
Washington State	15	22
Oregon	1	1
Other 48 States	8	12
Non-U.S.A. site	3	5
TOTAL	67	100

No Response = 3

^{1/}Without collapsing location.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03,"
Jan. 1985.

TABLE B-7

TERROR LAKE SURVEY
WHERE WORKERS LIVED ON LEAVE TIME
OR OTHER TIME OFF WORK
(Usual Residence)

Usual Residence	Number	Percent of Respondents
Kodiak area	18	26
Anchorage/Kenai area	26	38
Other Alaska	4	6
Washington State	11	16
Other (U.S. and non-U.S. sites)	5	7
Unspecified/Unsure	5	7
TOTAL	69	100

No Response = 1

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03,"
Jan. 1985.

TABLE B-8
TERROR LAKE SURVEY
WORKERS' FUTURE RESIDENCE

Location	Number	Percent of Respondents
Kodiak area	7	10
Anchorage/Kenai area	27	40
Other Alaska	6	9
Washington State	3	4
Other (U.S. and non-U.S. sites)	5	7
Unspecified/Unsure	20	29
TOTAL	68	99 ¹ / ₁

No Response = 2

¹/Total does not equal 100% due to rounding.

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03,"
Jan. 1985.

TABLE B-9

TERROR LAKE SURVEY
WORKERS WITH DEPENDENTS

	Number	Percent of Respondents
Yes	39	56
No	31	44
TOTAL	70	100

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE B-10

TERROR LAKE SURVEY
NUMBER OF DEPENDENTS

Dependents	Number	Percent of Respondents
0	33	47
1	14	20
2	8	11
3	9	13
4	5	7
5	1	2
<hr/>		
TOTAL	70	100
Number of dependents	82	
Workers with Dependents	37	
Average Dependents per Worker with Dependents	2.2	
Standard Deviation	1.2	
Average Dependents per Worker	1.2	

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03," Jan. 1985.

TABLE B-11
TERROR LAKE SURVEY
DEPENDENTS' PRIOR RESIDENCE

Location	Number	Percent of Respondents
Kodiak area	4	11
Anchorage/Kenai area	12	32
Other Alaska	1	3
Washington State	9	24
Other (U.S. or non-U.S. sites)	11	30
TOTAL	37	100

No Response = 33

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03,"
Jan. 1985.

TABLE B-12

TERROR LAKE SURVEY
DEPENDENTS' CURRENT RESIDENCE

Location	Number	Percent of Respondents
Kodiak area	11	30
Anchorage/Kenai area	14	38
Washington State	6	16
Other (U.S. or non-U.S. sites)	6	16
TOTAL	37	100

No Response = 33

Source: Harza-Ebasco Computer Run, SAS Program "Survey 03,"
Jan. 1985.