Q. Further to NP-98, with respect to the replacement of manufacturer non-supported equipment, answer the following questions or provide the information appropriate on each budget item identified below:

Budget Item	***Amount***	***Description***
B-8	$863,000	Replace Exciter Unit 1 – Cat Arm (installed 1984)
B-11	$606,000	Replacement of Governor Control Upper Salmon (installed 1982)
B-68	$556,000	Replace UHF Radio – Upper Salmon (20 years old)

How much would it have cost for an additional set of spares (one additional for each type)? Estimate the cost if detailed information is not available.

A.

Budget Item	***Amount***	***Description***
B-8	$863,000	Replace Exciter Unit 1 – Cat Arm (installed 1984)

An additional set of spares would have cost $81,592 in 1984.

Spare cards are no longer available from the manufacturer. The manufacturer will repair the cards only if the components are available.

Budget Item	***Amount***	***Description***
B-11	$606,000	Replacement of Governor Control Upper Salmon (installed 1982)

An additional set of spares would have cost $15,528 in 1982.

Spare cards are no longer available from the manufacturer. The manufacturer will repair the cards only if the components are available.

Budget Item	***Amount***	***Description***
B-68	$556,000	Replace UHF Radio – Upper Salmon (20 years old)

As stated in our response to NP-98 B-68 Replace UHF Radio (Upper Salmon) part (g), the manufacturer no longer provides spares for this equipment. There is no estimate available for the cost of an additional set of spares at the time of discontinuance in 1990.

Q. For the budget item identified below provide the information as appropriate:

Budget item	***Amount***	***Description***
B – 10	$1,555, 000	Install 25 kV Distribution Line - Ebbegunbaeg

a) Provide the energy and unit cost of energy (cents per kWh) used in the cost benefit analysis for each year, both for isolated and interconnected alternatives.

b) Provide the basis for the unit cost of energy used in the study.

c) Provide a cost benefit analysis using the revenue requirement or customer cash flow method.

A. a) Annual energy consumption for both the isolated and interconnected alternative is estimated to be 380,000 kWh. Refer to attached table for energy costs.

b) The forecast cost for interconnected energy was based on the Holyrood thermal plant. Isolated energy costs were based on actual fuel and lube consumption data, and forecast diesel fuel costs.

c) No ratepayers are serviced from this distribution line. The use of this line is restricted to NLH for its facilities at the Ebbegunbaeg control structure.

EBBE DISTRIBUTION LINE ECONOMIC ANALYSIS

Yearly Costs for Isolated and Interconnected Energy

Cents per kWh

Year	Isolated Energy Cost	Interconnected Energy Cost
2001	0.0	0
2002	0.0	0
2003	0.142	0.042
2004	0.138	0.037
2005	0.134	0.038
2006	0.140	0.039
2007	0.139	0.040
2008	0.139	0.041
2009	0.139	0.042
2010	0.138	0.044
2011	0.138	0.045
2012	0.141	0.046
2013	0.145	0.048
2014	0.148	0.049
2015	0.152	0.050
2016	0.155	0.052
2017	0.159	0.053
2018	0.163	0.054
2019	0.167	0.056
2020	0.171	0.057
2021	0.176	0.058
2022	0.180	0.060

Yearly Consumption 380,000 kWh

EBBE DISTRIBUTION LINE ECONOMIC ANALYSIS

Yearly Costs for Isolated and Interconnected Energy

Cents per kWh

Year	Isolated Energy Cost	Interconnected Energy Cost
2001	0.0	0
2002	0.0	0
2003	0.142	0.042
2004	0.138	0.037
2005	0.134	0.038
2006	0.140	0.039
2007	0.139	0.040
2008	0.139	0.041
2009	0.139	0.042
2010	0.138	0.044
2011	0.138	0.045
2012	0.141	0.046
2013	0.145	0.048
2014	0.148	0.049
2015	0.152	0.050
2016	0.155	0.052
2017	0.159	0.053
2018	0.163	0.054
2019	0.167	0.056
2020	0.171	0.057
2021	0.176	0.058
2022	0.180	0.060

Yearly Consumption 380,000 kWh

Q. For the budget item identified below, provide the following information:

Budget Item	***Amount***	***Description***
B-18	$177,000	Purchase Track Machine – Cat Arm

(a) Is it feasible to utilize the Stephenville machine for access to Cat Arm plant and to groom the trail as is required for deep snow? If not, why not?

(b) Has Hydro considered relocating the Stephenville machine to a location in closer proximity to Cat Arm? If not, why not?

A. (a) The Stephenville machine could be utilized to gain access to the Cat Arm plant only if it is not in use in the Western area. The purpose of the Stephenville machine is to provide emergency response for problems on the transmission lines feeding customers in the area. The additional use at Cat Arm would affect its availability during emergencies in the Western area and hence affect customer service.

(b) In 2000, Hydro did consider the possibility of locating the machine at Jackson's Arm. However, it was decided not to relocate the machine, as during extreme storm conditions it would slow the response time to emergencies in the Western area and hence delay the restoration of service to the effected customers.

Q. For the budget item identified below, provide the following information:

Budget Item	***Amount***	***Description***
B-19	$801,000	Purchase and Install Continuous Emission Monitoring

(a) The health risk assessment report provided in response to NP-104 (c) does not recommend in-stack measurement as has been proposed by Hydro, but recommends ambient air monitoring stations. Explain how this report provides a rationale for installing in-stack monitoring?

(b) What sox/nox ratio was used in the report? What is a reasonable range of sox/nox ratios that might be experienced? What sox/nox ratio would be expected to cause a problem?

A. (a) The health risk assessment report recommends the use of ambient air monitoring equipment to assess the validity of the SO_2/NO_2 ratio used in the report. This equipment is expensive to install and operate and could be used for this purpose only. Hydro has proposed in-stack monitoring equipment because it could also be used to assist staff in operating the plant more efficiently while reducing emissions. Ambient monitoring equipment cannot perform this dual function for the following reasons:

- Ambient monitoring equipment would be located at a significant distance from the plant and therefore the measured emissions would lag the real time plant conditions while in stack monitoring equipment provides real time data.

- Ambient monitoring equipment would be installed at several discrete sites. On days when the wind diverts the stack plume in a direction away from the monitoring sites, data recorded would not represent the actual emission.

- Ambient monitoring equipment and monitoring sites would be remote from the generating plant and are therefore more expensive to operate and maintain.

(b) The SOx/NOx ratio used was 15.576. The normal operating ratio is dependent on the fuel and operating conditions. The range of SOx/NOx ratio depends upon the boiler combustion conditions and chemical composition of the fuel for a given time and hence it is difficult to predict. The level that would be expected to cause a problem from a regulatory standpoint is 2.571. This is based on the provincial air pollution regulations, which state that the permitted hourly SOx emission rate is 900 ppb/hr and the permitted hourly NOx emission rate is 350 ppb/hr.

Q. For the budget item identified below, answer the following questions:

Budget Item	***Amount***	***Description***
B-21	$152,000	Purchase and Install Closed Circuit Surveillance System - Holyrood

Further to PUB-13.0, vandalism over the past 6 years cost a total of $29,857. Assuming the system could have eliminated the total cost of vandalism, is the $152,000 capital expenditure justified?

A. The capital expenditure of $152,000 is not justified based solely on the cost of vandalism over the last 6 years. There is very significant public safety concern as well as risk of serious damage to equipment. It has been difficult to provide adequate security coverage to all site locations, especially at the dock. The use of a closed circuit surveillance system would provide continuous monitoring of high exposure areas that are not currently monitored. Investigating officers from the RCMP have suggested video surveillance to help deter crime and to assist in the investigations.

Q. For the budget item identified below, provide the following information:

Budget Item	***Amount***	***Description***
B-35	$981,000	Provide Service Extensions – Central, Northern and Labrador

Further to NP-107, provide the forecast 2001 and 2002 customer counts and unit extension costs per customer addition (material and labour) by region.

A. The unit extension costs per customer addition is as follows:

	Year	Materials $	Labour $	Total $	No. of New Customers	Average Per Customer
Central	2001	157,989	232,011	390,000	162	2408
Northern	2001	161,303	158,896	320,200	185	1731
Labrador	2001	191,785	125,215	317,000	225	1409
Total		511,077	516,122	1,027,200	574	1790

	Year	Materials $	Labour $	Total $	No. of New Customers	Average per customer
Central	2002	134,127	196,673	330,800	140	2363
Northern	2002	164,578	162,122	326,700	201	1625
Labrador	2002	200,798	122,202	323,000	230	1404
Total		499,503	480,997	980,500	571	1717

Q. For each project identified below, provide the following information:

Budget

Item	***Amount***	***Description***
B-45	$297,000	Replace 136 kW Diesel Unit No. 279 – Grey River
B-47	$238,000	Replace 75 kW Diesel Unit No. 252 – Petites
B-52	$299,000	Replace 136 kW Diesel Unit No. 266 – William's Harbour
B-53	$318,000	Replace 300 kW Diesel Unit No. 288 – Black Tickle
B-54	$301,000	Replace 250 kW Diesel Unit No. 293 - Rigolet

Further to NP-110, provide the expected lower maintenance costs, reduced fuel consumption and lower lube oil consumption in $ per year for each replacement.

A. The units to be replaced are old technology and, as such, are likely 10 to 20% less efficient than equivalent equipment available today. The chart below shows estimated cost savings based on a 15% reduction in fuel and lube oil consumption. Based on actual emergency and corrective maintenance costs, the estimated yearly maintenance savings per unit range from $3,800 to $10,600 with an average of $6,800.

Cost Reductions

Item	Description	Expected Yearly Cost Reductions ($)	
		Fuel Consumption	Lube Oil Consumption
B45	Replace 136kW Unit 279 - Grey River	4,900	50
B47	Replace 75kW Unit 252 - Petites	3,300	30
B52	Replace 136kW Unit 266 - Williams Hr	4,900	50
B53	Replace 300kW Unit 288 - Black Tickle	11,000	70
B54	Replace 250kW Unit 293 - Rigolet	9,300	70

Note: Fuel and lube oil savings are based on the first full year of operation after installation.

Q. For the budget items identified below, answer the following questions:

Budget Item	***Amount***	***Description***
B-57	$515,000	Upgrade Diesel Plant - Harbour Deep

Further to NP-111, has the diesel plant building been inadequate since the date of initial installation? If no, at what point did the building become inadequate, and for what reason?

A. In the Fall of 1981, the diesel plant was relocated to the current site to address the community's concern with respect to the noise and potential fire hazard of the previous plant which was operating in close proximity to the school and private residences.

This relocation resulted in improvements when compared to the original facility but still was not considered as being fully to Hydro's standards. Subsequent installation of larger engines and aging of the plant has contributed to the operational and maintenance problems being now experienced.

With the continuing debate regarding potential relocation of the residents of Harbour Deep, this project has been deferred on a number of occasions. However, with no resolution of this issue combined with ongoing operational, maintenance and environmental concerns with the plant, the current recommendation is being made to proceed with the proposed upgrade. In addition, Hydro is continuing to review various alternatives to address the problems with the plant at Harbour Deep, including the potential for containerizing the units. This would facilitate use of the diesel units and switchgear at another location if they were not required in Harbour Deep at some future date.

Q. The system identified below was purchased in 1989 and manufacturer support terminated in 1991. Answer the following questions or provide the information as appropriate.

Budget Item	*Amount*	*Description*
B-66	$8,373,000	Replace VHF Mobile Radio System

(a) Further to NP-117(a), provide a copy of the cost benefit analysis of alternatives considered in the replacement of the current system.

(b) Provide a breakdown of budget item by: (i) mobile, portable, base station radio; (ii) switch and site controller; (iii) repeater; (iv) other equipment (providing a description of the other equipment).

(c) Provide the incremental cost attributable to new coverage and a breakdown of that cost.

(d) Provide a cost benefit analysis indicating the financial benefit of deferring the cost of radios and existing repeater equipment for three years.

(e) Indicate what additional functionality is being provided in the new system. For example, will the new system have digital radio capability?

(f) Further to response NP-98(a), indicate the maintenance tickets issued for each year (1996 to 2000) attributable to switch/ controller, repeater, or VHF radios.

A. (a) A formal cost benefit analysis was not performed for this system as it is a direct replacement for a currently operating system. The existing system is critical to operational needs and therefore must be replaced with a system of similar capabilities.

(b) Of the alternative radio systems priced, the chosen system Logical Trunk Radio (LTR) was the least expensive, with direct material costs estimated at $5.7 million. Three other technologies, TETRA, Motorola SmartZone, and ComNet EDACS, were priced with costs ranging from $7.9 million to $11.7 million.

(c) The incremental cost of providing new coverage is based on the assumption that six new repeaters will be required, and of that six, three repeaters will include new towers, and three will use existing towers. It also assumes that the paging system coverage increase is performed using repeater equipment removed from existing sites. The total direct incremental cost is estimated to be $775,000, broken down as follows:

Item	Estimated Cost
Towers	$450,000
Repeaters	$315,000
Paging Equipment	$10,000

(d) Relying on the existing switch, which has not been supported by the manufacturer since 1991, for another three years would jeopardize the stability of the entire mobile radio system. This is the last system of this type in service anywhere, and failure will result in total loss of VHF

mobile communications. From a safety and operational perspective, the risk of delaying the project greatly outweighs the financial benefit of deferring the project for three years. With this in mind, the net difference in cost of delaying the replacement of the system for three years is estimated to be approximately $1.4 million, assuming no salvage value for the existing equipment.

(e) The proposal as submitted is to replace the existing system with a standard based trunked radio system. The proposed system, by being based on an open standard, prevents the Corporation from becoming reliant on a single source of equipment and thereby protects the investment for its useful life. A trunked radio system offers functional advantages and will in many cases eliminate the need for cellular telephones for operational on-call staff, thereby reducing operating expenses. The proposed system offers such features as: privacy, individual and group calling, roaming, Automatic Vehicle Location (AVL) capability, and low speed data capability. A trunked system ensures that future expansion requirements are easily met without large re-investment in design and procurement.

(f) Mobile radio outage maintenance ticket summaries are provided below. Please note that mobile and portable radio repairs are not normally ticketed, so exact numbers of problems are not available for these pieces of equipment. It is estimated that as many as 500 repairs on portable and mobile radios were actually conducted in the five year period 1996-2000. Also, the trouble ticketing system cannot distinguish between repeater radio and controller outages, so these are listed together.

	Ticket Type	
Year	Switch	Repeater/Controller
1996	11	34
1997	4	30
1998	6	29
1999	3	22
2000	1	18
2001 (to date)	4	13
TOTAL	29	146

Q. For the budget item identified below, provide the following information:

Budget Item	***Amount***	***Description***
B-69	$8,942,000	Complete Microwave Radio System Interconnection

(a) Provide the survey noted in response to NP-118.

(b) Is Hydro aware of any electric utilities that utilize any communications facilities that are not owned by that utility and are used to support tele-protection or SCADA circuits. Provide all instances.

(c) Provide a forecast of annual labour components of operating and maintaining the microwave system for the period 2002 to 2006.

(d) Provide all instances where any microwave channel was not available over the past five years, when the outage occurred, the time it was not available and the nature of the failure.

A. (a) Attached is a copy of the survey results as noted in response to NP-118.

(b) The survey undertaken by Hydro was of electric utilities with a similar mandate to that of Newfoundland and Labrador Hydro, that being a bulk generation and transmission utility. The only instance noted where teleprotection services are provided by a leased carrier circuit was by B.C. Hydro, and that was only where there was no other

practical alternative. Also both New Brunswick Power and Manitoba Hydro will use leased common carrier circuits for backup teleprotection, the main teleprotection circuits are on utility owned facilities.

All utilities with the following exception use leased common carrier circuits for SCADA purposes:

- Saskatchewan Power for city distribution only;
- B.C. Hydro when there is no practical alternative.

(c) There is no forecast of annual labour component of operating and maintaining the microwave system for the period 2002 to 2006. Based on our experience, as this infrastructure will be new, the incremental labour component for the four (4) sites is considered minimal.

(d) Since Hydro's West Coast Microwave infrastructure was replaced in 1999, there has been no time (i.e. circuit availability was 99.9999% or better) that a circuit has been unavailable.

UTILITY TELECOMMUNICATIONS SURVEY
JANUARY 2001

Technology	Utility	Number of Links		Services		
		Existing	Planned	Teleprotection	SCADA	Misc.
UTILITY OWNED OPGW	NF Hydro	0	0	-	-	-
	NB Power	0	0	-	-	-
	Hydro Quebec	54	10	x	x	x
	Hydro One	30	20	x	x	x
	Sask. Power	2	0	x	x	x
	Manitoba Hydro	4	0	x	x	x
	Atco. Electric	2	0	x	-	-
	BC Hydro	0	0	-	-	-
UTILITY OWNED FIBER	NF Hydro	5	2	x	x	x
	NB Power	2	1	x	x	x
	Hydro Quebec	375	25	x	x	x
	Hydro One	20	20	x	x	x
	Sask. Power	40	2	x	x	x
	Manitoba Hydro	25	0	x	x	x
	Atco. Electric	0	0	-	-	-
	BC Hydro	8	6	-	-	-
UTILITY OWNED ASYNCHRONOUS MICROWAVE RADIO	NF Hydro	11	9	x	x	x
	NB Power	2	0	x	x	x
	Hydro Quebec	30	41	x	x	x
	Hydro One	4	1	x	x	x
	Sask. Power	0	0	-	-	-
	Manitoba Hydro	60	0	x	x	x
	Atco. Electric	45	3	x	x	x
	BC Hydro	8	0	-	-	-
UTILITY OWNED SONET MICROWAVE RADIO	NF Hydro	4	8	x	x	x
	NB Power	16	15	x	x	x
	Hydro Quebec	11	87	x	x	x
	Hydro One	4	16	x	x	x
	Sask. Power	0	0	-	-	-
	Manitoba Hydro	4	0	x	x	x
	Atco. Electric	0	0	-	-	-
	BC Hydro	40	50	-	-	-
UTILITY OWNED MISC. RADIO UHF, VHF & SPREAD SPECTRUM	NF Hydro	7	1	x	x	x
	NB Power	many	0	-	x	x
	Hydro Quebec	25	0	-	x	x
	Hydro One	2	0	-	x	-
	Sask. Power	4	0	-	-	x
	Manitoba Hydro	27	2	-	-	x
	Atco. Electric	30	0	-	x	x
	BC Hydro	many	0	-	-	-

Technology	Utility	Number of Links		Services		
		Existing	Planned	Teleprotection	SCADA	Misc.
LEASED/OWNED SATELLITE	NF Hydro	2	0	-	x	x
	NB Power	1	0	-	-	x
	Hydro Quebec	10	0	-	-	x
	Hydro One	70	0	-	x	x
	Sask. Power	4	0	-	x	x
	Manitoba Hydro	10	0	-	-	x
	Atco. Electric	0	0	-	-	-
	BC Hydro	15	0	-	-	x
UTILITY **OWNED POWER LINK CARRIER**	NF Hydro	30	4	x	x	x
	NB Power	2	0	x	x	x
	Hydro Quebec	80	0	x	x	x
	Hydro One	250	30	x	x	x
	Sask. Power	82	0	x	x	x
	Manitoba Hydro	29	2	x	x	x
	Atco. Electric	3	0	-	x	-
	BC Hydro	80	0	-	-	-
LEASED COMMON CARRIER CIRCUITS	NF Hydro	60	24	-	x	x
	NB Power	4	0	Note 1	-	-
	Hydro Quebec	900	0	-	x	x
	Hydro One	600	100	Note 2	x	x
	Sask. Power	16	0	-	Note 3	-
	Manitoba Hydro	365	0	Note 1	x	x
	Atco. Electric	6	0	-	x	x
	BC Hydro	Note 5	Note 5	Note 4	Note 4	Note 4

Legend:

OPGW Overhead Optical Ground Wire

NOTE 1: Backup teleprotection circuit, main teleprotection circuit on owned facilities

NOTE 2: Non-critical circuits only

NOTE 3: City distribution substations only

NOTE 4: Used when there is no other practical alternative

NOTE 5: No number identified, but services are used

x Yes

- No, or no response

Q. For the budget item identified below, answer the following questions.

Budget Item	***Amount***	***Description***
B-14	$127,000	Upper Salmon Generating Station

(a) Further to PUB-6.1, provide reliability statistics and/or instances, either from Hydro's own records or from the information of other utilities, that show the installation of the proposed equipment increases reliability through the reduction of outages.

(b) For each instance shown in the response to PUB-6.2, provide the date, time and duration as well as the cause of the outage. In addition indicate the likely reduced outage time had the fault recorder been in place for each outage.

A. (a) A fault recorder assists in the identification of the fault and verifying the performance of the protective relaying systems. It is useful in identifying any problems and hence aids in faster restoration of the equipment.

b)

Date	Time	Duration	Cause
07-24-2000	00:50	6 mins.	Lightning
08-21-2000	02:13	2 mins.	Lightning
11-09-2000	10:42	2 hrs, 41 mins	Relay malfunction
11-16-2000	10:13	31 mins.	Relay malfunction
05-08-1999	20:38	26 hrs.	Broken crossarm
08-26-1999	16:09	4 mins.	Lightning
12-19-1998	07:26	8 hrs, 17 mins.	Fallen tree on the line
07-24-1995	12:54	6 mins.	Lightning

For the outages caused by lightning, a fault recorder would not have reduced the outage time. However, for the other outages caused by fallen trees, broken cross-arm and relay malfunction, a fault recorder would have assisted in identifying the problem and the location of the fault and hence reduced outage times. The exact amount of reduction in outage times cannot be quantified.

Q. For the budget item identified below, answer the following question.

Budget Item	***Amount***	***Description***
B-32	$51,000	Purchase and Install Remote Communications Equipment – Buchans & Stony Brook

Further to PUB-23.1, document each instance (time, duration and cause of the outage) over the past two years where data was retrieved for fault analysis, and where such remote access would have improved restoration time. For each instance, indicate improvement in restoration time that would have been expected had this equipment been in place.

A. Of the outages in Buchans and Stony Brook during the past two years, the proposed equipment could not have been used to reduce the outage times on these particular outages. However, similar remote communication systems have been installed and operating for over ten years in other stations. These are St. Anthony Airport, Bottom Brook, Doyles, Bay d'Espoir and Sunnyside. Information has been collected from these sites which has been used to reduce outage times.

For example: remote communication was installed on TL 214 out of Bottom Brook in 1991. This has been used to instruct line crews where the fault was on the line. The crew traveled directly to this area and took measures to correct the problem. If the fault location was not known, the crew would start at the beginning of the line and could take hours to find the damage.

Advances in technology, such as this, when available to utilities does assist in providing faster restoration to customers.

Q. For the budget item identified below, answer the following questions or provide the information as appropriate:

Budget item	***Amount***	***Description***
B – 31	$149, 000	Replace Transformers – Burlington Substation

Further to PUB-31.1, indicate the size of the existing transformer bank, the proposed size of the padmount transformer, and the transformer load under normal peak load conditions (excluding cold load pick up) for each of the past 5 years. What were the factors that increased the peak load, necessitating the transformer bank replacement?

A. The existing transformer bank has a capacity of 1,500 kVA, and is comprised of 3 – 500 kVA single-phase units. The replacement transformer will be a 3-phase 2,500 kVA unit. Peak values for the past 5 years are as follows:

Transformer Peak Loading

Year	A - Phase			B - Phase			C - Phase		
	Amps	kVA	% Rating	Amps	kVA	% Rating	Amps	kVA	% Rating
1995	82	590	118	92	662	132	98	706	141
1996	68	490	98	66	475	95	82	590	118
1997	84	605	121	86	619	124	96	691	138
1998	78	562	112	78	562	112	92	662	132
1999	No Data			No Data			No Data		
2000	70	504	101	97	698	140	87	626	125

The replacement is required because the transformers have been, and continue to be, overloaded.

Q. For the budget item identified below, provide the following information.

Budget Item	***Amount***	***Description***
B-49	$556,000	Relocation of Line – Cook's Harbour

Further to PUB-31.0 *(sic)*, indicate all instances over the past five years where outages have occurred to this line section. For each instance, indicate date, time and duration of outage as well as underlying cause. If data is not available for line section only, provide information for whole feeder.

A. In reference to PUB-33, the following table details the outages of that section of the Cooks Harbour Line.

DATE	TIME	DURATION	NO. OF CUST.	CAUSE
96-02-09	1300 hrs	1 hr. 30 min	12	Scheduled
96-04-13	1145 hrs	3 hrs	244	Adverse Weather
96-05-14	1630 hrs	1 hr. 30 min	9	Adverse Weather
96-07-09	2200 hrs	2 hrs 15 min	240	Unknown
96-08-10	2200 hrs	3 hrs 10 min	222	Adverse Weather
96-12-13	1230 hrs	2 hrs	222	Scheduled
97-02-02	1130 hrs	2 hrs 30 min	16	Adverse Weather
97-02-08	0140 hrs	9 hrs 10 min	50	Adverse Environment
97-04-07	0800 hrs	2 hrs 30 min	2	Adverse Environment
97-05-17	1130 hrs	5 hrs 45 min	235	Adverse Weather
97-10-09	1130 hrs	4 hrs	12	Unknown
97-10-17	1330 hrs	2 hrs	1	Adverse Weather
97-10-28	2300 hrs	38 hrs 30 min	46	Adverse Environment
97-10-28	2300 hrs	69 hrs	1	Adverse Environment
97-10-28	2300 hrs	43 hrs	1	Adverse Environment
97-10-29	0500 hrs	29 hrs 20 min	183	Adverse Environment
98-02-22	0100 hrs	8 hrs	1	Adverse Environment
98-02-24	1230 hrs	50 min	230	Defective Equipment
98-03-11	1330 hrs	1 hr. 30 min	240	Unknown

DATE	TIME	DURATION	NO. OF CUST.	CAUSE
98-07-02	1700 hrs	2 hrs	228	Adverse Weather
98-09-06	0430 hrs	4 hrs	228	Adverse Weather
98-10-02	0700 hrs	2 hrs 30 min	76	Adverse Weather
98-10-13	0930 hrs	4 hrs	1	Adverse Environment
98-11-16	1330 hrs	64 hrs	1	Adverse Weather
99-01-16	1600 hrs	7 hrs	15	Adverse Environment
99-01-16	1800 hrs	17 hrs 40 min	430	Adverse Environment
99-01-20	2000 hrs	13 hrs	223	Adverse Environment
99-01-22	1230 hrs	3 hrs 15 min	223	Unknown
99-02-06	2400 hrs	12 hrs	17	Adverse Environment
99-02-06	2400 hrs	13 hrs 30 min	28	Adverse Environment
99-02-07	1100 hrs	9 hrs	1	Adverse Environment
99-02-07	0200 hrs	30 min	100	Adverse Environment
99-02-15	2230 hrs	3 hrs	18	Adverse Environment
99-02-16	0100 hrs	30 min	223	Adverse Environment
99-02-21	1230 hrs	50 min	240	Unknown
99-03-02	2100 hrs	3 hrs 45 min	223	Adverse Weather
99-08-07	2230 hrs	8 hrs 30 min	1	Adverse Weather
99-08-07	2200 hrs	2 hrs 30 min	223	Adverse Weather
99-08-08	2230 hrs	6 hrs	8	Adverse Weather
99-08-25	1030 hrs	20 min	40	Unknown
99-09-12	0400 hrs	5 hrs	230	Unknown
00-01-21	0650 hrs	1 hr. 40 min	47	Unknown
00-01-21	0650 hrs	8 hrs 10 min	6	Unknown
00-03-30	0227 hrs	2 hrs 33 min	223	Adverse Weather
00-05-15	0500 hrs	2 hrs	230	Adverse Environment
00-07-31	1215 hrs	2 hrs 15 min	223	Unknown
00-09-08	1230 hrs	2 hrs 20 min	223	Scheduled
00-10-20	1145 hrs	40 min	223	Scheduled
00-11-07	1505 hrs	40 min	223	Unknown
00-11-07	2000 hrs	2 hrs 40 min	223	Unknown
00-12-12	0700 hrs	3 hrs 45 min	49	Adverse Weather
00-12-12	2230 hrs	3 hrs 45 min	60	Adverse Environment
00-12-14	1030 hrs	1 hrs	213	Scheduled