	Page 1		Page 2
1	(9:21 a.m.)	1	for the hearing to begin on June 10th, which
2	CHAIRMAN:	2	notice was published beginning on April 23rd
3	Q. Good morning, ladies and gentlemen. We're	3	in the Telegram, the Western Star, the Grand
4	late starting this morning. First of all I'd	4	Falls Advisor, the Aurora, the Labradorian,
5	like to introduce the Panel members to you.	5	the Northern Pen. Subsequently the matter was
6	Commissioner Gerard Martin on my right;	6	postponed to June 25th and notice was
7	Commissioner Don Powell on my left; my name is	7	published again in the same papers beginning
8	Fred Saunders. We have Barbara Thistle, who	8	on June 7th. And for a third time the matter
9	is the Assistant Secretary to the Board;	9	was postponed to today's date, July 7th, and
10	Dwanda Newman, Board counsel; Mark Kennedy,	10	notice was published in the same papers
11	Board hearing counsel. And that's all the	11	beginning on June 21st, 2003. I can also
12	Board people I see present.	12	confirm that the Board has received several
13	The purpose of the hearing this morning	13	intervenor submissions, the first from
14	is to consider an application by Newfoundland	14	Newfoundland Power and secondly from several
15	and Labrador Hydro for approval of its 2004	15	industrial customers of Newfoundland and
16	capital budget. I will start by asking the	16	Labrador Hydro, including Abitibi
17	Board counsel to confirm the Board's authority	17	Consolidated, Corner Brook Pulp and Paper and
18	to hear that.	18	North Atlantic Refining Limited. And we have
19	MS. NEWMAN:	19	not to date, I understand, received any
20	Q. Good morning, Mr. Chairman, Commissioners, and	20	letters of comment.
21	everyone else in the room. I did want to	21	CHAIRMAN:
22	confirm that the Board has the authority	22	Q. Okay. I would ask now if the parties agree
23	pursuant to Section 41 of the Public Utilities	23	that the Board is properly constituted to hear
24	Act to hear this matter and that notice was	24	the matter?
25	duly published on three occasions, firstly,	25	HUTCHINGS, Q.C.:
	Page 3		Page 4
1	Page 3 Q. We agree.	1	Page 4 would, to put on the record the record of the
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## Discoveries Unlimited Inc., Ph: (709)437-5028

	Page 5		Page 6
1	Board and circulate a copy of. I don't have	1	are any objections?
2	copies right now, it was just executed this		GREENE, Q.C.:
3	morning, so we'll get copies out. But for our	3	Q. Excuse me, Mr. Chairman, Commissioners. There
4	purposes this morning I did want to briefly	4	is no objection; I just wanted to explain.
5	explain that the first item in the Settlement	5	It's a timing problem. This is for a
6	Report sets out certain projects which the	6	transformer to meet new load growth in Happy
7	parties do not object to and so there's a	7	Valley-Goose Bay for 2004. In order to have
8	specific list there, several projects.	8	the transformer available for the 2004 load
9	The second item in the Settlement Report	9	growth, it is necessary to make a commitment
10	is there's a specific project which I	10	with the manufacturer now for delivery in
$ _{11}^{10}$	understand Hydro needs relatively quick	11	early 2004, so that is the rational or the
12	approval of because of the timing required in	11	reason why we're requesting that it be dealt
12	placing an order for this, and that's Project	12	with as soon as possible.
13	C2, the purchase and installation of a		MS. NEWMAN:
14	transformer at Happy Valley-Goose Bay. The	14	Q. Okay.
15	parties have agreedor have no objection to		Q. OKAY. HENLEY ANDREWS, Q.C.:
17	providing Hydro with an immediate order. And	17	Q. Mr. Chairman, I think it's important for us to
18	my understanding from Hydro is that they would	17	point out that there is a distinction between
10	need an order from the Board in the next	10	consent and not objecting. And by not
20	several days in order to make this proposal be	20	objecting the Board obviously still has the
20	implemented in the way in which they suggest.	20	job to analyze the various projects to which
21	So my suggestion is if nobody has any	21	
22	objection here today, that the Board in the	22	we have not objected, but we're just taking no position on them.
			-
24 25	next couple of days generate an order approving Project C2. I don't know if there	24	MS. NEWMAN: Q. So, Mr. Chairman, I propose that we enter this
123	approving roject C2. T don't know if there	25	Q. 50, WI. Channan, I propose that we enter this
-			
	Page 7		Page 8
1	settlement report as a consent document which	1	I did also want to mention that I've also
1 2	settlement report as a consent document which would be Consent No. 2.	2	I did also want to mention that I've also spoken to the parties about this, but we're
1 2 3	settlement report as a consent document which would be Consent No. 2. EXHIBIT ENTERED AND MARKED CONSENT NO. 2.	2 3	I did also want to mention that I've also spoken to the parties about this, but we're not able to sit on Thursday because the Board
1 2 3 4	settlement report as a consent document which would be Consent No. 2. EXHIBIT ENTERED AND MARKED CONSENT NO. 2. Q. Mr. Chairman, if I could just take a moment	2 3 4	I did also want to mention that I've also spoken to the parties about this, but we're not able to sit on Thursday because the Board has another matter ongoing. But I have
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# Multi-Page<sup>TM</sup>NL Hydro 2004 Capital Budget Application

July	7,2005	wiuiu-	rage	NL Hydro 2004 Capital Budget Application
		Page 9		Page 10
1	Q. Good morning, Mr. Chairman, Commissioners		1	capital budget application we have met the
2	I'll deal first with opening comment. This is		2	requirements of the Board as set out in Order
3	an application by Hydro under Section 41 of		3	No. P.U. 7 dated June, 2002 with respect to
4	the Public Utilities Act for approval of its		4	the justification that must be provided to
5	proposed 2004 capital expenditures. As you		5	support a capital budget. Looking at the
6	know, under Section 37 of the Public Utilities		6	specific 2004 capital budget, we filed and
7	Act, Hydro, as is any utility, subject to that		7	asked for approval of a budget of
8	Act, required to provide services that are		8	approximately \$34.5 million. Since that was
9	reasonably safe and adequate and just and		9	filed there has been one minor amendment. In
10	reasonable. To meet this obligation, as well	1	10	correspondence dated June 24th Hydro agreed to
11	as its obligation to serve customers, capital	1	11	defer seeking approval of one project dealing
12	expenditures are required by Hydro each year.	1	12	with the JDE Migration Study that was Project
13	Section 41(1) of the Act requires Hydro	1	13	B70. So there is one reduction and Hydro,
14	to file an annual capital budget by no later	1	14	because of the uncertainty relating to the
15	than December 15th in each year. In this	1	15	software supplier, JD Edwards and the
16	particular case, with respect to the 2004	1	16	announced purchase by another software
17	capital budget, Hydro filed its application on	1	17	company, we have agreed to await the outcome
18	March 28th, 2003. In order No. P.U. 7 in	1	18	of that sale and if necessary to seek approval
19	June, 2002 the Board outlined the information	1	19	later for that study.
20	and the justification that would be required		20	The budget that Hydro has submitted
21	by Hydro to be filed to support a capital	2	21	seeking approval of is the second lowest that
22	project. Last year for the 2003 capital		22	Hydro has sought approval for. The average
23	budget was the first year that Hydro filed the		23	budget we've sought approval for has been
24	justification in compliance with Order No. 7.		24	approximately \$38 million, but the amount has
25	Hydro submits that with respect to the 2004		25	ranged from approximately 55 million down to
	F	Page 11		Page 12
1	33 million. We believe that this budget is a		1	The final category would be a totally new
2	fairly routine type of capital budget. There		2	project. And we will be looking at those and
3	are several categories applicable with respec	t	3	you will see there are very few new projects
4	to the budget.		4	that the Board has not seen before.
5	The first I'd like to refer to is a		5	In the discussions leading up to this
6	continuation of ongoing programs where we	have	6	hearing it became clear, based on the
7	started a program and this is another year of		7	information requests and the discussions with
8	the program. For example, the first few		8	other counsel that there is one project that
9	projects in Section B relating to the		9	has attracted the attention of the parties
10	replacement of the exciter at Bay D'Espoir.		10	more than others, and that is the Project B71,
11	for example, this is the last exciter to be		11	the replacement of the VHF mobile radio
12	done at Bay D'Espoir. There are a number		12	system. And for that reason, we have
13	projects in that category, a continuation of		13	determined that it would be appropriate to
14	ongoing programs.		13	have a presentation this morning particularly
15	The second type of category is where the		15	with respect to that project.
16	project actually was reviewed by the Board		16	Turning now to our witnesses, the first
17	last year and the Board approved the initial		17	panel to be called is the production panel.
18	cash flow for 2003 dollars associated with th		18	There are five Hydro employees who are members
19	program, so the Board again has reviewed th		19	of this panel. The first is Jim Haynes, who
20	justification for that particular project		20	is the vice-president of production. And when
20	already.		20	the Panel members take the witness stand, I'll
22	The third type of project that I'll refer		22	go through with each of them the areas that
23	to are ongoing annual ones that we require		23	they will be speaking to. But principally,
23	each and every year such as distribution line		24	Mr. Haynes is responsible for all projects
25	extensions and service extensions.		25	under the heading of "Generation and
Ľ	entensions and bervice entensions.	4		under and neuroning of Generation and

July	7,	2003
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	Page 13		Page 14
1	Information Systems and Telecommunications".	1	McDonald will be able to speak to the uses to
2	As the executive responsible for those areas,	2	which the mobile radio system is put by
3	he will speak to all policy matters. The	3	Hydro's crews in the maintenance and emergency
4	second panel member is Eric Downton, who is	4	repair of all of our assets.
5	the director of the information systems and	5	After we finish with the production panel
6	telecommunications department in Hydro. And	6	which will deal, as I said, with the
7	Mr. Downton can speak to the more technical	7	generation projects and the information
8	aspects of the projects under the category of	8	systems and telecommunications projects, the
9	"Information Systems and Telecommunications."	9	next witness will be John Roberts. John has
10	The third witness is Gerard Dunphy, and	10	appeared on a number of occasions as a witness
11	witness profile was filed for Mr. Dunphy on	11	before the Board as controller of Hydro and
12	Friday past. Mr. Dunphy is a manager in the	12	upon Derek Osmond's retirement at the end of
13	information systems department and he will be	13	the year John wasMr. Roberts was promoted to
14	able to speak to the technical aspects of the	14	the position of vice-president finance and
15	VHF mobile radio project only. So Mr. Dunphy	15	chief financial officer. Mr. Roberts will
16	was added to the panel only for one project,	16	speak to the financial aspects of the capital
17	the VHF mobile radio replacement project and	17	budget, including such things as the capital
18	his area of expertise is with respect to the	18	budget process at Hydro and the financing of
19	technical aspects of that project. The last	19	the capital budget program.
20	witness for the production panel is Ken	20	The last area to be covered by Hydro to
20	McDonald who is a labour manager responsible	20	support its application is with respect to the
21	for all of our line crews and other employees,	21	transmission and rural operations projects.
22	field people who has worked with the VHF	22	And here we had planned to call two members of
			-
24	mobile radio system for his entire career at	24	the panel, Mr. David Reeves, who is the
25	Hydro which is in excess of 30 years, and Mr.	25	current vice-president of transmission and
	Page 15		Page 16
1	rural operations and Mr. Fred Martin, who is	1	The last thing that I wanted to speak to
1 2	rural operations and Mr. Fred Martin, who is the current director of engineering in the	2	The last thing that I wanted to speak to very briefly was with respect to the project
1 2 3	rural operations and Mr. Fred Martin, who is the current director of engineering in the transmission and rural operations division.	2 3	The last thing that I wanted to speak to very briefly was with respect to the project Ms. Newman referred to whichand I referred
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1 2 3	rural operations and Mr. Fred Martin, who is the current director of engineering in the transmission and rural operations division. Mr. Reeves has submitted a notice of his retirement from Hydro to be effective the end	2 3	The last thing that I wanted to speak to very briefly was with respect to the project Ms. Newman referred to whichand I referred to, as well, which is the purchase and installation of the transformer for Happy
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# Multi-Page<sup>™</sup>NL Hydro 2004 Capital Budget Application

	y 7, 2003 141	uni-n age	111 Hyuro 2004 Capital Dudget Application
	Page	17	Page 18
1	you, very much.	1	industrial customers on Thursday filed a pre-
2	CHAIRMAN:	2	hearing brief with respect to their position
3	Q. Thank you, Ms. Greene. We're sorry to hear	3	on the hearing. And the thing that is
4	about the passing of Mr. Reeves' mother-in-	4	critical from our perspective is that the
5	law. Please extend our sympathies. The	5	Board has the discretion under the legislation
6	industrial customers, who's going to -	6	to approve or not approve any of Hydro's
7	HUTCHINGS, Q.C.:	7	projects. And that discretion is limited by
8	Q. Ms. Henley Andrews.	8	the provisions of the Electrical Power Control
9	CHAIRMAN:	9	Act, particularly Section 3(b). So our focus
10	Q. Ms. Henley Andrews.	10	during the hearing is going to be on the three
11	HUTCHINGS, Q.C.:	11	provisions of Section 3(b) of the Electrical
12	Q. Will speak to that, Mr. Chair.	12	Power Control Act, and that is that the
1	HENLEY ANDREWS, Q.C.:	13	projects have to be assessed on the basis that
14	Q. Good morning, Mr. Chairman, Panel members. To	14	they result in the most efficient production
15	my far right is Joseph Hutchings, who is co-	15	transmission and distribution of power, they
16	counsel for the industrial customers. And the	16	result in consumers in the province having
17	three industrial customers mentioned by Ms.	17	equitable access to an adequate supply of
18	Newman, which is Abitibi, Corner Brook Pulp	18	power and they result in power being delivered
19	and Paper and North Atlantic Refining are the	19	to customers in the province at the lowest
20	entire group of island industrial customers.	20	possible cost consistent with reliable
20			service. And the direction in Section 4 of
	To my immediate right is Stephen Barreca, and	21	
22	Mr. Barreca is our witness, particularly with	22	the Act which says that the Board has to
23	respect to telecommunications and IT issues.	23	implement that power policy and apply tests
24	And he has already pre-filed his evidence.	24	which are consistent with generally accepted
25	With respect to the hearing itself, the	25	sound public utility practice.
	Page	19	Page 20
1	The position of the industrial customers	1	applications. He admitted that in some cases
2	is that with respect to a great many of the	2	where projects are carried into future years
3	projects, an insufficient amount of	3	before completion and bearing in mind that
4	information has been provided to the Board to	4	each years' capital budget required Board
5	be able to satisfy itself that these projects	5	approval in the prior year there's a
6	are the lowest possible cost. And we will be	6	possibility of costs being stranded if future
7	focusing our cross-examination and our	7	years' budgets are not approved. You will
8	evidence on those specific issues, and in some	8	recall that during the hearing with respect to
9	cases on the issues of reliability. But our	9	the 2003 Hydro capital budget the industrial
10	predominant concern is with respect to lowest	10	customers attempted to ask questions
11	possible cost.	11	particularly with respect to those projects
12	(9:45 a.m.)	12	for which only engineering approval or one to
13	Ms. Greene mentioned in her opening that	13	two percent of the total capital cost was
14	some projects had received approval for some	14	projected for 2003 and where the bulk of the
15	cash amounts in previous years, particularly	15	cost was projected for future years. That
16	in the 2003 capital budget. As noted in our	16	type of questioning was objected to on the
17	pre-hearing submission on page 6, we quoted	17	basis that the future years' portions of the
18	from your decision in P.U. 29 that during that	18	costs were not part of the hearing and the
19	hearing Board counsel, Ms. Newman questioned	<b>l</b> 19	industrial customers therefore intend to fully
20	the witnesses regarding the inclusion of	20	explore the reasonableness of the substantive
21	expected future years capital expenditures in	21	portions of those projects that are included
22	the explanation sheets provided by Hydro. Mr.	22	for the 2004 capital budget.
23	Haynes explained that approval of the	23	Mr. Barreca will provide evidence focused
1	expenditures projected beyond 2003 will be	24	on the VHF radio system, but also with respect
24	expenditules projected beyond 2003 will be	24	on the vhr facto system, but also with respect
24 25	sought in future years' capital budget	25	to capital budgeting in general, the types of

# Multi-Page<sup>TM</sup>NL Hydro 2004 Capital Budget Application

Jui	y 7, 2003 Mult	I-Pa	age NL Hydro 2004 Capital Budget Application
	Page 21		Page 22
1	criteria that are used in other jurisdictions	1	Q. No, we are not. We are saying that we have
2	with respect to capital budgets and testimony	2	felt, to some extent, disadvantages by a
3	with respect to some of the information	3	number of things that have occurred. We don't
4	technology and other technology related	4	believe that it is deliberate and we do not
5	aspects of Hydro's budget.	5	believe that the Board is biased, but we felt,
6	And our presence here and purpose of	6	Mr. Hutchings and I and in consultation with
7	calling a witness is to assist the Board in	7	our clients, sufficiently concerned about the
8	assessing its role, both from a legal and	8	outcome of the 2003 capital budget hearing, in
9	jurisdictional point-of-view and to also	9	particular, that we felt that it was important
10	assist the Board in determining, through the	10	to advise the Board of the concerns that we
11	analysis that Mr. Barreca will provide, not	11	had, but we are not, at this point, in any way
12	only the reasonableness of the projects which	12	suggesting bias.
13	he specifically directs his mind to, but the	13	CHAIRMAN:
14	reasonableness of other projects on which we	14	Q. Okay. Mr. Alteen, are you going to be
15	will have some cross-examination. Thank you.	15	speaking on behalf of Newfoundland Power?
16	CHAIRMAN:	16	MR. ALTEEN:
17	Q. Ms. Henley Andrews, in relation to that pre-	17	Q. Yes, Mr. Chairman.
18	hearing submission that you referred to, I	18	CHAIRMAN:
19	have a question for you which I'm hoping you	19	Q. Good morning, Mr. Hayes, as well.
20	can answer for me in a clear and concise	20	MR. HAYES:
21	manner, and that is with respect to the	21	Q. Good morning, Mr. Chair.
22	statement you make there with respect to the	22	MR. ALTEEN:
23	Board. Are you making an allegation that the	23	Q. We appear for Newfoundland Power, Mr.
24	Board is bias?	24	Chairman. Newfoundland Power is the principal
25	HENLEY ANDREWS, Q.C.:	25	purchaser of Hydro's production on the island
	Page 23		Page 24
1	integratedor interconnected grid. That's	1	Q. I see Mr. O'Reilly is back with us.
2	our interest in the proceeding as the primary	2	GREENE, Q.C.:
3	purchaser. Our primary focus in the	3	Q. Thank you, Mr. Chairman.
4	proceeding, Mr. Chairman, will be on the VHF	4	CHAIRMAN:
5	mobile radio, a budget item at approximately	5	Q. Welcome.
6	\$8.8 million. WeI should say from the	6	GREENE, Q.C.:
7	outset we do not challenge the need for Hydro	7	
8	to have reliable mobile communications. The	8	
9	question will solely be, from our perspective,	9	1 11 57
10	whether at the end of the day the record	10	
11	before the Board indicates that the VHF mobile	11	last Hydro general rate application and will
12	radio proposed by Hydro is a least cost	12	
13	alternative to providing the communication	13	C
14	required. We do not intend to call any	14	
15	evidence, Mr. Chairman, and our cross-	15	
16	examination will largely but possibly not	16	5 1
17	exclusively be directed to the issue of the	17	e :
18	VHF radio. Those are our opening submissions.	18	
19	Thank you, very much.	19	5
	CHAIRMAN:		CHAIRMAN:
21	Q. Okay. Thank you, Mr. Alteen. Do you have	21	Q. Thank you, Mr. O'Reilly. Are you ready to
22	anything, Mr. Kennedy?	22	
	MR. KENNEDY:		GREENE, Q.C.:
24	Q. No, Chair, no, no opening comments.	24	Q. Yes. Thank you, Mr. Chairman. I just have
25	CHAIRMAN:	25	one comment with respect to the industrial

	Page 25		Page 26
1	customers' pre-hearing submission which no	1	
2	specific relief was requested so there was no		GREENE, Q.C.:
3	motion with respect to it. There is not	3	
	provided for in the Rules of Procedure and I	-	Q. So we are ready to proceed, with Chairman. CHAIRMAN:
4 5	hadn't planned to speak to it because I had	5	
	not been aware that industrial customers had		-
6	intended to rely on it. I would simply like	0	GREENE, Q.C.: Q. It'll just take a moment. If I could ask my
7			
8	to state at this point that there are a number of issues in that submission with which Hydro	8	CHAIRMAN:
9	disagrees and with respect to the role of	10	
10	counsel and counsel's obligation to be	11	Q. While your witnesses are getting set up I'm wondering, I suppose you've discussed with
11 12	familiar with developments of law in an area	11	
12	of practice as opposed to an obligation of the	12	
14	Board to provide all parties with advance	14	0 0
15	knowledged when the orders are publicly	15	
16	available. And also with respect to comments		GREENE, Q.C.:
17	made with respect to the outcome of the 2003	17	Q. Yes, Mr. Chairman. And the Rules of Procedure deal with the issue of cross-examination of
18	capital hearing, I don't think it's necessary	18	
19	in the opening to make those comments. I'll	19	*
20	leave those to closing argument if that is		MS. NEWMAN:
21	required. I simply wanted to place on the	21	Q. Mr. Chairman, yes, I'll just mention that I
22	record that Hydro disagrees essentially with	22	
23	the pre-hearing submission of industrial	23	
24	customers.	24	
25 CHA	AIRMAN:	25	
	Page 27		Page 28
1	especially the transcriber, so I've asked that	1	
2	everybody make every effort to assist us in	2	1 1
3	clarifying who's to answer the question and	3	1 5
4	who, in fact, is answering the question.	4	
	EENE, Q.C.:	5	1
	). Are you going to swear the witnesses?	6	1 1 2
	AIRMAN:	7	
8 Q	2. Yes. That's a bit of a task in itself. I've	8	5 1 5
9	never had to swear in four witnesses before,	9	the responsibilities of that position?
10	but I guess we have to do it individually.	10	MR. HAYNES:
11	We'll start with the gentleman on the far	11	A. I'm currently the vice-president of
12	right.	12	production. The responsibilities of the vice-
13 GRE	EENE, Q.C.:	13	president's position are six functional groups
14 Q	o. Mr. McDonald.	14	within Hydro. It's the information systems
15 CHA	AIRMAN:	15	and telecommunications; generation
16 Ç	2. Would you state your name, please?	16	engineering; the thermal production section;
17 MR.	MCDONALD:	17	the hydraulic production section; system
18 Ç	Q. Kenneth G. McDonald.	18	planning, which looks after generation,
19 MR.	. KENNETH G. MCDONALD (SWORN)	19	transmission and distribution planning for
20 MR.	JAMES HAYNES ( SWORN)	20	Hydro; and lastly, the systems operations
21 MR.	ERIC DOWNTON (SWORN)	21	group which basically run the day-to-day
22 MR.	. GERARD DUNPHY (SWORN)	22	operations of the bulk electrical system and
23 CHA	AIRMAN:	23	major generation on the island.
1	o. Okay. Ms. Greene.	24	Q. Mr. Haynes, how long have you been vice-
24 Q			

	Page 29		Page 30
1	A. A little over two years.	1	strategy planning for the Hydro Group of
2	Q. And how long have you been with Hydro and what	2	companies, information technologies.
3	positions have you held prior to your current	3	Q. How long have you been in your current
4	position?	4	position?
5	A. I've been with Hydro for twenty-six years,	5	A. I've been in my current position now three
6	starting as a graduate engineer, eventually	6	years.
7	moving to system planning as a planning	7	Q. How long have you been with Hydro and what
8	engineer, eventually to manager of	8	positions have you held prior to your current
9	transmission planning, and worked on the	9	position?
10	construction of Holyrood No. 3 unit, and	10	
11	eventually, in 1989, I left Hydro and went to	11	started in 1979 as engineer programmer with
12	a subsidiary company, Churchill Falls Labrador	12	
13	Corporation, as the director of plant	13	1 1
14	operations and maintenance, and in 1996, I	14	
15	assumed the position of general manager. In	15	Terminal Generating Station as the electrical
16	1999, I returned to Hydro, and in 2001, I was	16	
17	appointed vice-president of production.	17	the EMS Project as a systems engineer
18	Q. Mr. Downton, what is your current position	18	1
19	with Hydro?	19	
20 M	MR. DOWNTON:	20	
21	A. I am director of information systems and	21	project became operational, I became manager
22	telecommunications department.	22	
23	Q. And what are the responsibilities of that	23	
24	position?	24	e
25	A. I'm responsible for all short and long term	25	and energy management groups. I became
	Page 31		Page 32
1	manager of those two departments, and then in	1	telecontrol department. In 2000, I was
2	1999, with the merger of the telecontrol EMS	2	
3	and MIS departments into the now IS & T	3	<b>,</b>
4	Department, I was manager of business	4	appointed manager of network services, and
5	solutions and support. And then in 2000, I	5	5 5 7 11 6
6	became the director of information systems and	6	
7	telecommunications.	7	ε
8	Q. Mr. Dunphy, what is your current position with	8	
9	Hydro and what are the responsibilities of	9	1
10	that position?	10	
	MR. DUNPHY:	11	A. I'm a professional engineer with thirteen
12	A. My current position with Hydro is manager of	12	
13	infrastructure and software support, and I am	13	2 I
14	responsible primarily for the operations of	14	
15	our telecommunications and computing	15	1 1 2
16	infrastructure.		(10:00 a.m.)
17	Q. How long have you been in your current	17	Q. And do you have your Masters in Engineering as
18	position?	18	
19	A. I've been in the current position for	19	
20	approximately four months.	20	0
21	Q. And how long have you been with Hydro and what	21	Q. Mr. McDonald, what is your current position
22	positions have you held prior to your current	22	
23	one?	23	
24	A. I've been with Hydro for twelve years. I		MR. MCDONALD:
25	began as a communications engineer in the	25	A. I am the labour manager for the Central

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	Page 33		Page 34
1	Region. In that position, I'm responsible for	1	Stephenville area, the western area, and in
2	the labour resource, the tradespersons. I am	2	1999, my latest appointment to labour manager,
3	responsible for acquiring those people, hiring	3	Central region.
4	those people, for training and providing the	4	Q. Turning now specifically to the 2004 Capital
5	tools and equipment associated with their	5	Budget, I wonder, Mr. Haynes, if you could
6	particular trades.	6	refer please to page A1. What are the areas
7	Q. How many employees would report to you in that	7	of responsibility indicated on page A1 for
8	position?	8	which you are responsible?
9	A. Anywhere from a hundred and thirty-five to a		MR. HAYNES:
10	hundred and sixty, depending on time of the	10	A. It's not on the screen here. Should this be
11	year.	11	on the screen?
12	Q. How long have you been in that position?	12	Q. Yes, page A1, Mr. O'Reilly, please.
13	A. I have been in that position for four years.	13	A. On page A1, basically the production division
14	Q. How long have you been with Hydro and what	14	is responsible for the section generation on
15	positions have you held with Hydro prior to	15	page A1, as well as a large portion of the
16	your current position?	16	general property section, which basically is
17	A. I have been with Hydro for thirty-four years.	17	specifically the IS & T section.
18	I started as a line worker apprentice in	18	Q. Okay. So we turn to page A2, where there is a
19	Stephenville. I spent most of my career there	19	little bit more of a breakdown. Could you
20	as a transmission line worker. In about 1977,	20	indicate on page A2, what are the subject
21	I was promoted to a transmission line	21	areas that you responsible for?
22	supervisor, a little later than that, a senior	22	A. The subject areas are the hydro plant,
23	supervisor of transmission and distribution	23	construction projects, tools and equipment and
24	for the Western area, and in about 1997, I was	24	the thermal plant property additions,
25	promoted to the area superintendent for the	25	construction projects, tools and equipment.
	Page 35		Page 36
1	Page 35 Q. Similarly on page A3?	1	Page 36 for the purposes of this hearing?
1 2	-	1 2	-
	<ul><li>Q. Similarly on page A3?</li><li>A. The information systems and telecommunications section, line one.</li></ul>		for the purposes of this hearing? A. I do. Q. Mr. Haynes, as the executive responsible for
2	<ul><li>Q. Similarly on page A3?</li><li>A. The information systems and telecommunications section, line one.</li><li>Q. Mr. Haynes, starting on page A4, there is more</li></ul>	2	<ul><li>for the purposes of this hearing?</li><li>A. I do.</li><li>Q. Mr. Haynes, as the executive responsible for production, would you please explain what your</li></ul>
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Page 37		Page 38
1 Hydro and submission and approval by the	1	infrastructure and upgrade of technology.
2 Public Utilities Board, what will be your role	2	Q. And the project justifications that are
3 with respect to any Capital Budget proposed	3	contained in Section B for these projects,
4 once it's approved?	4	were they prepared within your department and
5 A. Basically to ensure that they are completed on	5	under your direction?
6 time and on budget.	6	A. Yes, they were.
7 Q. Mr. Downton, with respect to the 2004 Capital	7	Q. Do you accept them as your evidence for the
8 Budget, I think you've already indicated your	8	purposes of this hearing?
9 area of responsibility for information	9	A. Yes, I do accept them.
10 services and telecommunications. Could you	10	Q. Similarly, with respect to the evidence in the
11 please turn to page A8 of the Capital Budget	11	pre-filed evidence that has been filed with
12 application? Could you please indicate what	12	the Board, were you involved in the
13 projects you are responsible for on this page?	13	preparation of the evidence in so far as it
14 MR. DOWNTON:	14	related to the information systems and
15 A. Basically all of the projects under headings,	15	telecommunications projects?
16 software applications, infrastructure	16	A. Yes.
17 replacement, new infrastructure, computer	17	Q. And do you accept that pre-filed evidence as
18 operations, infrastructure replacement and new	18	your own for the purposes of the hearing?
19 infrastructure and I guess, upgrade of	19	A. Yes, I accept that evidence.
20 technology.	20	Q. As a director of the department, what was your
21 Q. Similarly on page A9, what are the projects	20	role in the preparation of the 2004 Capital
22 prepared within your department?	21	Budget projects in your area of
<ul> <li>A. Basically all of these projects which come</li> </ul>	22	responsibility?
24 under the headings network services,	23	A. I guess I worked with my management team to
25 infrastructure replacement, network	24	ensure that we have budgets put in place to
	25	
Page 39		Page 40
1 support the business requirements. We review	1	network services, I was the project manager
<ol> <li>the technology direction and the Capital</li> <li>Budget proposals to ensure that there's</li> </ol>	$\begin{vmatrix} 2 \\ 2 \end{vmatrix}$	responsible for this particular project. I was also a member of the technical team that
	3	evaluated the alternatives.
<ul> <li>4 consistency. After we do that review, I meet</li> <li>5 with the business directors to ensure that the</li> </ul>	5	Q. Are you familiar with the technical aspects as
		outlined in the project justification for this
	6	project?
<ul><li>7 after that, I basically submit my proposals to</li><li>8 Mr. Haynes and we review those and then after</li></ul>	7	A. Yes.
-	8	
9 that, we basically present them to executive	9	Q. And are you familiar with the cost estimates
10 management.	10	that have been provided?
11 Q. Once the project is approved by the Public	11	A. Yes.
12 Utilities Board, what will be your role in	12	Q. Mr. McDonald, as we indicated, has also been
13 2004 Capital Budget project in your area of	13	called only with respect to one project, the
14 responsibility?	14	VHF Mobile Radio Replacement Project, and I
15 A. My responsibility is to ensure that the	15	wonder, Mr. McDonald, could you outline for
16 projects are executed properly.	16	the Commissioners what your experience has
17 Q. Mr. Dunphy. Mr. Dunphy, as we've already	17	been with respect to the operation of the VHF
18 indicated, is called only with respect to the	18	Mobile Radio system currently owned by Hydro?
10 tashnical constant the TITE M. 1.1. D. 1.		MR. MCDONALD:
19 technical aspects of the VHF Mobile Radio		A May approximation as which the assument and the line line line line line line line lin
20 Replacement Project. Mr. Dunphy, what was	20	A. My experience with the current system has been
<ul> <li>20 Replacement Project. Mr. Dunphy, what was</li> <li>21 your role with respect to this particular</li> </ul>	20 21	good. We use it for basic communications,
<ul> <li>20 Replacement Project. Mr. Dunphy, what was</li> <li>21 your role with respect to this particular</li> <li>22 project?</li> </ul>	20 21 22	good. We use it for basic communications, talking to our work crews that are out there.
<ul> <li>20 Replacement Project. Mr. Dunphy, what was</li> <li>21 your role with respect to this particular</li> <li>22 project?</li> <li>23 MR. DUNPHY:</li> </ul>	20 21 22 23	good. We use it for basic communications, talking to our work crews that are out there. We use it for switching lines in and out,
<ul> <li>20 Replacement Project. Mr. Dunphy, what was</li> <li>21 your role with respect to this particular</li> <li>22 project?</li> </ul>	20 21 22	good. We use it for basic communications, talking to our work crews that are out there.

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# Multi-Page<sup>™</sup>NL Hydro 2004 Capital Budget Application

	v 7, 2005	1	ge AL Hydro 2004 Capital Duuget Application
	Page 41		Page 42
1	also use it in the event of an emergency to	1	components before, you know, during its normal
2	contact emergency services.	2	useful life. The exciter is one of those.
3	Q. And how long have you had experience with the	3	It's the seventh exciter to be replaced at Bay
4	VHF Mobile Radio System?	4	D'Espoir. It's slightly different than the
5	A. We have had a VHF Radio System for just about	5	ones on unit No. 1 to 6 as that particular
6	all of my career, so I would say perhaps	6	unit was built in 1977. It basically entails
7	thirty-three years. I do remember the first	7	just the replacement of that particular
8	few years I was with the Power Commission, at	8	component and the funds required approved last
9	that time we did have a different type of	9	year, basically are to do the specification,
10	radio system. I'm not aware of the technical	10	do the preliminary engineering assessment of
11	term, but it was not VHF. It was similar to	11	any particulars for that particular project.
12	CB perhaps, Citizen's Band. It was very	12	Q. Will that complete the replacement of all the
13	ineffective, but since that time, we have had	13	exciters in the units at Bay D'Espoir?
14	VHF Radio.	14	A. At Bay D'Espoir, yes.
15	Q. Okay. Mr. Haynes, I'd like now to turn back	15	Q. The second project there is Gate Hoist No. 2
16	to page A4, and I wanted to very briefly	16	at Ebbegunbaeg. I wonder if you could please
17	review the projects listed there under Hydro	17	briefly outline that project?
18	plant where the value is over five hundred	18	A. At that particular structure, there are three
19	thousand dollars. I wonder if you could give	19	gates and they are all a screw-type gate.
20	a brief outline, for the Commissioners, of the	20	Gate No. 2 is normally in use basically all
20	first project there, replace Unit No. 7	20	the time to regulate the flows of water to the
			plant downstream to ensure that we have enough
22	Exciter at Bay D'Espoir? MR. HAYNES:	22	water and to maintain the head level so that
		23	
24	A. Okay. With a hydro plant, it's typical over the life of a plant, to replace contain large	24	we optimize the generation. We've had quite a
25	the life of a plant to replace certain key	25	history of problems with the screw-type gate.
	Page 43		Page 44
1	Every year we spent more and more money and	1	Q. The last Hydro project shown there, over half
2	they have not been reliable. Our plan is to	2	a million dollars, is the replacement of an
3	only replace the centre gate, No. 2, to a gate	3	Exciter for Unit 2 at Cat Arm. Could you
4	hoist type mechanism, which, as I explained	4	
5		4	please outline that project?
1	last year actually, is similar to what's used	5	A. That again is similar to the Governor on Unit
6	last year actually, is similar to what's used in Churchill Falls and quite successfully, and		<ul><li>A. That again is similar to the Governor on Unit</li><li>No. 2. It basically is an obsolescence issue</li></ul>
	last year actually, is similar to what's used in Churchill Falls and quite successfully, and then basically the spare parts that we get	5	<ul> <li>A. That again is similar to the Governor on Unit</li> <li>No. 2. It basically is an obsolescence issue</li> <li>with the manufacturer no longer supporting and</li> </ul>
6	last year actually, is similar to what's used in Churchill Falls and quite successfully, and then basically the spare parts that we get from the replacement, we'll use to extend the	5 6	<ul> <li>A. That again is similar to the Governor on Unit</li> <li>No. 2. It basically is an obsolescence issue</li> <li>with the manufacturer no longer supporting and</li> <li>cutback. The company has basically been</li> </ul>
6 7 8 9	last year actually, is similar to what's used in Churchill Falls and quite successfully, and then basically the spare parts that we get from the replacement, we'll use to extend the life, long term, of gates number 1 and 3.	5 6 7	<ul> <li>A. That again is similar to the Governor on Unit</li> <li>No. 2. It basically is an obsolescence issue</li> <li>with the manufacturer no longer supporting and</li> <li>cutback. The company has basically been</li> <li>bought by others and their product line or</li> </ul>
6 7 8	<ul><li>last year actually, is similar to what's used in Churchill Falls and quite successfully, and then basically the spare parts that we get from the replacement, we'll use to extend the life, long term, of gates number 1 and 3.</li><li>Q. The third project, also under Hydro, is the</li></ul>	5 6 7 8	<ul> <li>A. That again is similar to the Governor on Unit No. 2. It basically is an obsolescence issue with the manufacturer no longer supporting and cutback. The company has basically been bought by others and their product line or some of their product line has been</li> </ul>
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6 7 8 9 10 11 12 13	<ul><li>last year actually, is similar to what's used in Churchill Falls and quite successfully, and then basically the spare parts that we get from the replacement, we'll use to extend the life, long term, of gates number 1 and 3.</li><li>Q. The third project, also under Hydro, is the replacement of Unit 2 Governor Controls at Cat Arm. Could you please briefly outline that project?</li></ul>	5 6 7 8 9 10 11	<ul> <li>A. That again is similar to the Governor on Unit No. 2. It basically is an obsolescence issue with the manufacturer no longer supporting and cutback. The company has basically been bought by others and their product line or some of their product line has been discontinued, and no support available.</li> <li>Q. If we could turn now please to page A5. Moving to Holyrood, your Thermal Plant, the</li> </ul>
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6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	<ul> <li>last year actually, is similar to what's used in Churchill Falls and quite successfully, and then basically the spare parts that we get from the replacement, we'll use to extend the life, long term, of gates number 1 and 3.</li> <li>Q. The third project, also under Hydro, is the replacement of Unit 2 Governor Controls at Cat Arm. Could you please briefly outline that project?</li> <li>A. Cat Arm, I guess Governor replacement is similar to the Bay D'Espoir. It is not as old as Bay D'Espoir. That particular manufacturer (unintelligible) slopes for Hydro has long since disappeared and bought by another company who no longer provide any form of service for that particular product, you know, card replacement or technical services. So basically it's being replaced because of</li> </ul>	5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	<ul> <li>A. That again is similar to the Governor on Unit No. 2. It basically is an obsolescence issue with the manufacturer no longer supporting and cutback. The company has basically been bought by others and their product line or some of their product line has been discontinued, and no support available.</li> <li>Q. If we could turn now please to page A5. Moving to Holyrood, your Thermal Plant, the first project there, over half a million dollars, is upgrade the control system for Holyrood. Could you please outline this project very briefly, please?</li> <li>A. The control system with Holyrood basically is, I guess, the central computing system and there are two or three there which basically controls the boiler, the turbine machinery. The particular product that's in place right</li> </ul>
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	Page 45		Page 46
1	three words at the end of their company's	1	particles, which basically is greater than
2	name. However, they have maintained that	2	forty microns, which basically is soot sort of
3	particular product. They have a commitment to	3	thing, and sulphur dioxide. We have been
4	maintain products and they have a life cycle	4	pressured and have had quite a bit of dialogue
5	process whereby they guarantee maintenance and	5	with the Provincial regulator and a lot of
6	support for a certain period of time. For the	6	pressure, coaching and insistence, in some
7	control system on Unit No. 1 and 2, that	7	cases, to enhance that monitoring system. And
8	particular support, it reached the end of that	8	basically, the proposal is to measure fine
9	support in the end of 2002sorry, 2001, and	9	particulents, which basically is breathing,
10	for Unit No. 3, that support expired at the	10	two and a half micron fine particulents which
11	end of the year 2002. Our plan is basically	11	is a health issue, as well as nitrous oxide.
12	to replace that system with a system which is	12	With that particular system, along with what
13	actively supported by the vendor and has an	13	we've installed to date, we will have the
14	assurance of at least ten, if not fifteen	14	information that will be required, I guess, as
15	years of vendor support and guaranteed spare	15	we go down the road to further environmental
16	components.	16	regulation and direction to ensure that we are
17	Q. The last project, under generation, which is	17	proposing capital projects on a future basis,
18	also at Holyrood, is the ambient monitoring	18	which are fixing the problem and not
19	system enhancement. Could you please outline	19	(unintelligible) the real data.
20	that project?	20 Q	. Turning now to your last area of
21	A. At the moment, we have four remote sites that	21	responsibility, I wonder, Mr. Haynes, if you
22	have been installed, I guess, before 2000 and	22	could turn to page A8, information systems and
23	we are installing a fifth site this year,	23	telecommunications. The first project there,
24	which was approved last year. The current	24	over half a million dollars, is the
25	sites basically measure total suspended	25	replacement of the energy management system or
	Page 47		Page 48
1	Page 47 the EMS system. Could you please briefly	1	Page 48 the Board of the infrastructure replacement
1 2	Page 47 the EMS system. Could you please briefly outline that project?	1 2	-
	the EMS system. Could you please briefly outline that project?		the Board of the infrastructure replacement
2	the EMS system. Could you please briefly	2 3	the Board of the infrastructure replacement project called end-user and server Evergreen
2 3	<ul><li>the EMS system. Could you please briefly outline that project?</li><li>A. The Energy Management System that's now used</li></ul>	2 3 4 MR.	the Board of the infrastructure replacement project called end-user and server Evergreen program?
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2 3 4 5	<ul><li>the EMS system. Could you please briefly outline that project?</li><li>A. The Energy Management System that's now used is a GEit's a Harris system, now GE Harris, who bought that particular entity. It was</li></ul>	2 3 4 MR. 5 A	the Board of the infrastructure replacement project called end-user and server Evergreen program? DOWNTON: The end-user and server infrastructure
2 3 4 5 6	<ul><li>the EMS system. Could you please briefly outline that project?</li><li>A. The Energy Management System that's now used is a GEit's a Harris system, now GE Harris, who bought that particular entity. It was installed in, I think, 1989, when Hydro moved</li></ul>	2 3 4 MR. 5 A 6	the Board of the infrastructure replacement project called end-user and server Evergreen program? DOWNTON: The end-user and server infrastructure replacement program really is comprised of
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2 3 4 5 6 7 8 9 10 11 12 13 14 15	<ul> <li>the EMS system. Could you please briefly outline that project?</li> <li>A. The Energy Management System that's now used is a GEit's a Harris system, now GE Harris, who bought that particular entity. It was installed in, I think, 1989, when Hydro moved to the new building and it's been in use ever since, and provided, for the most part, reliable service. It's been expanded to incorporate the growth that we've achieved. It, however, is again at the end of its useful life. By the time it's replaced in 2006, I think it'll be finished, it'll be approximately fifteen years old, twelve to fifteen years old, and our intention is to</li> </ul>	2 3 4 MR. 5 A 6 7 8 9 10 11 12 13 14 15	the Board of the infrastructure replacement project called end-user and server Evergreen program? DOWNTON: The end-user and server infrastructure replacement program really is comprised of four main areas. The first area is desk top evergreen, which basically 2004 will be the second year of the program to refresh the desk top infrastructure throughout Hydro, and the focus will be primarily to Bishop Falls office area and part of Hydro Place. Again, the first year of that program is 2003. There will be approximately two hundred and twenty units replaced in 2004. The actual cost for
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2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	<ul> <li>the EMS system. Could you please briefly outline that project?</li> <li>A. The Energy Management System that's now used is a GEit's a Harris system, now GE Harris, who bought that particular entity. It was installed in, I think, 1989, when Hydro moved to the new building and it's been in use ever since, and provided, for the most part, reliable service. It's been expanded to incorporate the growth that we've achieved. It, however, is again at the end of its useful life. By the time it's replaced in 2006, I think it'll be finished, it'll be approximately fifteen years old, twelve to fifteen years old, and our intention is to continue with what we have and toit's essential to maintain the day-to-day</li> </ul>	2 3 4 MR. 5 A 6 7 8 9 10 11 12 13 14 15 16 17	the Board of the infrastructure replacement project called end-user and server Evergreen program? DOWNTON: The end-user and server infrastructure replacement program really is comprised of four main areas. The first area is desk top evergreen, which basically 2004 will be the second year of the program to refresh the desk top infrastructure throughout Hydro, and the focus will be primarily to Bishop Falls office area and part of Hydro Place. Again, the first year of that program is 2003. There will be approximately two hundred and twenty units replaced in 2004. The actual cost for the equipment and installation costs are approximately seven hundred thousand dollars.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	<ul> <li>the EMS system. Could you please briefly outline that project?</li> <li>A. The Energy Management System that's now used is a GEit's a Harris system, now GE Harris, who bought that particular entity. It was installed in, I think, 1989, when Hydro moved to the new building and it's been in use ever since, and provided, for the most part, reliable service. It's been expanded to incorporate the growth that we've achieved. It, however, is again at the end of its useful life. By the time it's replaced in 2006, I think it'll be finished, it'll be approximately fifteen years old, twelve to fifteen years old, and our intention is to continue with what we have and toit's essential to maintain the day-to-day operations of the system, and I guess, just</li> </ul>	2 3 4 MR. 5 A 6 7 8 9 10 11 12 13 14 15 16 17 18	the Board of the infrastructure replacement project called end-user and server Evergreen program? DOWNTON: The end-user and server infrastructure replacement program really is comprised of four main areas. The first area is desk top evergreen, which basically 2004 will be the second year of the program to refresh the desk top infrastructure throughout Hydro, and the focus will be primarily to Bishop Falls office area and part of Hydro Place. Again, the first year of that program is 2003. There will be approximately two hundred and twenty units replaced in 2004. The actual cost for the equipment and installation costs are approximately seven hundred thousand dollars. Also, the second item in there is additional
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	<ul> <li>the EMS system. Could you please briefly outline that project?</li> <li>A. The Energy Management System that's now used is a GEit's a Harris system, now GE Harris, who bought that particular entity. It was installed in, I think, 1989, when Hydro moved to the new building and it's been in use ever since, and provided, for the most part, reliable service. It's been expanded to incorporate the growth that we've achieved. It, however, is again at the end of its useful life. By the time it's replaced in 2006, I think it'll be finished, it'll be approximately fifteen years old, twelve to fifteen years old, and our intention is to continue with what we have and toit's essential to maintain the day-to-day operations of the system, and I guess, just this year, we had one major failure, which</li> </ul>	2 3 4 MR. 5 A 6 7 8 9 10 11 12 13 14 15 16 17 18 19	the Board of the infrastructure replacement project called end-user and server Evergreen program? DOWNTON: The end-user and server infrastructure replacement program really is comprised of four main areas. The first area is desk top evergreen, which basically 2004 will be the second year of the program to refresh the desk top infrastructure throughout Hydro, and the focus will be primarily to Bishop Falls office area and part of Hydro Place. Again, the first year of that program is 2003. There will be approximately two hundred and twenty units replaced in 2004. The actual cost for the equipment and installation costs are approximately seven hundred thousand dollars. Also, the second item in there is additional tools to support the help desk, which is
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	<ul> <li>the EMS system. Could you please briefly outline that project?</li> <li>A. The Energy Management System that's now used is a GEit's a Harris system, now GE Harris, who bought that particular entity. It was installed in, I think, 1989, when Hydro moved to the new building and it's been in use ever since, and provided, for the most part, reliable service. It's been expanded to incorporate the growth that we've achieved. It, however, is again at the end of its useful life. By the time it's replaced in 2006, I think it'll be finished, it'll be approximately fifteen years old, twelve to fifteen years old, and our intention is to continue with what we have and toit's essential to maintain the day-to-day operations of the system, and I guess, just this year, we had one major failure, which caused considerable delay in returning power</li> </ul>	2 3 4 MR. 5 A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	the Board of the infrastructure replacement project called end-user and server Evergreen program? DOWNTON: The end-user and server infrastructure replacement program really is comprised of four main areas. The first area is desk top evergreen, which basically 2004 will be the second year of the program to refresh the desk top infrastructure throughout Hydro, and the focus will be primarily to Bishop Falls office area and part of Hydro Place. Again, the first year of that program is 2003. There will be approximately two hundred and twenty units replaced in 2004. The actual cost for the equipment and installation costs are approximately seven hundred thousand dollars. Also, the second item in there is additional tools to support the help desk, which is approximately a hundred and thirty thousand
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	<ul> <li>the EMS system. Could you please briefly outline that project?</li> <li>A. The Energy Management System that's now used is a GEit's a Harris system, now GE Harris, who bought that particular entity. It was installed in, I think, 1989, when Hydro moved to the new building and it's been in use ever since, and provided, for the most part, reliable service. It's been expanded to incorporate the growth that we've achieved. It, however, is again at the end of its useful life. By the time it's replaced in 2006, I think it'll be finished, it'll be approximately fifteen years old, twelve to fifteen years old, and our intention is to continue with what we have and toit's essential to maintain the day-to-day operations of the system, and I guess, just this year, we had one major failure, which caused considerable delay in returning power to particularly the west coast, and I think</li> </ul>	2 3 4 MR. 5 A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	the Board of the infrastructure replacement project called end-user and server Evergreen program? DOWNTON: The end-user and server infrastructure replacement program really is comprised of four main areas. The first area is desk top evergreen, which basically 2004 will be the second year of the program to refresh the desk top infrastructure throughout Hydro, and the focus will be primarily to Bishop Falls office area and part of Hydro Place. Again, the first year of that program is 2003. There will be approximately two hundred and twenty units replaced in 2004. The actual cost for the equipment and installation costs are approximately seven hundred thousand dollars. Also, the second item in there is additional tools to support the help desk, which is approximately a hundred and thirty thousand dollars. As indicated in the evidence we filed, we will be looking at significant changes to our server infrastructure in 2004,
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	<ul> <li>the EMS system. Could you please briefly outline that project?</li> <li>A. The Energy Management System that's now used is a GEit's a Harris system, now GE Harris, who bought that particular entity. It was installed in, I think, 1989, when Hydro moved to the new building and it's been in use ever since, and provided, for the most part, reliable service. It's been expanded to incorporate the growth that we've achieved. It, however, is again at the end of its useful life. By the time it's replaced in 2006, I think it'll be finished, it'll be approximately fifteen years old, twelve to fifteen years old, and our intention is to continue with what we have and toit's essential to maintain the day-to-day operations of the system, and I guess, just this year, we had one major failure, which caused considerable delay in returning power to particularly the west coast, and I think the timing, from that perspective, is more</li> </ul>	2 3 4 MR. 5 A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	the Board of the infrastructure replacement project called end-user and server Evergreen program? DOWNTON: The end-user and server infrastructure replacement program really is comprised of four main areas. The first area is desk top evergreen, which basically 2004 will be the second year of the program to refresh the desk top infrastructure throughout Hydro, and the focus will be primarily to Bishop Falls office area and part of Hydro Place. Again, the first year of that program is 2003. There will be approximately two hundred and twenty units replaced in 2004. The actual cost for the equipment and installation costs are approximately seven hundred thousand dollars. Also, the second item in there is additional tools to support the help desk, which is approximately a hundred and thirty thousand dollars. As indicated in the evidence we filed, we will be looking at significant changes to our server infrastructure in 2004, and I guess, what we've proposed to executive
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	<ul> <li>the EMS system. Could you please briefly outline that project?</li> <li>A. The Energy Management System that's now used is a GEit's a Harris system, now GE Harris, who bought that particular entity. It was installed in, I think, 1989, when Hydro moved to the new building and it's been in use ever since, and provided, for the most part, reliable service. It's been expanded to incorporate the growth that we've achieved. It, however, is again at the end of its useful life. By the time it's replaced in 2006, I think it'll be finished, it'll be approximately fifteen years old, twelve to fifteen years old, and our intention is to continue with what we have and toit's essential to maintain the day-to-day operations of the system, and I guess, just this year, we had one major failure, which caused considerable delay in returning power to particularly the west coast, and I think the timing, from that perspective, is more than appropriate to replace the system.</li> </ul>	2 3 4 MR. 5 A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	the Board of the infrastructure replacement project called end-user and server Evergreen program? DOWNTON: The end-user and server infrastructure replacement program really is comprised of four main areas. The first area is desk top evergreen, which basically 2004 will be the second year of the program to refresh the desk top infrastructure throughout Hydro, and the focus will be primarily to Bishop Falls office area and part of Hydro Place. Again, the first year of that program is 2003. There will be approximately two hundred and twenty units replaced in 2004. The actual cost for the equipment and installation costs are approximately seven hundred thousand dollars. Also, the second item in there is additional tools to support the help desk, which is approximately a hundred and thirty thousand dollars. As indicated in the evidence we filed, we will be looking at significant changes to our server infrastructure in 2004,

# Multi-Page<sup>™</sup>NL Hydro 2004 Capital Budget Application

July	1,2003	viuiti-r	age ML Hyuro 2004 Capital Duuget Application
	Pag	ge 49	Page 50
1	significantly shrink the number of servers	1	see the end of its useful life in 2003, end of
2	that we have throughout the organization.	2	2003. And also, the server to replace the ten
3	Right now we basically have twelve what we	3	units that will be taken out of Hydro Place
4	call server farms located in all of our area	4	will be single blade server, going in there at
5	offices, and our objective is to replace those	5	
6	such that we have centralized e-mail, file and	6	
7	database services done only from Hydro Place,	7	
8	and we will take advantage of our wide area	8	
9	network infrastructure to access that	9	
10	information. So the only servers that will be	10	costs of about seventy-two thousand dollars.
11	remaining outside of Hydro Place will be	11	The fourth component of the budget
12	primarily for print services and also for	12	proposal is the replacement of the AS 400
13	anti-virus detection. That is a considerable	13	computers. Both computers have reached the
14	effort. What will be done in 2004, we will be	14	
15	replacing ten servers in Hydro Place, as part	15	systems will not be supported in the near
16	of that server consolidation, and then through	16	
17	future years, we will be replacing the servers	17	replace the existing 640 and 720 model 400
18	in the field that are providing print services	18	computers with a single, what is called now an
19	on an as-required basis.	19	I series computer, and that will result in
20	The server infrastructure portion	20	about three hundred and fifty thousand dollars
21	basically is comprised of four different	21	on licensing and software cost savings over
22	components. There is a Microsoft Quick Start	22	the next five years.
23	program, which is really a planning initiative		(10:20 a.m.)
24	to plan out the changes of migrating from	24	Q. So those four components comprise that project
25	Windows NT to Windows 2003. Windows NT will		
	Pag	ge 51	Page 52
1	A. That's right, and that will total of two point	1	architecture so that the single point of
2	four million dollars, plus overheads and	2	
3	contingencies, et cetera.	3	
4	Q. Turning now to page A9. There's one project		
5	there I'd like you to outline, Mr. Downton,	5	questions, except for the presentation on the
6	before we get to the VHF radio, and that is	6	
7	the replacement of operational data and voice	7	
8	network there under upgrade technology. Coul		
9	you please briefly outline that project?	9	after the break?
10	A. Yes, as the project description indicates,	10	CHAIRMAN:
11	this is phase two of a plan to replace the	11	Q. I think we'll have the break and we'll do
12	existing fifteen to twenty-year-old	12	that. Maybe you need some set-up time anyway,
13	operational voice and data network equipment		do you?
14	The design and planning work completed in		GREENE, Q.C.:
15	2003. In 2004, it is proposed that the SCADA	15	Q. No, I think we're going to run it from the
16	data network equipment be replaced with a	16	
17	router-based design using Internet protocol	17	CHAIRMAN:
18	routing. The design will be compatible with	18	Q. You're going to do on there, okay. We'll
19	the existing Energy Management System, sind		break for fifteen minutes.
20	this is a fundamental component to support	20	(BREAK - 10:23 a.m.)
21	that system, but it will also be compatible	21	(RESUMED - 10:43 a.m.)
22	with the protocol that will be supported by	22	CHAIRMAN:
23	the new Energy Management System, which w	will 23	Q. Anything further that you have, Ms. Greene?
1.1	be an IP based protocol, and basically from a	24	GREENE, Q.C.:
24	be an in Subea protocoli, and Subleany nomin	1 = -	GREENE, Q.C

	Page 53		Page 54
1	CHAIRMAN:	1	of some of the technologies from a
2	Q. Oh yes, you have the presentation, yes.	2	telecommunications perspective that Hydro
3	GREENE, Q.C.:	3	uses. And I guess bring some clarity to maybe
4	Q. Mr. Downton will take us through the	4	some of the confusion on some of the
5	presentation. We will be able to see it on	5	technology terms. Terry, you can go to the
6	the monitors and as well, hard copies of the	6	next slide.
7	presentation have been provided to the parties	7	I guess Hydro's communications
8	as well as to the Commissioners. There's 30	8	requirements are listed on the screen. The
9	slides, it should take roughly 45 minutes.	9	first and foremost and most important service
10	MR. KENNEDY:	10	from a communications perspective that we
11	Q. Can we enter that as an exhibit, Ms. Greene,	11	provide is teleprotection. Teleprotection is
12	and it would be Consent number or exhibitwe	12	power system protection signalling and what
13	can use initials for the panel members. Okay.	13	that basically means is if the protection and
14	Exhibit number 1.	14	control equipment finds a fault, say, on a
15	EXHIBIT ENTERED ON HEARING AND MARKED EXHIBIT NO. 1	15	transmission line, then that equipment will
16	GREENE, Q.C.:	16	give a signal to the communications system and
17	Q. Thank you. Mr. Downton, if you could, you can	17	it will send a signal down the line to the
18	just start and take us through the	18	next substation to open a breaker and breakers
19	presentation.	19	will be opened on both ends of the line and
20	MR. DOWNTON:	20	that will minimize the disruption to the power
21	Q. This is an overview of Hydro's	21	system and also to protect the equipment.
22	telecommunications plan. It based primarily	22	The second bullet basically talks about
23	on the submission of 1997 of the	23	data communications and the primary focus here
24	telecommunications to the Board. And it's	24	is communications that supports the energy
25	just an attempt to provide overall knowledge	25	dispatch centre. It brings back status of
	Page 55		Page 56
1	breakers, generating units and transmission	1	the first one is microwave and we'll talk a
2	lines, et cetera from the various terminal	2	little bit about that in a few minutes. Power
3	stations and generating stations across the	3	Line Carrier, often referred to as PLC and
4	Island and into Labrador back to the energy	4	we're looking at high voltage PLC and the
5	control centre and we basically refer to this	5	230,000 volt and 138,000 volt range. VHF
6	as SCADA data; SCADA referring to Supervisory	6	mobile radio which again we'll speak to on it
7	Control And Data Acquisition.	7	further. Satellite communications, the only
8	The next item, operational voice, this is	8	satellite network that we now have basically
9	telephone service between the terminal and	9	runs between St. John's and Churchill Falls
10	generating stations and the energy control	10	and in addition to supporting CF(L)CO,
11	centre. And the primary focus of this	11	basically brings back operational voice and
12	communications medium is in support of the	12	data in support of the Happy Valley Terminal
13	core business of power dispatch. Operational	13	station and gas turbine.
14	data refers to data that's not addressed by	14	Fibre optic cable, Hydro's use of fibre
15	SCADA data, but is also used for other alarm	15	optic cable is pretty much limited to
16	and monitoring systems that Hydro has. And it	16	providing communications between our remote
110	and monitoring systems that rivero has. This it		
17	brings back information on such things as	17	hydro sites and outlying structures such as
		17 18	hydro sites and outlying structures such as spillways, control structures, spillway
17	brings back information on such things as		
17 18	brings back information on such things as fault recorders, et cetera. Administrative	18	spillways, control structures, spillway
17 18 19	brings back information on such things as fault recorders, et cetera. Administrative voice is voice which we typically look at for	18 19	spillways, control structures, spillway structures, et cetera. Wide area network,
17 18 19 20	brings back information on such things as fault recorders, et cetera. Administrative voice is voice which we typically look at for general administration purposes. And	18 19 20	spillways, control structures, spillway structures, et cetera. Wide area network, I'll just use that as an acronym, but wide
17 18 19 20 21	brings back information on such things as fault recorders, et cetera. Administrative voice is voice which we typically look at for general administration purposes. And administrative data, we refer to data	18 19 20 21	spillways, control structures, spillway structures, et cetera. Wide area network, I'll just use that as an acronym, but wide area network is really a series of
<ol> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> <li>22</li> </ol>	brings back information on such things as fault recorders, et cetera. Administrative voice is voice which we typically look at for general administration purposes. And administrative data, we refer to data requirements to meet things such as e-mail,	18 19 20 21 22	spillways, control structures, spillway structures, et cetera. Wide area network, I'll just use that as an acronym, but wide area network is really a series of technologies which, I guess, consolidate
<ol> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> <li>22</li> <li>23</li> </ol>	brings back information on such things as fault recorders, et cetera. Administrative voice is voice which we typically look at for general administration purposes. And administrative data, we refer to data requirements to meet things such as e-mail, access to J.D. Edwards and that's again,	18 19 20 21 22 23	spillways, control structures, spillway structures, et cetera. Wide area network, I'll just use that as an acronym, but wide area network is really a series of technologies which, I guess, consolidate information and bring it back over, primarily

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July 7	, 2005 Iviuit.	I-I age	NL Hyuro 2004 Capital Duuget Application
	Page 57		Page 58
1	information leaves the energy control centre	1	electronics are housed in a building at the
2	to go out to the various stations, the same	2	bottom of a tower. And on your right is a
3	thing happens in reverse.	3	picture of a microwave site and that is the
4	Hydro also relies significantly on common	4	Granite Canal Hill microwave site. And it
5	carrier facilities to provide various	5	basically provides the necessary information
6	requirements as defined earlier.	6	for the remote control of this unmanned plant.
7	The next slide talks about microwave	7	The microwave infrastructure is considered to
8	communication system. Microwave	8	be a medium capacity back haul transfer
9	communications is a point to point	9	system. So, really it's meant for amount of
10	communications system operating in the one	10	bulk transfer of voice and data information.
11	gigahertz, 230 gigahertz radio bands. In	11	And it requires a clear line of site, so when
12	particular, in Canada, the 7 gigahertz band is	12	you go from tower to tower, ideally there
13	specified for the utilities sector. I guess	13	should be no obstructions. And microwave is
14	Industry Canada recognizes the importance of	14	not considered to be useful for mobile
15	the services that the utility sector provide	15	communications. Microwave functionality, from
16	and as such, within that band, utilities are	16	Hydro's perspective, primary source of
17	allowed to use frequency diverse radios to	17	communications we use it for is
18	provide additional reliability on the path	18	teleprotection. Again, it provides high speed
19	designs. The common carriers are also allowed	19	teleprotection between the stations and it's
20	to use this when they request for special	20	basically more reliable, more robust than
21	reasons.	21	Power Line Carrier.
22	The second bullet, I guess microwave	22	The next important function that it
23	really involves sending waves of information	23	provides is it carries the supervisory control
24	between a transmitter and receiver, each	24	and data acquisition data in support of energy
25	mounted on a tower. The true fact is the	25	management. And also it provides operational
	Page 59		Page 60
1	administrative voice, operational	1	Characteristics of Power Line Carrier,
2	administrative data and really the microwave	2	basically is low speed, low capacity transfer
3	infrastructure for Hydro's purposes really is	3	system. State of the art for high voltage
4	the backbone communications infrastructure	4	Power Line Carrier technology now is digital
5	that we have and microwave is very common in	5	technology, basically 56 kilobits which really
6	the utility environment.	6	is equivalent to one voice circuit. You can
7	The Power Line Carrier characteristics,	7	compress 56 into multiple voice circuits, but
8	it's an older technology and again, it's a	8	it's considered to be one full voice circuit.
9	point-to-point system that is directly coupled	9	Performance of Power Line Carriers affected by
10	to the high voltage transmission lines and	10	power line disturbances, in particular faults
11	again in Hydro's case we primarily use it on	11	and lightening strikes. So, whenever there's
12	our 230 kV and 138 kV lines. It involves	12	a fault on the line or a lightening strike on
13	sending waves of information between adjacent	13	the line, it also interrupts the flow of
14	stations. If you look at the picture to your	14	information on the power line using the Power
15	right, basically you can see how the pedestal	15	Line Carrier technology. And often the
16	is coupled to the transmission lines and on	16	protection signals are sent down the same
17	top, the round cans are actually filters that	17	transmission line which is also under the
18	filters off the signal as it comes in from the	18	fault or receiving the lightening strikes.
19	adjacent station, brings it into the	19	Some line maintenance activities also
20	electronics equipment that's in the substation	20	affect the Power Line Carrier. For instance,
20	and that willthe information will be	20	when Mr. McDonald's nine crews are out working
22	disseminated. And then on another line, you	22	on the lines, they may take a line out of
23	will basically see the same kind of	23	service and as part of taking a line out of
23	infrastructure for another Power Line Carrier	24	service to work on it, they will also ground
25	on another transmission line.	25	the transmission line. When they ground the
12.)			

# Multi-Page<sup>TM</sup>NL Hydro 2004 Capital Budget Application

	r, 2003 Wiult	<u>i i ugo</u>	NL Hyuro 2004 Capital Duuget Application
	Page 61		Page 62
1	transmission line, the Power Line Carrier	1	The next slide is a picture of Hydro's
2	becomes ineffective for carrying a voice	2	proposed telecommunication plan and I'll try
3	well, you don't need teleprotection and your	3	to speak to this. Up in the top left hand
4	data, so you have to find alternate means	4	corner under the legend, there basically are
5	around those particular lines. And also	5	the first three legends indicate Power Line
6	icing, one of, I guess a significant	6	Carrier Systems. The green one basically
7	environmental concern in Newfoundland,	7	indicates the Power Line Carrier Systems that
8	considerably affects the performance of power	8	have been installed between 1997 and 2003 as
9	line carrier. As ice builds up on the	9	part of the telecommunications plan. And the
10	transmission lines, the performance of the	10	primary focus has been on the west coast and
11	Power Line Carrier significantly degrades and	11	also on 202 and 206 between Bay D'Espoir and
12	it will basically affect the voice and data.	12	Sunnyside. The red lines indicate, these are
13	And even with the new digital technology, it	13	existing Power Line Carriers that have not
14	affects that more than the analog technology.	14	been replaced, nor are there any plans to
15	And again, Power Line Carrier is really not	15	replace those within the filing of Hydro's
16	considered to suitable for mobile	16	well, basically without our five year capital
17	communications.	17	budget. And most of the Power Line Carrier
18	Power Line Carrier, from Hydro's	18	systems on the Northern Peninsula were
19	perspective is used for teleprotection, SCADA,	19	installed in the 1995 time frame. And the
20	operational voice and operational data and	20	third legend which basically is like a brown
21	again, it's very common in the utility	21	colour. Those are the Power Line Carriers
22	environment. And as much as it is common,	22	which run between Deer Lake terminal station
23	it's becoming less common because of the	23	and Cat Arm generating station and those Power
24	technology restrictions that it brings in band	24	Line Carrier systems are proposed to be
25	width.	25	replaced in the 2004 capital budget. and then
	Page 63		Page 64
1	that would be the end of Hydro's Power Line	1	through to Churchill Falls and again that is
2	Carrier replacement and upgrade project. The		mimorily used for Churchill Fells interaction
		2	primarily used for Churchill Falls interaction
3	black line which shows is like a broken	3	with Hydro place and Hydro also uses a very
3 4			· ·
	black line which shows is like a broken	3	with Hydro place and Hydro also uses a very
4	black line which shows is like a broken lightening strike, basically is the microwave	3 4	with Hydro place and Hydro also uses a very small part of that band to back haul
4 5	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west	3 4 5	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley
4 5 6	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through	3 4 5 6	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy
4 5 6 7	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand	3 4 5 6 7	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre.
4 5 6 7 8	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then	3 4 5 6 7 8	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre. So, in summary that is just a quick
4 5 6 7 8 9	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then goes into Upper Salmon plant and the Granite	3 4 5 6 7 8 9	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre. So, in summary that is just a quick overview of Hydro's telecommunications plan
4 5 6 7 8 9 10	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then goes into Upper Salmon plant and the Granite Canal plant and basically provides back haul	3 4 5 6 7 8 9 10	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre. So, in summary that is just a quick overview of Hydro's telecommunications plan looking at Power Line Carrier, microwave and
4 5 6 7 8 9 10 11	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then goes into Upper Salmon plant and the Granite Canal plant and basically provides back haul facilities for Hydro's information	3 4 5 6 7 8 9 10 11	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre. So, in summary that is just a quick overview of Hydro's telecommunications plan looking at Power Line Carrier, microwave and lease services as well as satellite services.
4 5 6 7 8 9 10 11 12	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then goes into Upper Salmon plant and the Granite Canal plant and basically provides back haul facilities for Hydro's information requirements.	3 4 5 6 7 8 9 10 11 12	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre. So, in summary that is just a quick overview of Hydro's telecommunications plan looking at Power Line Carrier, microwave and lease services as well as satellite services. Mobile communication systems are required
4 5 6 7 8 9 10 11 12 13	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then goes into Upper Salmon plant and the Granite Canal plant and basically provides back haul facilities for Hydro's information requirements. If you look on the east coast going from	3 4 5 6 7 8 9 10 11 12 13	<ul> <li>with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre.</li> <li>So, in summary that is just a quick overview of Hydro's telecommunications plan looking at Power Line Carrier, microwave and lease services as well as satellite services.</li> <li>Mobile communication systems are required for voice communications between personnel</li> </ul>
4 5 6 7 8 9 10 11 12 13 14	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then goes into Upper Salmon plant and the Granite Canal plant and basically provides back haul facilities for Hydro's information requirements. If you look on the east coast going from the energy control centre out to approximately	3 4 5 6 7 8 9 10 11 12 13 14	<ul> <li>with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre.</li> <li>So, in summary that is just a quick overview of Hydro's telecommunications plan looking at Power Line Carrier, microwave and lease services as well as satellite services.</li> <li>Mobile communication systems are required for voice communications between personnel performing switching operations, maintenance,</li> </ul>
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4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then goes into Upper Salmon plant and the Granite Canal plant and basically provides back haul facilities for Hydro's information requirements. If you look on the east coast going from the energy control centre out to approximately Sunnyside, the project is under construction. That was done in 2001, sorry. And then the next portion which runs from approximately Sunnyside through to Grand Falls is under construction this year and that will complete	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre. So, in summary that is just a quick overview of Hydro's telecommunications plan looking at Power Line Carrier, microwave and lease services as well as satellite services. Mobile communication systems are required for voice communications between personnel performing switching operations, maintenance, emergency repairs and it can be used for mobile to a fixed location or mobile-to- mobile. And VHF allows one-to-one communications or also it allows one to many to support work groups. And if you'll just
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then goes into Upper Salmon plant and the Granite Canal plant and basically provides back haul facilities for Hydro's information requirements. If you look on the east coast going from the energy control centre out to approximately Sunnyside, the project is under construction. That was done in 2001, sorry. And then the next portion which runs from approximately Sunnyside through to Grand Falls is under construction this year and that will complete the microwave built infrastructure as part of	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre. So, in summary that is just a quick overview of Hydro's telecommunications plan looking at Power Line Carrier, microwave and lease services as well as satellite services. Mobile communication systems are required for voice communications between personnel performing switching operations, maintenance, emergency repairs and it can be used for mobile to a fixed location or mobile-to- mobile. And VHF allows one-to-one communications or also it allows one to many to support work groups. And if you'll just look over to the side again in the picture,
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then goes into Upper Salmon plant and the Granite Canal plant and basically provides back haul facilities for Hydro's information requirements. If you look on the east coast going from the energy control centre out to approximately Sunnyside, the project is under construction. That was done in 2001, sorry. And then the next portion which runs from approximately Sunnyside through to Grand Falls is under construction this year and that will complete the microwave built infrastructure as part of the telecommunications plan. The blue broken line indicate some of the lease services that we lease from Aliant which is the common	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre. So, in summary that is just a quick overview of Hydro's telecommunications plan looking at Power Line Carrier, microwave and lease services as well as satellite services. Mobile communication systems are required for voice communications between personnel performing switching operations, maintenance, emergency repairs and it can be used for mobile to a fixed location or mobile-to- mobile. And VHF allows one-to-one communications or also it allows one to many to support work groups. And if you'll just look over to the side again in the picture, the person standing next to the pole has a
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs fromon the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then goes into Upper Salmon plant and the Granite Canal plant and basically provides back haul facilities for Hydro's information requirements. If you look on the east coast going from the energy control centre out to approximately Sunnyside, the project is under construction. That was done in 2001, sorry. And then the next portion which runs from approximately Sunnyside through to Grand Falls is under construction this year and that will complete the microwave built infrastructure as part of the telecommunications plan. The blue broken line indicate some of the lease services that	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre. So, in summary that is just a quick overview of Hydro's telecommunications plan looking at Power Line Carrier, microwave and lease services as well as satellite services. Mobile communication systems are required for voice communications between personnel performing switching operations, maintenance, emergency repairs and it can be used for mobile to a fixed location or mobile-to- mobile. And VHF allows one-to-one communications or also it allows one to many to support work groups. And if you'll just look over to the side again in the picture, the person standing next to the pole has a portable radio and he's either in

	Page 65		Page 66
1	line doing line work that maybe Ken can speak	1	often it's also used by ambulance, civil
2	to that.	2	defence, fire and rescue.
3 1	MR. MCDONALD:	3	The next class of service is public
4	A. At that stage it is the installation of the	4	service and typically power utilities fall
5	grounds, you mentioned earlier, which is part	5	into that category and I guess, Newfoundland
6	of our work protection to earth the line	6	Hydro and Newfoundland Power have VHF mobile
7	(phonetic).	7	radio systems as part of its work
8 (	(11:00 A.M.)	8	requirements. The forestry sector also falls
9 N	MR. DOWNTON:	9	within that grouping and typically you have
10	A. For mobile radio systems, there's typically	10	different forest companies doing forestry work
11	four frequencies of choice, there's what we	11	involved. And also different manufacturing
12	call VHF, UHF and 800 megahertz and I'll speak	12	environments use mobile radio systems as well.
13	to those in a few minutes. Again, the ideal	13	And basically the North Atlantic Refinery use
14	path for mobile communications is obstruction	14	a mobile radio infrastructure at their site.
15	free and the limiting factor in generally the	15	And then also you can have private individuals
16	mobile transmitter talk back range. So, the	16	who use VHF or mobile radio systems as well,
17	portable or the base station that someone will	17	but those are considered to be the classes.
18	have is really the limiting factor of how far	18	The primary differences between the classes is
19	back that particular work group can reach.	19	the public safety system is a more robust
20	Classes of service, there's typically three	20	design primarily because of the safety issue
21	classes of service recognized in mobile radio	21	from an emergency response perspective. It's
22	systems. There a public safety system and	22	typically designed to a more robust standard
23	that's pretty much used by the police in	23	in a sense of availability, access and also
24	Newfoundland it's the RCMP and RNC that	24	coverage. And it's designed a little bit more
25	basically have a public safety system. Quite	25	rigorous than one for public service system
	Page 67		Page 68
1	which typically looks at 90 percent coverage	1	into buildings, the higher frequency will work
2	and 90 availability of the staff being able to	2	better as far as penetrating into buildings.
3	communicate.	3	And moving down to foliage losses, what that
4	The next slide speaks to mobile	4	basically means is VHF is better for out in
5	communications frequency bands and the only	5	the bush than UHF, 800, cell or satellite.
6	reason I put this slide in was to give you	6	They're less impacted by the foliage on the
7	some sense of the fact that depending on the	7	trees. And the multi-path effect which is the
8	technology, it basically fits very specific	8	last one, really speaks to getting echo on the
9	uses. Across the top we have VHF which is	9	communication infrastructure. VHF, it is a
10	considered to be 150 to 170 megahertz, UHF is	10	little bit noticeable, but the higher
11	450 to 512 and then 800 is 800 to 866 and then	11	frequency, you go typically, you do get a
12	cell phone and satellite technologies are	12	little bit more echo on the higher frequency
13	typically in the 900 megahertz range. From	13	equipment than on the lower frequency
14	the columns down to the left, general use, VHF	14	equipment.
15	is considered to be good for rural and	15	Next one, Terry. The next slide just
16	suburban areas and then as the frequency goes	16	tries to speak to the ranges of the
17	up, it's more focused on more of a	17	technologies, and again, the same heading
18	metropolitan city type of environmental use.	18	across the top. We have VHF, UHF, 800 cell
1.		10	and satellite. For a base-to-mobile, what
19	The next one, general building losses, what	19	
19 20	The next one, general building losses, what this one speaks to is that VHF in particular	19 20	that basically means is if I have a base
1			that basically means is if I have a base stationthis is typically what's considered
20	this one speaks to is that VHF in particular	20	stationthis is typically what's considered to be a base station and this base station
20 21	this one speaks to is that VHF in particular is less impacted by terrain and buildings being the path of the communication signals and again, as you go higher in frequency,	20 21	stationthis is typically what's considered to be a base station and this base station could be in a helicopter or it could be in a
20 21 22	this one speaks to is that VHF in particular is less impacted by terrain and buildings being the path of the communication signals	20 21 22	stationthis is typically what's considered to be a base station and this base station
20 21 22 23	this one speaks to is that VHF in particular is less impacted by terrain and buildings being the path of the communication signals and again, as you go higher in frequency,	20 21 22 23	stationthis is typically what's considered to be a base station and this base station could be in a helicopter or it could be in a

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# Multi-Page<sup>™</sup>NL Hydro 2004 Capital Budget Application

Jui	y 7, 2003 Multi	<u>I ugu</u>	NL Hyuro 2004 Capital Duuget Application
	Page 69		Page 70
1	refers to, base station to mobile to base	1	and the same thing applies for satellite.
2	station, base is also considered to be your	2	Even though you may have satellite phones, if
3	tower. So this is high-power unit, so this	3	you cannot see the satellite, then the two
4	will reach further than a portable unit, which	4	phones cannot work in a local fashion.
5	Mr. McDonald has there. And then the last one	5	Mobile communications systems for power
6	talks about mobile-to-mobile. So if you just	6	utilities. Power utilities rely on effective
7	go across the top, a base-to-mobile is	7	wireless communication systems for switching,
8	typically about forty miles. For UHF range,	8	live line, troubleshooting, emergency repairs
9	it's goes thirty. 800 goes twenty. Cell will	9	and general maintenance work. When these
10	go probably a little bit less than twenty, and	10	systems do not work, life and property will be
11	satellite really is unlimited because as long	11	endangered. I put in a couple of pictures
12	as you can basically see the satellite, then	12	just to illustrate some of the working
13	basically, you canyou are not limited. And	13	conditions. On your left isKen, maybe you
14	likewise, for mobile-to-base, it's thirty	14	can speak to that one?
15	miles, twenty miles, fifteen, less than	15 MR	MCDONALD:
16	fifteen, and again for satellite, as long as	16 A	A. On the left, we're replacing a part of the
17	the satellite can be seen, it's unlimited.	17	cross arm on a 230 kV structure, and
18	And for mobile-to-mobile, which would allow	18	essentially, the energized conductor has been
19	Mr. McDonald to communicate to his line crew	19	lifted away by a crane and now we're in the
20	using either this device or this device, it's	20	vicinity of the energized conductor and we're
21	ten miles for VHF, seven for UHF, five for 800	21	using different tools, live line tools, the
22	and cell phone technology does not allow cell	22	orange ones you see here, to be able to
23	phone to cell phone unless it goes through a	23	support this portion of cross arm that we're
24	repeater, and whereas these units here do not	24	taking away because it's damaged and it will
25	require a repeater, these can go unit to unit,	25	be replaced.
	Page 71		Page 72
1	On the right-hand side is a picture of a	1	the day, that there's no lightning in the
2	relocation of an osprey nest that was built.	2	area. They would be aware of this type of
3	The nest was built directly over our centre	3	thing. Also, they could contact us at any
4	conductor and was giving us some problems in	4	time to get us away from the line if there was
5	that the portions of the nest would fall away	5	something in particular going on. As well, if
6	from time to time and cause an outage and can	6	it's a still day, we can communicate in those
7	actually cause a fire as well when the nest is	7	towers by sort of half shouting back and
8	active in the summertime. So when the young	8	forth, but on days when it's windy and most
9	ones had left the nest, we relocated it to an	9	times at heights a hundred feet above ground,
10	adjacent tree that's just out of view on the	10	there is quite a difference in the amount of
11	right-hand side, and that was a very	11	wind that's there, compared to at ground
12	successful relocation. The next year, the	12	level, so quite often then, the lead hand, who
13	ospreys, they came back into their tree and	13	is in the structure doing that job, would
14	were quite happy with the new location.	14	communicate with ground crews and crane
115 1			
15	GREENE, Q.C.:	15	operators through using a small VHF up in the
16	GREENE, Q.C.: Q. And excuse me, I wonder Mr. McDonald, if you		tower communicating below.
16 17	GREENE, Q.C.: Q. And excuse me, I wonder Mr. McDonald, if you could explain how a VHF mobile radio system	15	tower communicating below. In the one on the right, there would be a
16 17 18	GREENE, Q.C.: Q. And excuse me, I wonder Mr. McDonald, if you could explain how a VHF mobile radio system would be used by your crews in either one of	15 16 17 18	tower communicating below. In the one on the right, there would be a person on the ground that would communicate
16 17 18 19	<ul> <li>GREENE, Q.C.:</li> <li>Q. And excuse me, I wonder Mr. McDonald, if you could explain how a VHF mobile radio system would be used by your crews in either one of those work that you just described.</li> </ul>	15 16 17	tower communicating below. In the one on the right, there would be a person on the ground that would communicate with the helicopter and advise the helicopter
16 17 18 19 20	<ul> <li>GREENE, Q.C.:</li> <li>Q. And excuse me, I wonder Mr. McDonald, if you could explain how a VHF mobile radio system would be used by your crews in either one of those work that you just described.</li> <li>A. In the first job, the one on the left, they</li> </ul>	15 16 17 18 19 20	tower communicating below. In the one on the right, there would be a person on the ground that would communicate with the helicopter and advise the helicopter when our crew is ready to actually connect the
16 17 18 19 20 21	<ul> <li>GREENE, Q.C.:</li> <li>Q. And excuse me, I wonder Mr. McDonald, if you could explain how a VHF mobile radio system would be used by your crews in either one of those work that you just described.</li> <li>A. In the first job, the one on the left, they would typically be used, this would be in a</li> </ul>	15 16 17 18 19 20 21	tower communicating below. In the one on the right, there would be a person on the ground that would communicate with the helicopter and advise the helicopter when our crew is ready to actually connect the slings, that everything's okay. He's an
<ol> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> <li>22</li> </ol>	<ul> <li>GREENE, Q.C.:</li> <li>Q. And excuse me, I wonder Mr. McDonald, if you could explain how a VHF mobile radio system would be used by your crews in either one of those work that you just described.</li> <li>A. In the first job, the one on the left, they would typically be used, this would be in a remote section of the country, so it would be</li> </ul>	15 16 17 18 19 20 21 22	tower communicating below. In the one on the right, there would be a person on the ground that would communicate with the helicopter and advise the helicopter when our crew is ready to actually connect the slings, that everything's okay. He's an observer from the ground that would direct the
<ol> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> <li>22</li> <li>23</li> </ol>	<ul> <li>GREENE, Q.C.:</li> <li>Q. And excuse me, I wonder Mr. McDonald, if you could explain how a VHF mobile radio system would be used by your crews in either one of those work that you just described.</li> <li>A. In the first job, the one on the left, they would typically be used, this would be in a remote section of the country, so it would be used to establish communications with our</li> </ul>	15 16 17 18 19 20 21 22 23	tower communicating below. In the one on the right, there would be a person on the ground that would communicate with the helicopter and advise the helicopter when our crew is ready to actually connect the slings, that everything's okay. He's an observer from the ground that would direct the helicopter and essentially, most of the
<ol> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> <li>22</li> </ol>	<ul> <li>GREENE, Q.C.:</li> <li>Q. And excuse me, I wonder Mr. McDonald, if you could explain how a VHF mobile radio system would be used by your crews in either one of those work that you just described.</li> <li>A. In the first job, the one on the left, they would typically be used, this would be in a remote section of the country, so it would be</li> </ul>	15 16 17 18 19 20 21 22	tower communicating below. In the one on the right, there would be a person on the ground that would communicate with the helicopter and advise the helicopter when our crew is ready to actually connect the slings, that everything's okay. He's an observer from the ground that would direct the

	<i>y</i> 7, 2005 Man	1-1 age	The Hydro 2004 Capital Dudget Application
	Page 73		Page 74
1	pretty much out of communication because of	1	Hydro's VHF mobile communication system,
2	the noise from the helicopter, that type of	2	as Mr. McDonald already mentioned, is a
3	thing, so someone stands away approximately	3	mandatory communications link between the
4	about two hundred feet, where he's got a good	4	field and the energy control centre personnel.
5	view of everything and will bring the	5	It's also a communications link between the
6	helicopter in, advise the helicopter when	6	work crews and/or the area offices. Allows
7	things are hooked up and it's okay to lift	7	them to communicate to the area offices if
8	away.	8	they need materials that they don't have with
	MR. DOWNTON:	9	them as well, and also it provides paging and
10	A. I guess the next slide, it was a survey that	10	on-call requirements, and it's a general
11	Hydro did in 2001 of all of the generation and	11	communications link between Hydro's fleet
12	transmission utilities in Canada, and what it	12	vehicles, and I guess, Hydro also allows Work,
13	shows is that each major utility in Canada	13	Services and Transportation road maintenance
14	does have a mobile radio infrastructure. It	14	crews on its system and that the primary focus
15	varies between conventional to trunk to	15	of that is the snow clearing operators.
16	logical trunk, light trunk radio or	16	The existing VHF system was manufactured
17	combinations. From a frequency perspective,	17	by a company called ATI and placed in service
18	it also looks at some people use VHF, some	18	in 1989. ATI is a subsidiary of Alberta
19	people use UHF, some people use 800. So	19	Government Telephones, which is now become
20	depending on the application. Do they use	20	Telus. The system was a single central switch
20	satellite or cell phones? The answer is some	20	with twenty-nine repeaters to provide Hydro's
22	utilities do use it and is really used to	22	coverage across the island. Twenty-six
22	extend the coverage that the UHFsorry, that	23	repeaters are at Aliant sites and three are at
23	the VHF system provides, and in summary,	23	Hydro sites. It's a single-channel system
25	that's what the results of the survey were.	24	operating in the VHF range, a hundred and
	· ·	20	operating in the vin range, a nanarea and
	$\mathbf{D}_{2} = 75$		$\mathbf{D}_{2} = 7$
	Page 75		Page 76
1	fifty megahertz, and basically it has twenty-	1	Aliant supports all of that infrastructure.
2	fifty megahertz, and basically it has twenty- five kilohertz channels, which is just a	1 2	Aliant supports all of that infrastructure. The existing VHF system technology
2 3	fifty megahertz, and basically it has twenty- five kilohertz channels, which is just a requirement at that day. The system also	1 2 3	Aliant supports all of that infrastructure. The existing VHF system technology issues, the system that Hydro currently has in
2 3 4	fifty megahertz, and basically it has twenty- five kilohertz channels, which is just a requirement at that day. The system also provides access to the public switch telephone	1 2 3 4	Aliant supports all of that infrastructure. The existing VHF system technology issues, the system that Hydro currently has in service is one of only four systems placed in
2 3 4 5	fifty megahertz, and basically it has twenty- five kilohertz channels, which is just a requirement at that day. The system also provides access to the public switch telephone network so that if the line crews are out	1 2 3 4 5	Aliant supports all of that infrastructure. The existing VHF system technology issues, the system that Hydro currently has in service is one of only four systems placed in service by ATI prior to their exit from the
2 3 4 5 6	fifty megahertz, and basically it has twenty- five kilohertz channels, which is just a requirement at that day. The system also provides access to the public switch telephone network so that if the line crews are out there and they actually need to call someone,	1 2 3 4 5 6	Aliant supports all of that infrastructure. The existing VHF system technology issues, the system that Hydro currently has in service is one of only four systems placed in service by ATI prior to their exit from the business in 1991. The site controller and the
2 3 4 5 6 7	fifty megahertz, and basically it has twenty- five kilohertz channels, which is just a requirement at that day. The system also provides access to the public switch telephone network so that if the line crews are out there and they actually need to call someone, they can actually access the public switch	1 2 3 4 5 6 7	Aliant supports all of that infrastructure. The existing VHF system technology issues, the system that Hydro currently has in service is one of only four systems placed in service by ATI prior to their exit from the business in 1991. The site controller and the central switch are a proprietary design and
2 3 4 5 6 7 8	fifty megahertz, and basically it has twenty- five kilohertz channels, which is just a requirement at that day. The system also provides access to the public switch telephone network so that if the line crews are out there and they actually need to call someone, they can actually access the public switch telephone network and likewise, someone from	1 2 3 4 5 6 7 8	Aliant supports all of that infrastructure. The existing VHF system technology issues, the system that Hydro currently has in service is one of only four systems placed in service by ATI prior to their exit from the business in 1991. The site controller and the central switch are a proprietary design and the primary issue that we have is inadequate
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# Multi-Page<sup>™</sup>NL Hydro 2004 Capital Budget Application

July /	, 2003 Iviuiti	<b>I-F</b> a	ge NL Hydro 2004 Capital Budget Application
	Page 77		Page 78
1	that Hydro had has been placed in service and	1	the infrastructure, I guess what we note is
2	primarily so that we can scavenge parts from	2	that the yellow bar which shows the failures
3	the decommissioned unit to use elsewhere. We	3	on the switch have pretty much gone from zero
4	are basically seeing an increasing failure	4	in 1998, up to a significant number in 2003,
5	rate of the power supplies that support the	5	and I guess we're also seeing increasing
6	site controller because, again, they were	6	failures on the repeater/site controller
7	proprietary design. The Motorola radios which	7	equipment, which is the blue arrowssorry,
8	are the ones that I showed to you that are in	8	the red one, as well.
9	the vehicles and substations, et cetera, were	9 (	CHAIRMAN:
10	manufacturer discontinued by Motorola in the	10	Q. Excuse me, that yellow line, Mr. Downton, for
11	early 90s and parts were not manufactured to	11	2003 and I see your note that it represents
12	support those units after, I believe, it's	12	two months.
13	1997. So it's been ten yearswell, six years	13	A. Yes.
14	since any parts were manufactured to support	14	Q. Is that a projection based on the two months?
15	those radios. And before Terry moves on, the	15	A. No, that's -
16	picture to your side, the top part of the	16	Q. Actual?
17	picture is the NRS 2000, what we call repeater	17	A that's actual for two months.
18	radio, for transmitting and receiving, and in	18	Q. Okay.
19	the bottom portion is really the site	19	A. Okay, Terry. The existing VHF system,
20	controller and it's very much a computer, a	20	business issues and concerns, I guess the
21	proprietary design computer for specific	21	maintenance of the VHF system is by Aliant,
22	application. Okay, Terry.	22	and currently within Aliant, there are no
23	The existing VHF system, looking back	23	trained staff remaining knowledgeable about
24	over the last number of years, looking at the	24	the switch. Again, it was installed in
25	various types of problems that we've had with	25	1988/89 and I guess through attrition and
	Page 79		Page 80
1	changes within the Aliant organization and the	1	communications from a repeater to a repeater.
2	fact that ATI does notare not in the	2	The only thing that will remain is that you
3	business any more, there really is no one	3	will have local talk around at the repeater
4	who's knowledgeable about the maintenance of	4	site for the people in that particular area.
5	the switch. System expansion is not possible	5	And from Hydro's perspective, replacement time
6	to support the existing additional coverage	6	after complete or partial failure of the
7	requirements that we have for Granite Canal,	7	system will be eighteen to twenty-four months,
8	Happy Valley, southern Labrador area, and the	8	and we consider that to be unacceptable from
9	Great Northern Peninsula, primarily because	9	the impact it will have, not only on our
10	the technology cannot be bought and basically,	10	customers, but also on the safety of our
11	the software cannot be upgraded on that	11	personnel.
12	particular central switch. Lack of ability to	12	In summary, the anticipated life of
13	increase coverage will affect work, does	13	information technology is determined by three
14	affect work. I guess, if Mr. McDonald were to	14	factors. If you look at physical
15	speak to it, he would say at the end of the	15	obsolescence, which occurs when equipment is
16	day, work will get done. It will just not get	16	damaged or worn beyond repair, and this is the
17	done the same as if we had the coverage in	17	case for Hydro's VHF system. From a
18	those areas. The switch failures have and	18	functional obsolescence occurs when equipment,
19	will extend outages and system failure will	19	although working, no longer provides useful
20	greatly impede, I guess, Mr. McDonald's	20	service under current conditions. This is not
21	ability to get his work done, and will	21	the case for Hydro's system, and what I mean
22	increase restoration times. If the central	22	by that is that the functionality that we have
23	switch does fail, what it basically does, it	23	in the existing system is the functionality
24	severs communications from the field back to	24	that we require in any future system as well,
25	the energy control centre and it also severs	25	and we are not changing out to improve

## Multi-Page<sup>TM</sup>NL Hydro 2004 Capital Budget Application

July 7	, 2003 Mult	-Page	<sup>114</sup> NL Hydro 2004 Capital Budget Application
	Page 81		Page 82
1	functionality, but primarily because of a	1	requirements, plus expandable to meet future
2	physical and technical obsolescence.	2	needs. The system will be designed to meet
3	Technical obsolescence occurs when equipment	3	Industry Canada's new channel requirements of
4	can no longer be maintained or upgraded	4	twelve and a half kilohertz, which is, just
5	because regulations, industry standards,	5	for your information, it's Industry Canada
6	manufacturing priorities no longer support it,	6	wants to shrink the band width of the channels
7	and again, this is a case for the VHF system	7	because of spectrum congestion issues within
8	that Hydro currently has. The proposed system	8	Canada and I'm sure the same thing is for the
9	is a VHF mobile communications system.	9	United States and elsewhere. So this system,
10	Satellite and cell phone technologies, from	10	when it's designed, will meet the new
11	our perspective, are not suitable because of	11	requirements for Industry Canada. We're
12	functionality and coverage reasons. We're	12	looking at a trunk design. A trunk design is
13	also looking at a system which will support	13	more efficient for future channel requirements
14	the coverage requirements which we estimate at	14	and there are different types of trunk mobile
15	thirty-five sites, plus it must be expandable	15	radio systems. There is a distributed
16	for future needs, and what we're also looking	16	architecture which has no central switch, and
17	at is a system which we will move repeaters	17	an example of that is what we call a passport
18	from Aliant sites, where appropriate, to	18	technology, which is what the costing for this
19	include coverage and decreased operating	19	proposal was based on, versus technologies
20	costs, and there are no new sites being	20	which have a central switch. And there are
20	planned as part of this build. We'll use all	21	various technologies which have a central
22	existing, either Hydro and/or Aliant sites.	22	switch. If you look at the consultant's
23	The proposed VHF communications system	23	report, there's MPT, Tetra and LTR all have a
23	will provide radioradio access will be	24	central switch. We look at the centralthe
25	expanded to meet Hydro's existing	25	lack of a central switch as being a plus
	Page 83	1	Page 84
	because it does not lead to the same single	1	line, and we look at being able to integrate
$\begin{vmatrix} 2 \\ 2 \end{vmatrix}$	point of failure considerations and it also	2	that at some future time. And also, what we
3	provides a system which will be more	3	are proposing is that the system will be able
4	expandable, because central switches typically	4	to support data at some future time.
5	have a break point. So once you go beyond a	5	The next picture is a picture of the
6	certain number of repeaters, you have to put in another switch. However, the final	6	proposed VHF mobile communications system. It
7	,	7	consists of thirty-five repeater sites and all
8	decision by Hydro will be made upon the tender	8	I'll basically say is that the red circles are
9	evaluation, what makes the most sense	9	lease sites, Aliant sites, and the black
10	technically and from a cost perspective, and	10	squares are Hydro sites, and we basically look
11	the cost of the various trunk mobile radio	11	at being able to take advantage of about
12	systems for public service system are	12	fourteen Hydro sites, which will leave twenty-
13	approximately the same, and I put that	13	one Aliant sites to be required to provide the
14	distinction in there, public service system,	14	overall coverage requirements to meet Hydro's
15	because the costs for a public safety system	15	business needs.
16	are significantly more.	16	The proposed VHF mobile communications
17	The proposed system will support Hydro's	17	system, Hydro has unsuccessfully pursued
18	and Work Services' existing requirements,	18	shared joint build lease options for a VHF
19	which is six hundred and twenty-five mobiles	19	mobile communications system with Aliant and the DCMD and DNC Laures in the 1007/08 time
20	and seventy-five portables. It will also	20	the RCMP and RNC. I guess in the 1997/98 time
21	allow integration of Hydro's mountaintop	21	frame, for about three years, we worked with
22	repeaters. We have a mountaintop repeater VHF	22	Aliant to basically see if we could bring the
23	mobile radio system between Churchill and	23	major users of mobile communications to the
24	Happy Valley is used to support the 138 kV	24	table in Newfoundland so that there would be
25	transmission line and maintenance on that	25	one system which everyone would use and that

July	7,	2003
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July	<i>1,2003</i> Multi	-1 ago	e AL Hyuro 2004 Capital Duuget Application
	Page 85		Page 86
1	was unsuccessful. The primary reason, to make	1	Services are part of the proposed system or
2	it viable, you would need about four thousand	2	not, the cost for this system are required for
3	users province wide, to make that a viable	3	Hydro's use. Works, Services and
4	option. I guess we've had discussions with	4	Transportation coverage requirements over and
5	the RCMP and the Department of Justice over	5	above Hydro's will be at Works Services'
6	the last number of years to see if we can	6	expense and any cost recovery from Works
7	either share infrastructure with them or	7	Services of capital and/or operating
8	basically lease infrastructure with them, and	8	contributions will result in a reduction of
9	I guess the summary of the decision from the	9	Hydro's revenue requirement, whether that be
10	RCMP, for us to go onto the RCMP/RNC system	10	capital, and in the case of its operating, it
11	would be in the order of about twenty to	11	will just go into a general revenue and the
12	twenty-five million dollars, again primarily	12	rate holder will be held harmless from this
13	because it's a public safety system and the	13	initiative.
14	repeater and radio costs are significantly	14	With regards to Newfoundland Power, we
15	more than that for a public safety system.	15	basicallythe system will be expandable to
16	Hydro is not committed to an own-only	16	accommodate Newfoundland Power when, and if,
17	mobile communications infrastructure, and I	17	it is a viable alternative for Newfoundland
18	guess we've shown that by, I guess, what we've	18	Power. And at that time, Industry Canada and
19	pursued over the last five to seven years. We	19	the CRTC will also be required to intervene
20	are proposing a shared cost agreement between	20	because there are certain restrictions with
21	Hydro and Works Services and Transportation,	21	regards to Hydro becoming a common carrier,
22	and we are proposing that capital and	22	unless Newfoundland Power actually buys into
23	operating costs to be shared between Hydro and	23	the cost of the infrastructure, which is our
24	Works Services and Transportation, and the	24	interpretation of Industry Canada and CRTC
25	important thing to note is whether Works	25	regulations.
	Page 87		Page 88
1	Page 87 Summary of the proposed alternatives, a	1	Page 88 there is a phased implementation of Hydro
1 2	Summary of the proposed alternatives, a	1 2	there is a phased implementation of Hydro
2	Summary of the proposed alternatives, a complete replacement of the existing	2	there is a phased implementation of Hydro moving forward with the proposed system in
	Summary of the proposed alternatives, a complete replacement of the existing infrastructure is the least cost option and		there is a phased implementation of Hydro moving forward with the proposed system in 2004/2005 and delaying all but twelve repeater
2 3 4	Summary of the proposed alternatives, a complete replacement of the existing infrastructure is the least cost option and based on the information that we sent out on	2 3 4	there is a phased implementation of Hydro moving forward with the proposed system in 2004/2005 and delaying all but twelve repeater locations until three to five years out versus
2 3 4 5	Summary of the proposed alternatives, a complete replacement of the existing infrastructure is the least cost option and based on the information that we sent out on Friday, Friday past, we have shown that. The	2 3	there is a phased implementation of Hydro moving forward with the proposed system in 2004/2005 and delaying all but twelve repeater locations until three to five years out versus a complete rebuild over the infrastructure in
2 3 4 5 6	Summary of the proposed alternatives, a complete replacement of the existing infrastructure is the least cost option and based on the information that we sent out on Friday, Friday past, we have shown that. The additional functionality offered by the trunk	2 3 4 5 6	there is a phased implementation of Hydro moving forward with the proposed system in 2004/2005 and delaying all but twelve repeater locations until three to five years out versus a complete rebuild over the infrastructure in 2004/2005. And if you look at the information
2 3 4 5	Summary of the proposed alternatives, a complete replacement of the existing infrastructure is the least cost option and based on the information that we sent out on Friday, Friday past, we have shown that. The	2 3 4 5	there is a phased implementation of Hydro moving forward with the proposed system in 2004/2005 and delaying all but twelve repeater locations until three to five years out versus a complete rebuild over the infrastructure in 2004/2005. And if you look at the information that was sent out on Friday, you'll find that
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2 3 4 5 6 7 8 9	Summary of the proposed alternatives, a complete replacement of the existing infrastructure is the least cost option and based on the information that we sent out on Friday, Friday past, we have shown that. The additional functionality offered by the trunk alternative outweighs the small incremental cost over the conventional alternative. Currently, a leasing option does not exist.	2 3 4 5 6 7 8 9	there is a phased implementation of Hydro moving forward with the proposed system in 2004/2005 and delaying all but twelve repeater locations until three to five years out versus a complete rebuild over the infrastructure in 2004/2005. And if you look at the information that was sent out on Friday, you'll find that there's about a hundred thousand dollars difference on over a thirteen million dollar
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2 3 4 5 6 7 8 9 10 11 12 13	Summary of the proposed alternatives, a complete replacement of the existing infrastructure is the least cost option and based on the information that we sent out on Friday, Friday past, we have shown that. The additional functionality offered by the trunk alternative outweighs the small incremental cost over the conventional alternative. Currently, a leasing option does not exist. However, with that said, when Hydro goes to tender at some future time for this system, a leasing option will be put in the tender, as it is in most of our tenders, to see if indeed	2 3 4 5 6 7 8 9 10 11	<ul> <li>there is a phased implementation of Hydro moving forward with the proposed system in 2004/2005 and delaying all but twelve repeater locations until three to five years out versus a complete rebuild over the infrastructure in 2004/2005. And if you look at the information that was sent out on Friday, you'll find that there's about a hundred thousand dollars difference on over a thirteen million dollar project. I believe that's the last slide, Terry.</li> <li>Q. Mr. Downton, the proposed VHF mobile radio system project you've just described, that's</li> </ul>
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2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	Summary of the proposed alternatives, a complete replacement of the existing infrastructure is the least cost option and based on the information that we sent out on Friday, Friday past, we have shown that. The additional functionality offered by the trunk alternative outweighs the small incremental cost over the conventional alternative. Currently, a leasing option does not exist. However, with that said, when Hydro goes to tender at some future time for this system, a leasing option will be put in the tender, as it is in most of our tenders, to see if indeed a leasing option is viable at that particular time. I should also note that in 1989 when Hydroor 1987, when Hydro went to contract for the existing system, basically a leasing option was proposed by Newtel at that time, and also Terra Nova Tel, and the leasing cost option was not a viable option, from a financial perspective.	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	<ul> <li>there is a phased implementation of Hydro moving forward with the proposed system in 2004/2005 and delaying all but twelve repeater locations until three to five years out versus a complete rebuild over the infrastructure in 2004/2005. And if you look at the information that was sent out on Friday, you'll find that there's about a hundred thousand dollars difference on over a thirteen million dollar project. I believe that's the last slide, Terry.</li> <li>Q. Mr. Downton, the proposed VHF mobile radio system project you've just described, that's the project that is set out on page B-71 in the application, is that correct?</li> <li>A. That's correct.</li> <li>Q. And it's also the one that's described in the Business Case analysis that was attached in Section G, Appendix F to the application, is that correct?</li> <li>A. That's correct.</li> </ul>

July 7, 2005	July	7,2003	
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	Page 89		Page 90
1	A. First and foremost, the proposed system is	1	
2	critical to Hydro being able to carry out its	2	1 1
3	business in the future. And with the existing	3	5 1
4	technology issues we have with the current	4	1 5 6
5	infrastructure, from my perspective, Hydro is	5	Newfoundland Power, if it so chose, is it's
6	at risk to continue being able to provide	6	easy to expand, and a lot of unquantifiable
7	mobile communications in support of its core	7	benefits by proceeding that way. We need it,
8	business. The trunked radio alternative that	8	we have to have it to ensure ourthat we
9	Hydro has presented, from our perspective,	9	deliver power and repair damaged lines or
10	provides the least cost option for Hydro and	10	stations or whatever in an effective manner.
11	is the best technology solution that we've	11	Any delay from the energy control centre
12	proposed.	12	providing, you know, permits to Mr. McDonald's
13 (	(11:32 a.m.)	13	crew, if you go back to some of these
14	Q. Mr. Haynes, as the executive responsible for	14	photographs that were in the presentation, if
15	this project, could you please advise what	15	the VHF was not there, then basically the
16	your position is with respect to the project	16	
17	from Hydro's perspective?	17	
18 1	MR. HAYNES:	18	
19	A. From theNewfoundland and Labrador Hydro does	19	-
20	need an effective VH mobile communication	20	
21	system. I think in theI shouldn't say I	21	•
22	think. In the proposedwe have proposed to	22	
23	spend a very moderate amount of money in	23	
24	excess of the least cost long-term alternative	24	
25	in the order of, I think, \$200,000 or so, and	25	-
	Page 91	1	Page 92
$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	had done and the various responses to requests	1	
2	for information responding to comments made in		2 HUTCHINGS, Q.C.;
3	the submission by the Industrial Customers we	3	
4	had reviewed all those things and we are quite		CHAIRMAN:
5	confident that our proposal is the best	5	
6	alternative for Newfoundland and Labrador	6	
7	Hydro. And as I mentioned, the only different		MR. ALTEEN:
8	in the cost from a least cost is roughly	8	
9	\$200,000 which we feel is justified based on		CROSS-EXAMINATION BY MR. PETER ALTEEN
10	the unquantifiable benefits of the radio.		MR. ALTEEN:
11	Q. Thank you. That completes my direct	11	
12	examination of this panel.	12	5 1
	CHAIRMAN:	13	1 5 7 5 5
14	Q. Okay. Thank you, Ms. Greene. Are you ready	14	
15	to proceed?	15	<b>A C C C</b>
		16	
16 0	GREENE, Q.C.:		
16 ( 17	Q. It's Newfoundland Power first, Mr. Chairman,	17	
16 ( 17 18	Q. It's Newfoundland Power first, Mr. Chairman, under the Rules.	17 18	they think is useful or you can pass the ball
16 ( 17 18 19 (	Q. It's Newfoundland Power first, Mr. Chairman, under the Rules. CHAIRMAN:	17 18 19	they think is useful or you can pass the ball to them as the quarterback, if that's
16 ( 17 18 19 ( 20	<ul><li>Q. It's Newfoundland Power first, Mr. Chairman, under the Rules.</li><li>CHAIRMAN:</li><li>Q. I'm sorry. I should have looked at my sheet</li></ul>	17 18 19 20	they think is useful or you can pass the ball to them as the quarterback, if that's satisfactory to you.
16 ( 17 18 19 ( 20 21	<ul> <li>Q. It's Newfoundland Power first, Mr. Chairman, under the Rules.</li> <li>CHAIRMAN:</li> <li>Q. I'm sorry. I should have looked at my sheet here.</li> </ul>	17 18 19 20 21	<ul> <li>they think is useful or you can pass the ball</li> <li>to them as the quarterback, if that's</li> <li>satisfactory to you.</li> <li>MR. DOWNTON:</li> </ul>
16 ( 17 18 19 ( 20 21 22 1	<ul> <li>Q. It's Newfoundland Power first, Mr. Chairman, under the Rules.</li> <li>CHAIRMAN:</li> <li>Q. I'm sorry. I should have looked at my sheet here.</li> <li>MR. KENNEDY:</li> </ul>	17 18 19 20 21 22	<ul> <li>they think is useful or you can pass the ball</li> <li>to them as the quarterback, if that's</li> <li>satisfactory to you.</li> <li>MR. DOWNTON:</li> <li>A. Okay.</li> </ul>
16 ( 17 18 19 ( 20 21	<ul> <li>Q. It's Newfoundland Power first, Mr. Chairman, under the Rules.</li> <li>CHAIRMAN:</li> <li>Q. I'm sorry. I should have looked at my sheet here.</li> <li>MR. KENNEDY:</li> <li>Q. Mr. Chair, it's Newfoundland Power followed by</li> </ul>	17 18 19 20 21	<ul> <li>they think is useful or you can pass the ball</li> <li>to them as the quarterback, if that's</li> <li>satisfactory to you.</li> <li>MR. DOWNTON:</li> <li>A. Okay.</li> <li>Q. Good. Let's start out with the costs. Mr.</li> </ul>
16 ( 17 18 19 ( 20 21 22 1 23 24	<ul> <li>Q. It's Newfoundland Power first, Mr. Chairman, under the Rules.</li> <li>CHAIRMAN:</li> <li>Q. I'm sorry. I should have looked at my sheet here.</li> <li>MR. KENNEDY:</li> </ul>	17 18 19 20 21 22	<ul> <li>they think is useful or you can pass the ball to them as the quarterback, if that's satisfactory to you.</li> <li>MR. DOWNTON:</li> <li>A. Okay.</li> <li>Q. Good. Let's start out with the costs. Mr.</li> <li>O'Reilly, can we see B-71, please? Just</li> </ul>

# Multi-Page<sup>™</sup>NL Hydro 2004 Capital Budget Application

July	7,2003 Iviuti	-1 agu	e NL Hyuro 2004 Capital Duuget Application
	Page 93		Page 94
1	That's fine. Now, Mr. Downton, the 8.850	1	alternatives, the 2.7 and 3 million for a
2	million that's there in the total is the total	2	total of 5.7 million were what we estimated to
3	cost, the forecast cost of the system,	3	be the cost of supply of the system. What
4	correct?	4	were not added into the 5.7 million, were
5	A. That's correct.	5	basically project management, internal
6	Q. That's what we're working with. Now, can we	6	engineering and our usual overheads escalation
7	go to NP-2, Terry? And you might as well keep	7	and contingencies.
8	B-71 around because we'll be coming back to	8	Q. Is it fair we'd call those internal Hydro
9	it. I'm sorry, NP-5, excuse me, TerryMr.	9	costs?
10	O'Reilly. And in NP-5 we asked some questions	10	A. Internal Hydro costs.
11	in relation to the financial analysis filed in	11	Q. And they're about 3.1, 3.2 million dollars?
12	support of the Business Case for the VHF	12	A. Yes.
13	mobile radio system and a little bit of	13	Q. Okay. The \$5.7 million capital costs that's
14	differences in cash flows?	14	shown in Appendix A-1 here and is shown
15	A. Yeah.	15	consistently in your description of the
16	Q. And you're familiar with that question?	16	trunked radio, your analysis of the trunked
17	A. Yes.	17	radio, that comes from the consultant's
18	Q. And if you can scroll to page 2? You see	18	report?
19	there the trunked radio system we have capital	19	A. Those costs are consistent with what was in
20	costs of the total \$5.7 million, correct?	20	the consultant's report. When the
21	A. Yes.	21	consultant's report was generated in 2001, he
22	Q. And what's the difference in that and the	22	looked at various technologies and basically
23	capital cost of 8.8 that's shown in B-71?	23	he looked at the MPT, LTR and some of the
24	A. When we did the cashor I should say the	24	other technologies. I guess after 2001 we
25	evaluation, net present value of the	25	basically kept continuing our search for
	Page 95		Page 96
1	different alternatives and we basically found	1	Q. That is not the source of the \$5.7 million
2	another product, I guess, another technology	2	that is in your financial analysis, is that
3	called the passport technology and the pricing	3	what you're saying?
4	that was done for thebased on the 5.7	4	A. Basically, I guess, the short answer is no,
5	million is based on the passport technology.	5	it's not exactly the same. We basically
6	Q. That's based on the passport technology, it's	6	looked at other technologies and I guess the
7	not based upon the custom systemlet's do it	7	passport technology was consistent with that
8	this way, let's go to Appendix C to the	8	offer by the transcrypt LRT and the tetra
9	Business Case, Mr. O'Reilly. And I'm looking	9	technologies.
10	for Attachment 5. No.	10	Q. Yeah. The passport technology is something I
11 M	IR. HUTCHINGS:	11	understandI'm trying to stick within the
12	Q. That's Appendix 5. He needs Attachment 5.	12	walls of your consultant's report right now,
13 M	IR. ALTEEN:	13	Mr. Downton. Your consultant reviewed four
14	Q. Yes. The consultant's report is Appendix C,	14	different technological alternatives here,
15	Mr. O'Reilly, I believe, and we're looking for	15	didn't he?
16	Attachment 5 to that report, yeah. We're	16	A. Yes.
17	getting there. Scroll along. Okay, one more.	17	Q. And all of them are trunked technologies, are
18	Here we go. Now, go back one page. There you	18	they not?
19	go. Thank you, very much, Mr. O'Reilly. Now,		A. Yes.
20	when we look at this Attachment 5 to your		Q. And the cost variance for these four different
21	consultant's report, we see there under the	21	trunked technologies was between 5.7 million
22	LTR, which is the second column, we see the	22	to 11.7 or 11.8 million, is that correct?
23	costs associated with the LTR technology. And		A. Yes.
25			O Co the series also of two times in cost from
24	they approximate \$5.7 million. Is that fair?	24	Q. So the range was almost two times in cost from
	A. That's fair.	24 25	least cost to the highest cost of these four

Page 97         Trunked technologies?         Page 98           1         trunked technologies?         would have to do, any materials that are           3         the smart zone and FDACS are considered to be         did I say project management and engineer.           4         considered to be public safety systems, and         did I say project management and engineer.           6         unagement and engineer.         out of what the contractor would do, and           7         transcrypt systems are more of a public         front, M. Downton? How do you sot of           8         service system.         a general allowance           9         C-Fair comment. And even between the tetra and         our system sare more of a public           10         the ref. hough, there's a significant         to we would do an approximation of what we felt           11         difference. You're looking at a difference of         to we would do an approximation of what we felt           12         over S2 million, are you not?         to we would do an approximation of what we felt           14         O. Okay. Now, can we go back to B-71, please         to we would what the doff materials           14         O. Okay. Well, what kind of materials would         for the design and           15         projects costs and this 8.8 is about 3.1 or         perespecive in addition to the project				
2       A. Yeah. And I guess in particular of note is       2       outside of what the contractor would do, and         3       the smart zone and EDACS are considered to be       3       did I say project management and engineer.         4       considered to be public safety systems, and       5       that's primarily why you see the significant       5         6       increase in cost there whereas the tetra and       6       o you just make a general allowance         7       transcrypt systems are more of a public       8       determine that and get your head around that?         8       a yres.       10       the tTR, though, there's a significant       10         10       the TR, though, there's a significant       10       would do anaproximation of what we felt         12       over S2 million, are you not?       12       what the labour costs would be. As much as         13       A. Yes.       14       do the design, we also have the responsibility to         14       Q. Okay. Now, can we go back to B-71, please,       15       to ensure costs asoin M. Townon. And we've         15       more cost, again, M. Downton. And we've       16       provide overall project management that Hy would do.         16       projects cost again, M. Duyon instant as that sould that on the responsibility to       16       cosare of what the contractor would n' supply, <td></td> <td>Page 97</td> <td></td> <td>Page 98</td>		Page 97		Page 98
3         the smart zone and FPACS are considered to be public safety systems, and 5         3         did I say project management and engineer. 4           4         considered to be public safety systems, and 5         3         did I say project management and engineer. 4           6         increase in cost there whereas the tetra and 6         0. Well, what labour are you presuming that you would do outside of what the contractor will 6           7         transcrypt systems are more of a public 8         service system. 8         6           8         cetermine that and get your head around that? 4         0. Wait, Mc. Downton? 4         A. Well, what labour costs outnet of this size 4           10         that PTR, though, there's a significant 10         10         we would do an approximation of what we felt 10           13         A. Yes. 14         O. Okay. Now, can we go back to B-71, please. 15         15         Mr. O'Reilly? Thank you. This is the total 16         16           16         project costs, again, Mr. Downton. 16         17         perspective in addition to the project 17         18           11         basically what would be interwa costs or 18         10         0. Okay. Now, Can we go back to B-71, please. 19         10         0. Okay. Now, Can we go back to B-71, please. 10         10         10         10         10         10         10           13         3.2 million of Hydro internal	1	trunked technologies?	1	would have to do, any materials that are
4       Considered to be public safety systems, and       4       Q. Well, what labour are you presuming that you         5       that's primarily why you see the significant       5         6       increase in cost there whereas the tetra and       6       o, or do you just make a general allowance         7       transcrypt systems, are more of a public       7       for it, Mr. Downton? How do you you sort of         8       service system.       8       determine that and get your head around that?         9       0. Fair comment. And even between the tetra and       10       the LTR, though, there's a significant       10         10       the LTR, though, there's a significant       10       we would do an approximation of what we felt         11       based on other projects that we've done of       what whe labour costs would be. As much as         12       over S2 million, are you not?       12       what the labour costs would be. As much as         14       Q. Okay. Now, can we go back to B-71, please,       14       to the design, mode has the project management form our         17       agreed that the difference between the 5.7       17       perspective in addition to the project         18       million of Hydro intermal costs or       19       Q. Okay. Well, what kind of materials would         19       op copiant thaw is 8.8 is about 3.1 or	2	A. Yeah. And I guess in particular of note is	2	outside of what the contractor would do, and
5       that's primarity why you see the significant       5       would do ouside of what the contractor will         6       increase in cost there whereas the tetra and       6       do, or do you just make a general allowance         7       transcrypt systems are more of a public       8       determine that and get your head around that?         8       service system.       8       determine that and get your head around that?         10       the LTR, though, there's a significant       10       we would do an approximation of what we felt         11       based on other projects that we've done of       11       based on other projects that we've done of         13       A Yes.       13       the vendor has the primary responsibility to       14       0 the design, we also have the responsibility         14       O Roar, Now, can we go back to B-71, please, it       15       to ensure consistency of the design and tho       15       to ensure consistency of the design and tho         16       project cost, again, Mr. Downton. And we've       16       provide overall project management from our         18       million of Hydro internal costs. What's       21       in that internal cost of 3.1, 3.2 million, can       21       yust in that the Board?         23       A. Basically what would be in three would bo our       23       anit dus fus do oo uside what the contactor w	3	the smart zone and EDACS are considered to be	3	did I say project management and engineer.
6       increase in cost there whereas the tetra and       6       do, or do you just make a general allowance         7       transcrypt systems are more of a public       7         8       service system.       6       do, or do you just make a general allowance         9       0. Fair comment. And even between the tetra and       6       do, or do you just make a general allowance         10       the UTR, though, there's a significant       10       we would do an approximation of what we felt         11       basically. For a contract of this size       we would do an approximation of what we felt         12       over S2 million, are you not?       12       what the labour costs would be. As much as         14       O (O, Cay, Now, can we go back to B-71, please,       14       do the design, we also have the responsibility to         15       m. O'Reilloy? Thank you. This is the total       15       more cost, again, Mr. Downton. And we've         16       project cost, again, Mr. Downton. And we've       10       perspective in addition to the project         16       projects costs and this 8.8 is about 3.1 or       10       0. (O, Cay, Well, what kind of materials would         20       a mainternal engineering, any insulation that       12       1.4 don't know, maybe some additional coupling equipment that the contactor wouldn't supply,         21       t	4	considered to be public safety systems, and	4	Q. Well, what labour are you presuming that you
7       transcrypt systems are more of a public       7       for it, Mr. Downton? How do you sort of         8       service system.       8       determine that and get your head around that?         10       Q. Fair comment. And even between the tetra and       10       the LTR, though, ther's a significant         10       difference. Your Fooking at a difference of       11       bascially, for a contract of this size         13       A. Yes.       13       h. Yes.       13         14       Q. Okay. Now, can we go back to B-71, please,       15       the vendor has the primary responsibility to         14       Q. Okay. Now, can we go back to B-71, please,       15       to ensure consistency of the design and         15       project costs, again, Mr. Downton, And we've       16       provide overall project management from our         16       project costs and this & 8 is about 3.1 or       19       0. Okay. Neul, what kind of materials would do.         10       project costs and this & 8 is about 2.1 are some from our provide overall project management from our provide overall methal of materials hard Hydro         21       in that internal engineering, any insultation that       20       Okay. Neul, what kind of materinals would         <	5	that's primarily why you see the significant	5	would do outside of what the contractor will
8       service system.       8       determine that and get your head around that?         9       Q. Fair comment. And even between the tetra and the tetra and the tetra. The tetra head around that?       4         11       difference. You're looking at a difference of over S2 million, are you not?       4       Well, basically, for a contract of this size         12       over S2 million, are you not?       11       based on other projects that we've done of the design and project costs, again, Mr. Downton. And we've agreed that the difference between the 5.7.       13       the vendor has the primary responsibility to do the design, we also have the responsibility to goried overall project management that they would do.         19       projects costs and this 8.8 is about 3.1 or projects costs and this 8.8 is about 3.1 or projects costs of allo are flydro internal costs. What's 20       10       0. Okay. Well, what kind of materials would the rems of materials that Hydro 21         21       a Basically what would be in three would be out 23       20       0.0 Kay. Well, what kind materials would 20         23       A Basically what would be in three would be out 23       21       100       11       100         24       AB Basically what would be in three would be cost or 11, 3.2 million, can 24       23       100       12       24         25       consideration in the detail design and those 24       100 or 1 know, maybe some additional coupling equipment that had not beemalten into	6	increase in cost there whereas the tetra and	6	do, or do you just make a general allowance
9       Q. Fair comment. And even between the tetra and the LTR. though, there's a significant       9       A. Well, basically, for a contract of this size         10       the LTR. though, there's a significant       10       we would do an approximation of what we felt         12       over \$2 million, are you not?       12       what the labour costs would be. As much as         13       A. Yes.       13       the vendor has the primary responsibility to         14       Q. Okay. Now, can we go back to B-71, please,       14       do the design, we also have the responsibility to         15       Mr. O'Reilly? Thank you. This is the total       15       to ensure consistency of the design and         17       agreed that the difference between the 5.7       17       perspective in addition to the project         18       million of Hydro internal costs. What's       10       0. O. Okay. Well, what kind of materials would         21       in that internal cost of 3.1, 3.2 million, can       21       include?         23       a Basically what would be in there would be our       23       include?         24       A. Basically what would be in there would be our       23       include?         25       sorts of things. I don't know if Mr. Dunphy       2       include?         26       sorts of things. I don't know if Mr. Dunphy       3 <td>7</td> <td>transcrypt systems are more of a public</td> <td>7</td> <td>for it, Mr. Downton? How do you sort of</td>	7	transcrypt systems are more of a public	7	for it, Mr. Downton? How do you sort of
9       Q. Fair comment. And even between the tetra and the LTR. though, there's a significant       9       A. Well, basically, for a contract of this size         10       the LTR. though, there's a significant       10       we would do an approximation of what we felt         12       over \$2 million, are you not?       12       what the labour costs would be. As much as         13       A. Yes.       13       the vendor has the primary responsibility to         14       Q. Okay. Now, can we go back to B-71, please,       14       do the design, we also have the responsibility to         15       Mr. O'Reilly? Thank you. This is the total       15       to ensure consistency of the design and         17       agreed that the difference between the 5.7       17       perspective in addition to the project         18       million of Hydro internal costs. What's       10       0. O. Okay. Well, what kind of materials would         21       in that internal cost of 3.1, 3.2 million, can       21       include?         23       a Basically what would be in there would be our       23       include?         24       A. Basically what would be in there would be our       23       include?         25       sorts of things. I don't know if Mr. Dunphy       2       include?         26       sorts of things. I don't know if Mr. Dunphy       3 <td>8</td> <td>service system.</td> <td>8</td> <td>determine that and get your head around that?</td>	8	service system.	8	determine that and get your head around that?
10       the LTR, though, there's a significant       10       we would do an approximation of what we felt         11       difference. You're looking at a difference of       11       based on other projects that we've done of         13       A. Yes.       12       what the labour costs would be. As much as         14       Q. Okay. Now, can we go back to B-71, please,       13       the vendor has the primary responsibility to         14       Q. Okay. Now, can we go back to B-71, please,       13       the vendor has the primary responsibility to         16       project cost, again, Mr. Downton. And we've       17       perspective in addition to the project         18       million that you've called external costs or       18       management from our         19       projects costs and this 8.8 is about 3.1 or       19       Q. Okay. Well, what kind of materials would         21       in that internal cost of 3.1, 3.2 million, can       21       include?       21         23       A. Bascially what would be in there would be contact?       23       include?       22         24       own internal engineering, any insulation that       24       A. I don't know, maybe some additional coupling         2       sorts of things. I don't know if Mr. Dunphy       2       thinking that no matter which solution it         35       A.	9	Q. Fair comment. And even between the tetra and	9	
11       difference. You're looking at a difference of       11       based on other projects that we've done of         12       over \$2 million, are you not?       13       what the labour costs would be. As much as         14       Q. Okay. Now, can we go back to B-71, please,       13       the vendor has the primary responsibility to         15       Mr. O'Reilly? Thank you. This is the total       16       project cost, again, Mr. Downton. And we've       17         16       project costs, and this 8.8 is about 3.1 or       19       Q. Okay. Well, what kind of materials would do.         10       projects costs and this 8.8 is about 3.1 or       19       Q. Okay. Well, what kind of materials would do.         11       management that the contractor would us't that contractor would us't that contractor would us't that contractor would us't that contractor would us't stapply,         12       you explain that to the Board?       22         13       there be in terns of materials would 't supply,         14       don't know if Mr. Dunphy         15       A. Stascally what would be in there would be our         16       consideration in the detail design and those       1         17       car comment further, if you don't mind?         18       that covers.       1         2       sort of things. 1 don't know if Mr. Dunphy       1	10	the LTR, though, there's a significant	10	we would do an approximation of what we felt
12       over \$2 million, are you not?       12       what the labour costs would be. As much as         13       A. Yes.       13       h. Yes.         14       Q. Okay. Now, can we go back to B-71, please,       14       the vendor has the primary responsibility to         15       Mr. O'Reilly? Thank you. This is the total       15       the vendor has the primary responsibility to         16       project cost, again, Mr. Downton. And we've       16       provide overall project management from our         16       project cost again, Mr. Downton. And we've       16       provide overall project management from our         18       million of Hydro internal costs or       18       management that they would do.         19       projects costs and this 8.8 is about 3.1 or       19       Q. Okay. Well, what kind of materials would         21       in that internal cost of 3.1, 3.2 million, can       21       you explain that to the Board?       22         23       A. Bascally what would be in there would be or       23       include?       24       A. I don't know, maybe some additional coupling         24       A. Normally that's miscellaneous materials. It       6       could be cable, it could be mounting       7       takes, its internal costs will be the same?         3       that covers.       8       A. Normally that's miscellane	11		11	based on other projects that we've done of
13       A. Yes.       13       the vendor has the primary responsibility to         14       Q. Okay. Now, can we go back to B-71, please,       13       the vendor has the primary responsibility to         14       Q. Okay. Now, can we go back to B-71, please,       15       the vendor has the primary responsibility         16       project cost, again, Mr. Downton. And we've       16       provide overall project management from our         17       agreed that the difference between the 5.7.       18       million that you've called external costs or       18         19       projects costs and this 8.8 is about 3.1 or       19       Q. Okay. Well, what kind of materials that Hydro         20       3.2 million of Hydro internal costs What's       21       would use that the contractor wouldn't supply,         21       you explain that to the Board?       22       just give us some sense of what that might         23       A Basically what would be in there would be our       24       A. I don't know, maybe some additional coupling         25       consideration in the detail design and those       12       Q. So does that reflect Hydro's conscious sort of         2       sorts of things. I don't know if Mr. Dunphy       2       that sust or of what Tel call a gross         3       condenter further, if you don't mind?       4       Is that sowething you're though the sa	12	-	12	· ·
14       Q. Okay. Now, can we go back to B-71, please,       14       do the design, we also have the responsibility         15       Mr. O'Reilly? Thank you. This is the total       15       project costs, again, Mr. Downton. And we've         16       project cost, again, Mr. Downton. And we've       16       provide overall project management from our         17       agreed that the difference between the 5.7       17       perspective in addition to the project         18       million that you've called external costs or       18       management that they would do.         20       3.2 million of Hydro internal costs. What's       20       Okay. Well, what kind of materials would         21       in that internal cost of 3.1, 3.2 million, can       21       would use that the contractor wouldn't supply,         22       you explain that to the Board?       22       just give us some sense of what that might         23       A. Basically what would be in there would be our       23       include?         24       own internal engineering, any insulation that       24       A. I don't know, maybe some additional coupling         25       equipment that hey dro's conscious sort of       1       Q. So does that reflect Hydro's conscious sort of         2       sorts of things. I don't know if Mr. Dunphy       3       takes, itis intermal costs will be he same?	13	•	13	the vendor has the primary responsibility to
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16       project cost, again, Mr. Downton. And we've       16       provide overall project management from our         17       agreed that the difference between the 5.7       17       perspective in addition to the project         18       million that you've called external costs or       18       management that they would do.         19       projects costs and this 8.8 is about 3.1 or       19       Q. Okay. Well, what kind of materials would         20       3.2 million of Hydro internal costs. What's       20       would use that the contractor wouldn't supply,         21       in that internal cost of 3.1, 3.2 million, can       21       would was that the contractor wouldn't supply,         22       you explain that to the Board?       22       just give us some sense of what that might         23       A. Basically what would be in three would be our       23       A. I don't know, maybe some additional coupling         24       own internal engineering, any insulation that       24       A. I don't know, maybe some additional coupling         25       sorts of things. I don't know if Mr. Dunphy       2       thinking that no matter which solution it         3       can comment further, if you don't mind?       3       takes, its internal costs will be the same?         4       MR.DUNPHY:       15       Is that something you've thought through oris <tr< td=""><td>1</td><td></td><td></td><td></td></tr<>	1			
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18       million that you've called external costs or       18       management that they would do.         19       projects costs and this 8.5 is about 3.1 or       19       Q. Ckay. Well, what kind of materials that Hydro         20       3.2 million of Hydro internal costs of 3.1, 3.2 million, can       20       there be in terms of materials that Hydro         21       in that internal cost of 3.1, 3.2 million, can       21       would use that the contractor wouldn't supply,         22       you explain that to the Board?       22       just give us some sense of what that might         23       A. Basically what would be in there would be our       23       include?         24       own internal engineering, any insulation that       24       A. I don't know, maybe some additional coupling         25       we would have to do outside what the contractor       29       Page 100         2       consideration in the detail design and those       1       Q. So does that reflect Hydro's conscious sort of         2       that NDUNPHY:       4       Is that something you've thought through or is       that just sort of what 1'd call a gross         3       could be cable, it could be mounting       6       assumption that you decided to hold the same?         4       M. DUNPHY:       4       Is that covers.       8       A. It is an estimate and it is also	1			
19       projects costs and this 8.8 is about 3.1 or       19       Q. Okay. Well, what kind of materials would         20       3.2 million of Hydro internal costs. What's       20         21       in that internal cost of 3.1, 3.2 million, can       21         22       you explain that to the Board?       22         23       A. Basically what would be in there would be our       23         24       own internal engineering, any insulation that       24         25       we would have to do outide what the contact       25         26       Page 99       Page 100         2       sorts of things. I don't know if Mr. Dunphy       3         3       can comment further, if you don't mind?       4         4       MR. DUNPHY:       4       Is that something you've thought through or is         5       A. Normally that's miscellaneous materials. It       5       takes, its an estimate and it is also an assumption         9       Q. But it's not going to be repeaters or any of       9       10       takes, its ane stimate and it is also an assumption         14       A. Now, what would be included in there may be       15       spared, would be spare equipment and test bed       16         15       spared, would be spare equipment and test bed       15       point-in-time what your own internal la	1			
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	Page 101		Page 102
1	\$3 million, is that fair?	1	is that fair?
2	A. I'd have to look at the detail costs. But,	2	A. Yes.
3	I'd have to look at the detail costs, to be	3	Q. That's fair, is it?
4	honest. I thought we had provided that	4	A. Yes.
5	information in one of the Rone of the	5	Q. Okay, then. Is it also fair not changing
6	Requests for Information.	6	technologies would tend, by comparison, to
7	GREENE, Q.C.:	7	reduce the cost to your organization?
8	Q. You're talking about the breakdown of costs	8	A. Not reallynot necessarily. I guess in
9	provided in response to NP, right? Actually,	9	particular with the VHF mobile system, mobile
10	I missed thewhat level of costs you were	10	radio system, which is what we're talking
11	looking for.	11	about now, what we have is a hybrid between a
12	MR. ALTEEN:	12	conventional and a trunk radio system. And I
13	Q. We're looking at the \$3.2 million of Hydro's	13	guess what we're asking for from a
14	internal costs.	14	functionality perspective for the proposed
15	GREENE, Q.C.:	15	system is basically the same type of
16	Q. Yes. But then you asked organizational costs	16	functionality, but it will not be the same
17	or something.	17	primarily because the technologies have
18	MR. ALTEEN:	18	changed in the last 15 years. So, as much as
19	Q. Okay. Then I asked whether those costs would	19	you're not changing, you are basically
20	change if you were moving from one technology	20	changing the technologies, you're also putting
21	to the other, to another technology. Is that	21	people in there that didn't exist before. So
22	a big influence of that \$3.2 million worth	22	from my perspective, I don't necessarily agree
23	cost? And it would seem to me that that's a	23	that the costs would not increase. I don't
24	big part of it, going from one technology to a	24	know if you understand where I'm coming from?
25	new technology poses costs on your business,	25	Q. No, but that's fine. I might at the end of
	D 102		
1	Page 103		Page 104
	Page 103 it. For the conventional option that you	1	Page 104 of labour costs in this project. This project
$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	it. For the conventional option that you	1	of labour costs in this project. This project
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# Multi-Page<sup>™</sup>NL Hydro 2004 Capital Budget Application

Jury	7,2003 Wuiti	-Pa	age NL Hydro 2004 Capital Budget Application
	Page 105		Page 106
1	5, I believe that the timing of the costs had	1	basically engineering and from his
2	changed from 2004 and 2005? If we go back to	2	perspective. When he did it, he did not
3	NP-5, the capitals were different in your	3	differentiate between internal and external
4	revised schedules?	4	when he put together those labour costs.
5	A. Go back to NP-5.	5	Q. Yes. But your external costs are 2.7 million
6	Q. Okay. Here's NP-5. 2.7 million in 2004 and 3	6	in 2004, that's all I'm saying, and your
7	million in 2005.	7	labour is only 2.5 in this justification.
8	A. Yeah. And I guess what I was trying to	8	A. Yeah. And I guess what I'm saying is that the
9	explain there, the 2.7 million, really, if you	9	contract costs of estimated to be 2.7 really
10	want to go back to the B-71, really comes out	10	will touch on material supplies, labour and
11	of that pieces that we've called labour.	11	engineering.
12	Q. Okay. So -	12	Q. Material supply, labour and engineering.
13	A. And then likewise, for 2005 the 3 million	13	A. I guess if we had another heading called
14	comes out of the component called labour	14	"Contract", or "Supplier Contract Amount",
15	there, as well.	15	then we would have had a \$2.7 million figure
16	Q. The only difficulty I have with all of that is	16	in there. And I guess when the engineer did
17	when I look at the labour for 2004, it's 2. 52	17	this cost estimate, he allocated the \$2.7
18	million and you've got 2.7 million coming out	18	million for material supply, labour and
19	of it. And I'm just sort of wondering how	19	engineering.
20	that would work.	20	Q. That's a good time to break, Mr. Chairman.
21	A. And again, it's basically it's the way that	21	CHAIRMAN:
22	the engineer who did this put together the	22	Q. Okay, fine. We'll break for 15 minutes.
23	costs. From his perspective he looked at	23	(BREAK - 11:54 a.m.)
24	those three and used them interchangeable. He	24	(RESUMED AT 12:13 p.m.)
25	looked at material supply and labour and	25	CHAIRMAN;
	Page 107		Page 108
1	Q. Okay, Mr. Alteen.	1	did most of the analysis.
2 1	MR. ALTEEN:	2	MR. DUNPHY:
3	Q. Thank you, Mr. Chairman. Thank you,	3	A. Are you referring to the Consultant's Report?
4	gentlemen. Mr. O'Reilly, can we go to page 28	4	MR. ALTEEN:
5	of Appendix C to the Business Case. That's	5	Q. Yes, I am.
6	page 28 of the Technical Report of Custom	6	A. I believe that is true, yes.
7	Systems Electronics Limited.	7	Q. If I speak to Technical Report, Mr. Dunphy,
8 0	CHAIRMAN:	8	just so we're clear, it's Custom Systems
9	Q. Carry on, Mr. Alteen, I'll find it eventually.	9	Electronic's Report I'm referring to. So that
10	It's already on the screen, but I have trouble	10	is what he has recommended. Now the
11	focusing on that.	11	introduction to the Technical Report, can we
12 N	MR. ALTEEN:	12	go to page 2 of this report, Mr. O'Reilly
13	Q. This page 28, Mr. Downton, those are the	13	please? I mean the Technical Report, Mr.
14	Q. This page 20, Wil. Downton, those are the		
	mobile system recommendations of your	14	O'Reilly, that report we were in, the
15		14 15	O'Reilly, that report we were in, the Consultant's Report. It's Appendix C to this.
1	mobile system recommendations of your		
1	mobile system recommendations of your consultant, Customs Systems Electronics?	15	Consultant's Report. It's Appendix C to this.
16 N	mobile system recommendations of your consultant, Customs Systems Electronics? MR. DOWNTON:	15 16	Consultant's Report. It's Appendix C to this. Go to page 2. And here there's a general
16 N 17	mobile system recommendations of your consultant, Customs Systems Electronics? MR. DOWNTON: A. Yes.	15 16 17	Consultant's Report. It's Appendix C to this. Go to page 2. And here there's a general discussion by the consultant where he
16 N 17 18	<ul><li>mobile system recommendations of your consultant, Customs Systems Electronics?</li><li>MR. DOWNTON:</li><li>A. Yes.</li><li>Q. And if we look at line 11.3.4, is it a fair</li></ul>	15 16 17 18	Consultant's Report. It's Appendix C to this. Go to page 2. And here there's a general discussion by the consultant where he describes the most important requirement of a
16 N 17 18 19	<ul><li>mobile system recommendations of your consultant, Customs Systems Electronics?</li><li>MR. DOWNTON:</li><li>A. Yes.</li><li>Q. And if we look at line 11.3.4, is it a fair and I put to you correct conclusion that the</li></ul>	15 16 17 18 19	Consultant's Report. It's Appendix C to this. Go to page 2. And here there's a general discussion by the consultant where he describes the most important requirement of a made mobile radio system as being access, and he determines it by two factors: geographical area coverage and adequate channel capacity.
16 M 17 18 19 20	<ul> <li>mobile system recommendations of your consultant, Customs Systems Electronics?</li> <li>MR. DOWNTON:</li> <li>A. Yes.</li> <li>Q. And if we look at line 11.3.4, is it a fair and I put to you correct conclusion that the preferred mobile radio system recommended by your consultant is the LTR system?</li> <li>A. That's correct.</li> </ul>	15 16 17 18 19 20	Consultant's Report. It's Appendix C to this. Go to page 2. And here there's a general discussion by the consultant where he describes the most important requirement of a made mobile radio system as being access, and he determines it by two factors: geographical area coverage and adequate channel capacity. Do you agree with that general assessment of
16 N 17 18 19 20 21	<ul> <li>mobile system recommendations of your consultant, Customs Systems Electronics?</li> <li>MR. DOWNTON:</li> <li>A. Yes.</li> <li>Q. And if we look at line 11.3.4, is it a fair and I put to you correct conclusion that the preferred mobile radio system recommended by your consultant is the LTR system?</li> <li>A. That's correct.</li> <li>Q. That LTR system is the LTR system that is</li> </ul>	15 16 17 18 19 20 21	Consultant's Report. It's Appendix C to this. Go to page 2. And here there's a general discussion by the consultant where he describes the most important requirement of a made mobile radio system as being access, and he determines it by two factors: geographical area coverage and adequate channel capacity. Do you agree with that general assessment of the consultant?
16 N 17 18 19 20 21 22	<ul> <li>mobile system recommendations of your consultant, Customs Systems Electronics?</li> <li>MR. DOWNTON:</li> <li>A. Yes.</li> <li>Q. And if we look at line 11.3.4, is it a fair and I put to you correct conclusion that the preferred mobile radio system recommended by your consultant is the LTR system?</li> <li>A. That's correct.</li> </ul>	<ol> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> <li>22</li> </ol>	Consultant's Report. It's Appendix C to this. Go to page 2. And here there's a general discussion by the consultant where he describes the most important requirement of a made mobile radio system as being access, and he determines it by two factors: geographical area coverage and adequate channel capacity. Do you agree with that general assessment of

Page 109		Page 110
1 conclusion for the Board to make that the	1	Hydro is not proposing the least cost option;
2 conventional system alternative would meet the	2	they're proposing the next to least cost
3 access requirements of Hydro?	3	option, is that fair?
4 A. Yes.	4	A. Based on conditions right now, that is
5 Q. And it's fair to say that the conventional	5	correct.
6 mobile radio system that you've analyzed	6	Q. And the evidence of the panel has been that
7 provides all the functionality you require,	7	you believe that the softer or less -
8 there's no dispute about that, is there?	8	A. The intangibles.
9 A. No.	9	Q. Yes, the intangibles justify that additional
10 Q. Okay. Now, the financial analysis, we can go	10	\$230,000.00, is that your position?
11 to the business case, Mr. O'Reilly and I think	11	A. Yes.
12 we go to page 10 of the business case, that's	12	Q. Yes, okay. Now, when we looked at those
13 Tab 4. The financial analysis is summarized	13	numbers, the capital cost of the conventional
14 on page 10 of the business case. It compares	14	radio system is overit's \$925,000.00 higher,
15 the cost of the proposed trunked radio system	15	if you look around the capital line in the
16 with the conventional radio system, is that	16	first graph, than the proposed trunked radio
17 correct?	17	system. Why does a conventional radio system
18 A. Yes.	18	have a higher capital cost? What's in that?
19 Q. And the financial analysis as been frankly	19	What's driving that?
20 spoken to by Mr. Haynes shows a conventional	20	A. I'll defer that to Mr. Dunphy.
21 radio system to be lower cost option by		MR. DUNPHY:
22 approximately \$230,000.00, is that a correct	21	A. Net estimate is an assumed hypothetical, I
<ul><li>reading of that?</li></ul>	22	suppose, configuration for a conventional
24 A. Yes.	23	system that it was felt met the reliability
24 A. Tes. 25 Q. So, it's fair to say that on a strict basis,	24	and availability requirements for Hydro.
		· · ·
Page 111		Page 112
1 Q. So there's no type of component that drives	1	increased overall efficiency."
2 that or there's no piece of equipment, it's	2	Q. Okay, the first question, what is distributed
3 not repeaters, it's not a switch, it's not the	3	design topology?
	4	A. Refers to a design wherein there's no single
5 MR. DOWNTON:	5	central point of failure, my interpretation.
6 A. It's basically the switch. Because the	6	Q. Okay, and are we to take it that the
7 trunked radio alternative that we've looked at	7	distributed design topology here is a
8 proposing is, does not have a central switch.	8	reference to what you refer to as the passport
9 The conventional system does have at least one	9	system in your presentation?
10 switch.	10	A. Yes.
11 Q. And I guess, could we go to NP-2 please? If	11	Q. What are the increased overall efficiencies?
12 you look at NP-2, there's a phrase in there	12	A. The increased overall efficiencies referred
13 which I'd ask you to provide an interpretation	13	to?
14 for the uninitiated, and it starts at line 15.	114	Q. Yes.
	14	
15 Could you read the sentence that starts "As	15	A. In instances where traffic dictates that
<ul><li>Could you read the sentence that starts "As</li><li>well", at line 15, Mr. Downton or Mr. Dunphy?</li></ul>	15 16	A. In instances where traffic dictates that multiple channels are required, a trunked
<ul> <li>Could you read the sentence that starts "As</li> <li>well", at line 15, Mr. Downton or Mr. Dunphy?</li> <li>MR. DOWNTON:</li> </ul>	15 16 17	A. In instances where traffic dictates that multiple channels are required, a trunked radio system allows better reuse of radio
<ul> <li>Could you read the sentence that starts "As</li> <li>well", at line 15, Mr. Downton or Mr. Dunphy?</li> <li>MR. DOWNTON:</li> <li>A. I'll let you read it Gerard.</li> </ul>	15 16 17 18	A. In instances where traffic dictates that multiple channels are required, a trunked radio system allows better reuse of radio channels than a multiple channel conventional
<ul> <li>Could you read the sentence that starts "As</li> <li>well", at line 15, Mr. Downton or Mr. Dunphy?</li> <li>MR. DOWNTON:</li> <li>A. I'll let you read it Gerard.</li> <li>MR. DUNPHY:</li> </ul>	15 16 17 18 19	A. In instances where traffic dictates that multiple channels are required, a trunked radio system allows better reuse of radio channels than a multiple channel conventional system would.
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<ul> <li>Could you read the sentence that starts "As</li> <li>well", at line 15, Mr. Downton or Mr. Dunphy?</li> <li>MR. DOWNTON:</li> <li>A. I'll let you read it Gerard.</li> <li>MR. DUNPHY:</li> <li>A. The sentence that begins on line 15?</li> <li>Q. Yes.</li> </ul>	15 16 17 18 19 20 21	<ul><li>A. In instances where traffic dictates that multiple channels are required, a trunked radio system allows better reuse of radio channels than a multiple channel conventional system would.</li><li>Q. Does that result in cost efficiency?</li><li>A. Yes, it does result in cost efficiency in</li></ul>
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# Multi-Page<sup>™</sup>NL Hydro 2004 Capital Budget Application

	7,2005 Willi	-1 a	ge 112 Hydro 2004 Capital Dudget Application
	Page 113		Page 114
1	Q. Has Hydro quantified those cost efficiencies?	1	A. I should just add to that, I guess when Custom
2	Are they in a position to inform the Board as	2	Systems did the technology review in 2001, the
3	to what they are?	3	passport product, if we can call it that, did
4	A. No, we have not quantified those cost	4	notwas not on the horizon, as such, and I
5	efficiencies. That will depend on the detail	5	guess it's only through additional research
6	design of the system that's installed.	6	over the last two years in particular that
7	Q. Is it fair to say that the passport mobile	7	basically the Passport product has come
8	radio system you referred to this morning is	8	forward as a viable technology alternative.
9	the option that Hydro is leaning towards, in	9	Q. Yes, in your Technical Report, I believe it
10	terms of its mobile VHF radio?	10	was dated December of 2001, is that correct?
11	A. It appears to be the most cost-effective	11	I don't want to -
12	solution that meets our requirements.		MR. DUNPHY:
13	Q. You will agree with me that it's not	13	A. February 2001.
14	explicitly evaluated in the Technical Report	14	Q. February 26, 2001, okay. So at that time,
15	done by Custom Systems Electronics?	15	Passport or the system that you're leaning
16	A. No, it is not, in fact, it's not mentioned in	16	towards now, was not commercially available?
17	the Technical Report to the best of my	17	Is that a layman's way of putting it?
18	knowledge.	18	A. No, that's not true. I do not believe it was
18	Q. Yes. And is it evaluated in the Business	18	
	Case?		not available, I would say that the consultant was not aware of it.
20		20	
21	A. It's not specifically mentioned in the	21	Q. Okay. Mr. Downton or Mr. Dunphy, you reach a
22	Business Case, I do not believe.	22	conclusion in your presentation this morning
23	Q. No, it's not mentioned in the Business Case,	23	that the costs are approximately the same.
24	either, okay.	24	How do you get to that conclusion? Have you
25 N	IR. DOWNTON:	25	done a detailed cost analysis of this Passport
	Page 115		Page 116
1	System?	1	A. Yes.
	System? IR. DUNPHY:	1 2	<ul><li>A. Yes.</li><li>Q. Can we go to page two of the Business Case,</li></ul>
	System? MR. DUNPHY: A. We've obtained order of magnitude estimates on		<ul><li>A. Yes.</li><li>Q. Can we go to page two of the Business Case, please, Mr. O'Reilly? No, I'm thinking of the</li></ul>
2 N	System? MR. DUNPHY: A. We've obtained order of magnitude estimates on the cost of this system and believe that it is	2	<ul><li>A. Yes.</li><li>Q. Can we go to page two of the Business Case, please, Mr. O'Reilly? No, I'm thinking of the Business Case, that's the technical report,</li></ul>
2 N 3	System? AR. DUNPHY: A. We've obtained order of magnitude estimates on the cost of this system and believe that it is within the budget that we've shown.	2 3	<ul> <li>A. Yes.</li> <li>Q. Can we go to page two of the Business Case, please, Mr. O'Reilly? No, I'm thinking of the Business Case, that's the technical report, I'm sorry to confuse you like this, Mr.</li> </ul>
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	Page 117		Page 118
1	purchased by Hydro that are compatible with	1	increasing failures, it is prudent for Hydro
2	Hydro's current mobile radio system?	2	to replace the complete infrastructure. Also
3	A. Yes, that is true.	3	with the implementation of a new system, Hydro
4	Q. And such repeaters and new repeaters that you	4	will be required by Industry Canada to utilize
5	bought would be supported by the manufacturer,	5	12.5 kilohertz radio channels. The existing
6	is that a fair extension?	6	repeaters utilize 25 kilohertz radio channels
7	A. Yes.	7	and are not compatible with the new system and
8	Q. And there'd be spare parts available for those	8	thus, the existing radios will not be
9	new repeaters that you're buying or if you	9	compatible. As a result, the stage
10	wanted to buy?	10	replacement of the current repeaters, radios
11	A. Presumably.	11	and switch is not considered a viable option
12	Q. Could we go now to the response to NP-3, Mr.	12	and this was not evaluated."
12	O'Reilly? And this question starting at line		Q. And is that your evidence here today before
	6, asked "Did Hydro evaluate the alternative	13	the Board?
14	•	14	
15	of replacing the switch in 2004 and staging	15	A. Actually, I believe supplementary evidence was
16	the replacement of transmitters, receivers and	16	entered on Friday discussing exactly that
17	repeaters over time. If Hydro performed such	17	alternative.
18	an evaluation, please provide the results. If	18	Q. And what is that evidence, Mr. Dunphy?
19	Hydro did not evaluate such an alternative,	19	A. You will have to forgive me, I'm not familiar
20	why did it not do so?" Can you read the	20	with how these things are referred to.
21	answer, gentlemen, either of you would be		GREENE, Q.C.:
22	fine.	22	Q. Supplementary evidence, dated July 4, 2003
	R. DUNPHY:	23	that was filed on Friday. It's called
24	A. "The existing repeaters have been manufacturer	24	Production Supplementary Evidence.
25	discontinued since 1996 and with the	25	A. Thank you. I'm sorry, is there a question?
	Page 119		Page 120
1 M	Page 119 R. ALTEEN:	1	Page 120 Q. They would prefer if you installed a new
1 M 2	C C	1 2	C C
	R. ALTEEN:		Q. They would prefer if you installed a new
2	R. ALTEEN: Q. That modifies your evidence as in NP-3 then,	2	Q. They would prefer if you installed a new system that you should utilize twelve point
2 3	R. ALTEEN: Q. That modifies your evidence as in NP-3 then, does it?	2 3	Q. They would prefer if you installed a new system that you should utilize twelve point five kilohertz radio channels, but if you're
2 3 4	<ul><li>R. ALTEEN:</li><li>Q. That modifies your evidence as in NP-3 then, does it?</li><li>A. I suppose it does, yes.</li></ul>	2 3 4	Q. They would prefer if you installed a new system that you should utilize twelve point five kilohertz radio channels, but if you're building or replacing parts of a current
2 3 4 5	<ul><li>R. ALTEEN:</li><li>Q. That modifies your evidence as in NP-3 then, does it?</li><li>A. I suppose it does, yes.</li><li>Q. So you can buy the new repeaters and transmitters?</li></ul>	2 3 4 5	Q. They would prefer if you installed a new system that you should utilize twelve point five kilohertz radio channels, but if you're building or replacing parts of a current system, it is considered satisfactory, at
2 3 4 5 6	<ul><li>R. ALTEEN:</li><li>Q. That modifies your evidence as in NP-3 then, does it?</li><li>A. I suppose it does, yes.</li><li>Q. So you can buy the new repeaters and transmitters?</li><li>A. Yes. We subsequently found out that that</li></ul>	2 3 4 5 6	Q. They would prefer if you installed a new system that you should utilize twelve point five kilohertz radio channels, but if you're building or replacing parts of a current system, it is considered satisfactory, at least for the time being, to use the higher frequency?
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2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	<ul> <li>R. ALTEEN:</li> <li>Q. That modifies your evidence as in NP-3 then, does it?</li> <li>A. I suppose it does, yes.</li> <li>Q. So you can buy the new repeaters and transmitters?</li> <li>A. Yes. We subsequently found out that that option is available.</li> <li>Q. Let's go back to NP-3. Now the other reason you said that you, at this point, at the point of answering NP-3, and I realize you've done the analysis now, Mr. Dunphy, so I'm notbut the other point you made was the implementation of a new system by Hydro would be required by Industry Canada to utilize twelve point five kilohertz radio channels and the existing repeaters utilize twenty-five kilohertz radio channels.</li> <li>A. Yes.</li> <li>Q. It's my understanding that if you were to change a portion of your system, such as repeaters, Industry Canada would not require</li> </ul>	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	<ul> <li>Q. They would prefer if you installed a new system that you should utilize twelve point five kilohertz radio channels, but if you're building or replacing parts of a current system, it is considered satisfactory, at least for the time being, to use the higher frequency?</li> <li>A. For the time being, yes, that is our understanding, as of today.</li> <li>Q. So in terms of being something to measure the viability of staging the replacement of your VHF system, mobile radio system, is it fair to say that the twelve point five kilohertz versus twenty-five kilohertz distinction is really not that material?</li> <li>A. At this point in time, it does not appear to be a major issue.</li> <li>Q. Okay.</li> <li>Q. Okay then. Thank you. Mr. O'Reilly, if we</li> </ul>

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	D 101		D 100
	Page 121		Page 122
1	scroll up, just a little bit, Terry, centre of	1	hundred and fifty-nine calls. Is that the
2	the page. Thank you very much, Mr. O'Reilly.	2	correct way to read that?
3	Now this is a mobile traffic summary for the	3	A. Yes.
4	year 2000, and I'm going to ask some basic	4	Q. That is, okay. And as you go down, you have,
5	questions on this. What is a PEG, P-E-G?	5	I believe, it's six repeaters there listed.
6	A. A PEG is an industry term for a single use of	6	That's not all your repeaters or all your
7	the system. So for instance, when a call is	7	repeater traffic, is it?
8	initiated, counted and that call is called a	8	A. No, it's not.
9	referred to as a PEG.	9	Q. That would probably be the six most active or
10	Q. The time you use the system, regardless of the	10	something of that nature, is it?
11	duration of the use, when you are connected?	11	A. I can't say for sure. It probably is.
12	A. Yes.	12	Q. When you go to all sites total, which is in
13	Q. Is that fair?	13	bold -
14	A. Yes.	14	A. Um-hm.
15 (	(12:35 P.M.)	15	Q that would indicate all of the calls in that
16	Q. Okay. And when I look at this, and if I call	16	month?
17	them calls, Mr. Dunphy or Mr. Downton, please	17	A. Right.
18	bear with me, I'm talking about PEGS. When I	18	Q. By Newfoundland and Labrador Hydro?
19	look at this chart, and if we could take	19	A. Yes.
20	January for one second and we can look at the	20	Q. Okay. When we look at the minutes, that is
21	PEGS. Mr. O'Reilly has got his hand on the	21	just the amount of time in minutes that the
22	PEG for Newfoundland and Labrador Hydro, you	22	system is being used?
23	see that there? That chart would indicate the	23	A. Yes.
24	number of calls or that column would be the	24	Q. And again, the all sites total would indicate
25	Bay D'Espoir hill repeater, there were nine	25	the total usage of the system in minutes?
	Page 123		Page 124
1	Page 123 A. Yes.	1	Page 124 traffic summary for the year 2000, indicates
1 2	A. Yes.		traffic summary for the year 2000, indicates
2	<ul><li>A. Yes.</li><li>Q. Okay. And if you add the calls for Works</li></ul>	2	traffic summary for the year 2000, indicates that on a total minutes of usage, Works
	<ul><li>A. Yes.</li><li>Q. Okay. And if you add the calls for Works Services and Transportation PEGS and the PEGS</li></ul>		traffic summary for the year 2000, indicates that on a total minutes of usage, Works Services and Transportation used the system
2 3 4	<ul> <li>A. Yes.</li> <li>Q. Okay. And if you add the calls for Works Services and Transportation PEGS and the PEGS for Newfoundland and Labrador Hydro, you get</li> </ul>	2 3 4	traffic summary for the year 2000, indicates that on a total minutes of usage, Works Services and Transportation used the system approximately sixty-six percent of the time,
2 3 4 5	<ul> <li>A. Yes.</li> <li>Q. Okay. And if you add the calls for Works Services and Transportation PEGS and the PEGS for Newfoundland and Labrador Hydro, you get the total PEGS over in the total column? Is</li> </ul>	2 3 4 5	traffic summary for the year 2000, indicates that on a total minutes of usage, Works Services and Transportation used the system approximately sixty-six percent of the time, as compared to Hydro's thirty-four in total
2 3 4 5 6	<ul> <li>A. Yes.</li> <li>Q. Okay. And if you add the calls for Works Services and Transportation PEGS and the PEGS for Newfoundland and Labrador Hydro, you get the total PEGS over in the total column? Is that how that's supposed to work?</li> </ul>	2 3 4 5 6	traffic summary for the year 2000, indicates that on a total minutes of usage, Works Services and Transportation used the system approximately sixty-six percent of the time, as compared to Hydro's thirty-four in total minutes. Does that seem in the ballpark to
2 3 4 5 6 7	<ul> <li>A. Yes.</li> <li>Q. Okay. And if you add the calls for Works Services and Transportation PEGS and the PEGS for Newfoundland and Labrador Hydro, you get the total PEGS over in the total column? Is that how that's supposed to work?</li> <li>A. Yes.</li> </ul>	2 3 4 5 6 7	traffic summary for the year 2000, indicates that on a total minutes of usage, Works Services and Transportation used the system approximately sixty-six percent of the time, as compared to Hydro's thirty-four in total minutes. Does that seem in the ballpark to you? And you can take those numbers subject
2 3 4 5 6 7 8	<ul> <li>A. Yes.</li> <li>Q. Okay. And if you add the calls for Works Services and Transportation PEGS and the PEGS for Newfoundland and Labrador Hydro, you get the total PEGS over in the total column? Is that how that's supposed to work?</li> <li>A. Yes.</li> <li>Q. The same for the usage in minutes?</li> </ul>	2 3 4 5 6 7 8	traffic summary for the year 2000, indicates that on a total minutes of usage, Works Services and Transportation used the system approximately sixty-six percent of the time, as compared to Hydro's thirty-four in total minutes. Does that seem in the ballpark to you? And you can take those numbers subject to check, Mr. Dunphy and Mr. Downton.
2 3 4 5 6 7 8 9	<ul> <li>A. Yes.</li> <li>Q. Okay. And if you add the calls for Works Services and Transportation PEGS and the PEGS for Newfoundland and Labrador Hydro, you get the total PEGS over in the total column? Is that how that's supposed to work?</li> <li>A. Yes.</li> <li>Q. The same for the usage in minutes?</li> <li>A. Yes.</li> </ul>	2 3 4 5 6 7 8 9	<ul> <li>traffic summary for the year 2000, indicates</li> <li>that on a total minutes of usage, Works</li> <li>Services and Transportation used the system</li> <li>approximately sixty-six percent of the time,</li> <li>as compared to Hydro's thirty-four in total</li> <li>minutes. Does that seem in the ballpark to</li> <li>you? And you can take those numbers subject</li> <li>to check, Mr. Dunphy and Mr. Downton.</li> <li>A. Those are reasonable numbers.</li> </ul>
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2 3 4 5 6 7 8 9 10 11	<ul> <li>A. Yes.</li> <li>Q. Okay. And if you add the calls for Works Services and Transportation PEGS and the PEGS for Newfoundland and Labrador Hydro, you get the total PEGS over in the total column? Is that how that's supposed to work?</li> <li>A. Yes.</li> <li>Q. The same for the usage in minutes?</li> <li>A. Yes.</li> <li>Q. Okay. Now I'll point out something. I'm not going to make a big point of it, because I</li> </ul>	2 3 4 5 6 7 8 9 10 11	<ul> <li>traffic summary for the year 2000, indicates</li> <li>that on a total minutes of usage, Works</li> <li>Services and Transportation used the system</li> <li>approximately sixty-six percent of the time,</li> <li>as compared to Hydro's thirty-four in total</li> <li>minutes. Does that seem in the ballpark to</li> <li>you? And you can take those numbers subject</li> <li>to check, Mr. Dunphy and Mr. Downton.</li> <li>A. Those are reasonable numbers.</li> <li>Q. And it's roughly the same for the PEGS or the</li> <li>calls?</li> </ul>
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## Discoveries Unlimited Inc., Ph: (709)437-5028

# Multi-Page<sup>™</sup>NL Hydro 2004 Capital Budget Application

July	7, 2003 Mult	I-Pag	ge <sup>an</sup> NL Hydro 2004 Capital Budget Application
	Page 125		Page 126
1	Q. Okay then. And is this the firstthe latest	1	A. Yes.
2	correspondence with Works Services and	2	Q. Okay, good. And you say that there may be
3	Transportation regarding their participation	3	choices in how they determine their
4	with this mobile radio?	4	contribution. Could you give me a little bit
5	A. That is the latest in the sense of a document	5	more detail? If they intend to contribute on
6	correspondence, but we've had meetings on this	6	a capital basis, are you implying that it will
7	particular issue.	7	be a lump sum upfront payment to cover
8	Q. Okay then. Now I want to explore a little bit	8	capital?
9	of that, Mr. Downton. The letter says "the	9	A. I guess discussions that we've had with them,
10	degree of participation and the funding	10	there is that possibility, plus also there
11	process remains to be decided." Is that still	11	could be a possibility of say two lump sum
12	where we are?	12	payments towards capital through the life of
13	A. Well, we basically have given Works Services	13	the project.
14	the costs, as per what had been submitted, and	14	Q. Okay.
15	they are, I guess through their channels,	15	A. And in the life of the project, I mean through
16	currently identifying how they will fund this,	16	2004/2005.
17	whether they will fund it from a capital	17	Q. So they would invest at the time that Hydro is
18	perspective or whether they will fund it from	18	required to invest?
19	an operating perspective or some combination	19	A. Yes.
20	thereof.	20	Q. That's what you'reis that where that is?
21	Q. Okay. You've given them the costs and they'd	21	A. Yes.
22	be costs consistent with the costs that are	22	Q. Okay. And that's where it is now. What's the
23	before the Board here today for this system?	23	current situation with Works Services and
24	A. Yes.	24	Transportation? What are they paying today?
25	Q. That's a fair comment?	25	Do you have any idea?
	Page 127		Page 128
1	A. They are paying approximately sixteen thousand	1	A. You're looking at them paying fifty percent of
2	seven hundred and fifty dollars a month.	2	the total capital cost of the project.
3	Q. And in here, it says that it is estimated in	3	Q. Fifty percent of the total -
4	this letter that's on our screen in front of	4	A. That's the discussions that we've had with
5	us, "it is estimated that the Department's	5	them.
6	level of participation would be as per the	6	Q total capital costs. And what are the total
7	present system, provided the costs are as	7	capital costs? Is that the eight point eight
8	presented in last week's meeting between	8	million?
9	officials of both agencies." Now respecting	9	A. Yes.
10	that this letter was in 2001, is it fair for	10	Q. Is it a fair observation to observe that that
11	me to say that the conversation between Works	11	isn't what is currently reflected in the net
12	Services and Transportation and Hydro today is	12	present value or cumulative present worth
13	based upon a sharing of the costs as presented	13	analysis that you've used for financial
14	in this application?	14	analysis in your business case? I think
15	A. Yes. That's the sharing of capital and	15	you've used the five point seven.
16	sharing of operating.	16	A. We've used the five point seven, and I guess
17	Q. Okay. And in your proposal before the Board	17	we ran the full follow-up costs for the net
18	today, in terms of the capital contribution of	18	present value as well.
19	Works Services and Transportation, and let's	19	Q. Is it fifty/fifty basis as you've proposed of
20	leave apart that nuance about timing, Mr.	20	total capital costs, is that fair given the
21	Downton, about 2004/2005, but your proposal is	21	usage of the system in your estimation, in
22	that Works Services and Transportation pay	22	Hydro's estimation?
23	one-half of the external costs or the five	23	A. Yes. There's two ways to look at it. When
124	point seven million as a capital contribution?	24	the existing arrangement that we have with
24	12:45 p.m.)	25	Works Services is based on per user basis. We

July 7, 2003
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	Page 129		Page 130
1	do not look at actual minutes being used as a	1	their use in costs?
2	reflection of costs, and the main reason is	2	A. I think in a common carrier environment, that
3	because all of that infrastructure is common.	3	would be more applicable. I guess with
4	So no matter how much you use it, the costs	4	regards to the relationship that we have with
5	are not going to change between the parties	5	Works Services and the fact that, I guess,
6	anyway. So whether you hit the repeater site	6	Newfoundland Hydro is an agency of the
7	with two hundred and fifty PEGS or whether	7	Government, and that's the only reason that
8	you're going to hit it with five hundred PEGS,	8	Newfoundland Hydro and Works Services can
9	the actual cost is not going to change. So	9	collaborate on the existing system, as well as
10	from our perspective, we looked at theit's a	10	the proposed system. I guess what Industry
11	fixed cost and we elected to go the route of	11	Canada specifically says that Hydro cannot
12	looking at a cost share based on a per user	12	charge a fee for use, and I guess our
13	basis.	13	interpretation of that is that what we are
14	Q. High fixed cost, virtually no variable cost.	14	looking at is splitting, on an appropriate
15	Is that whereis that how this system	15	user basis, the capital costs and then, from
16	operates more or less?	16	an operating cost perspective, share that
17	A. Well pretty much, yes. I mean, basically	17	based on a per user basis as well. If Hydro
18	after youhigh capital cost to install it,	18	were to become, let's say, a private company
19	actual operating costs, not that it's	19	or if the things should change, then basically
20	consequential, but the operating costs over	20	the ability for Newfoundland Hydro and Works
21	the life of the project is consistent.	21	Services to continue to carry on as with the
22	Q. Is it also another way to look at it, and due	22	present agreement would be null and void.
23	regard to the explanation you've given, to say	23	Q. Okay. But is it fair to say that if the
24	that the person or the party that uses the	24	capital contribution, and you've proposed
25	system should pay the proportional amount of	25	fifty/fifty, and I understand the reasons
	Page 131		Page 132
1	you've proposed, but if the capital	1	Page 132 A. I guess we have a letter from Works Services
1 2	you've proposed, but if the capital contribution were say sixty-five percent,	1 2	A. I guess we have a letter from Works Services which indicates that they are still committed
	you've proposed, but if the capital contribution were say sixty-five percent, that's not going to change that common carrier		A. I guess we have a letter from Works Services which indicates that they are still committed to participation in this system and that they
2	you've proposed, but if the capital contribution were say sixty-five percent, that's not going to change that common carrier sort of relationship, I don't think, is it?	2	A. I guess we have a letter from Works Services which indicates that they are still committed to participation in this system and that they will be seeking funding through their
2 3	you've proposed, but if the capital contribution were say sixty-five percent, that's not going to change that common carrier sort of relationship, I don't think, is it? That's not your contention that that would	2 3	A. I guess we have a letter from Works Services which indicates that they are still committed to participation in this system and that they will be seeking funding through their appropriate channels and I guess, at the end
2 3 4	you've proposed, but if the capital contribution were say sixty-five percent, that's not going to change that common carrier sort of relationship, I don't think, is it? That's not your contention that that would make you a common carrier because they paid	2 3 4	A. I guess we have a letter from Works Services which indicates that they are still committed to participation in this system and that they will be seeking funding through their appropriate channels and I guess, at the end of the day, whether it's capital or operating,
2 3 4 5 6 7	you've proposed, but if the capital contribution were say sixty-five percent, that's not going to change that common carrier sort of relationship, I don't think, is it? That's not your contention that that would make you a common carrier because they paid sixty-five percent of the capital costs.	2 3 4 5	A. I guess we have a letter from Works Services which indicates that they are still committed to participation in this system and that they will be seeking funding through their appropriate channels and I guess, at the end of the day, whether it's capital or operating, that's really not under our control.
2 3 4 5 6	<ul> <li>you've proposed, but if the capital contribution were say sixty-five percent, that's not going to change that common carrier sort of relationship, I don't think, is it?</li> <li>That's not your contention that that would make you a common carrier because they paid sixty-five percent of the capital costs.</li> <li>A. I guess where you're coming from is based on,</li> </ul>	2 3 4 5 6	<ul> <li>A. I guess we have a letter from Works Services which indicates that they are still committed to participation in this system and that they will be seeking funding through their appropriate channels and I guess, at the end of the day, whether it's capital or operating, that's really not under our control.</li> <li>Q. And first, is that letter subsequent to this</li> </ul>
2 3 4 5 6 7 8 9	<ul> <li>you've proposed, but if the capital contribution were say sixty-five percent, that's not going to change that common carrier sort of relationship, I don't think, is it?</li> <li>That's not your contention that that would make you a common carrier because they paid sixty-five percent of the capital costs.</li> <li>A. I guess where you're coming from is based on, I guess, charging a fee based on actual usage.</li> </ul>	2 3 4 5 6 7 8 9	<ul> <li>A. I guess we have a letter from Works Services which indicates that they are still committed to participation in this system and that they will be seeking funding through their appropriate channels and I guess, at the end of the day, whether it's capital or operating, that's really not under our control.</li> <li>Q. And first, is that letter subsequent to this letter that we have on the screen in front of</li> </ul>
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# Multi-Page<sup>TM</sup>NL Hydro 2004 Capital Budget Application

	· ·		
	Page 133		Page 134
1	profit to negotiate on, from our perspective,	1	MR. ALTEEN:
2	but from Works Services, they are committed in	2	Q. And from an incremental cost recovery basis, I
3	turn within government to fund their portion	3	think we'd have to agree with you, however,
4	of this particular project.	4	from a fairness basis of the benefits of a
5 1	MR. HAYNES:	5	capital investment by a utility that is shared
6	A. If I could, our intention was, in one of the	6	by people who are not utilities, that are
7	previous RFI's, I don't recall the number	7	related parties, different considerations may
8	offhand, there was a question of how we're	8	arise, Mr. Haynes and we'll leave that for
9	going to treat the capital contribution by	9	another day because it's uncertainyou grant
10	Works Services and Transportation. And we had	10	me that that's another aspect that the Board
11	said that in the next capital hearing that we	11	would have to consider.
12	would actually revise those numbers depending	12	A. I understand.
13	on how that worked out. If there was a lesser	13	Q. Do you agree with that, generally,
14	capital contribution that we anticipated, that	14	conceptually.
15	we would like to get, then basically that	15	A. I agree, except that, I agree generally, yes,
16	would be covered in the operating costs. At	16	however, if you look at contribution in aid of
17	the end of the day, the rate payer would be	17	construction, there's nowhich is sort of
18	saved harmless. You know, it should be	18	what this isit doesn't necessarily, one
19	transparent to the rate payer, that's the	19	doesn't necessarily look at the use of the
20	intent of our involvement with Works Services	20	system if you're looking at interconnecting a
21	and Transportation. The rate payer benefits,	21	bunch of cabin owners, whether they have
22	regardless, because even without Works	22	electric heat or whether it's just lights and
22	Services and Transportation, we would still be	22	so on. You still have fixed portion to hook
23	here today with 8.9, 8.85 million capital	23	up. So, there are some analogy which are
24	budget.	24	appropriate. And one of the concerns
45	buugot.		
	Page 135		Page 136
1	Page 135 expressed by Mr. Downton was that we do not	1	Page 136 Q. That would be for the transmission panel.
1 2	Page 135 expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry	1 2	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS:
1 2 3	Page 135 expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a	1 2 3	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS: Q. Okay, that's fine. So, I'll start.
1 2 3 4	Page 135 expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a common carrier, that introduces a whole pile	1 2 3 4	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS: Q. Okay, that's fine. So, I'll start. CHAIRMAN:
1 2 3	Page 135 expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a common carrier, that introduces a whole pile of other regulatory things that we're not	1 2 3 4 5	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS: Q. Okay, that's fine. So, I'll start. CHAIRMAN: Q. Okay.
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1 2 3 4 5 6 7 8 9 10 11 12 0 13 14	Page 135 expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a common carrier, that introduces a whole pile of other regulatory things that we're not interested in. Q. I suspect you probably had your fill of regulatory right about now. Thank you gentlemen, you've been very, very helpful, thank you very much. That's our cross- examination of the panel, Mr. Chairman. CHAIRMAN: Q. Thank you, Mr. Alteen. Industrial customers. MS. HENLEY ANDREWS:	1 2 3 4 5 6 7 8 9 10 11 12 13 14	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS: Q. Okay, that's fine. So, I'll start. CHAIRMAN: Q. Okay. CROSS-EXAMINATION BY MS. JANET HENLEY ANDREWS MS. HENLEY ANDREWS: Q. I guess the best thing for me to do, Mr. Haynes, is to direct all of my questions to you and if there is somebody on the panel that who you feel is better able to answer that particular question, you can suggest to which you would re-direct it to. MR. HAYNES:
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1 2 3 4 5 6 7 8 9 10 11 12 6 13 14 15 16 17	Page 135 expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a common carrier, that introduces a whole pile of other regulatory things that we're not interested in. Q. I suspect you probably had your fill of regulatory right about now. Thank you gentlemen, you've been very, very helpful, thank you very much. That's our cross- examination of the panel, Mr. Chairman. CHAIRMAN: Q. Thank you, Mr. Alteen. Industrial customers. MS. HENLEY ANDREWS: Q. Mr. Chairman, we're going to divide up our cross-examination pretty much along the following lines with respect to this panel.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS: Q. Okay, that's fine. So, I'll start. CHAIRMAN: Q. Okay. CROSS-EXAMINATION BY MS. JANET HENLEY ANDREWS MS. HENLEY ANDREWS: Q. I guess the best thing for me to do, Mr. Haynes, is to direct all of my questions to you and if there is somebody on the panel that who you feel is better able to answer that particular question, you can suggest to which you would re-direct it to. MR. HAYNES: A. That's fine. Q. Now, if you take a look at Schedule A, the application. The generation budget which is
1 2 3 4 5 6 7 8 9 10 11 12 6 13 14 15 16 17 18	Page 135 expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a common carrier, that introduces a whole pile of other regulatory things that we're not interested in. Q. I suspect you probably had your fill of regulatory right about now. Thank you gentlemen, you've been very, very helpful, thank you very much. That's our cross- examination of the panel, Mr. Chairman. CHAIRMAN: Q. Thank you, Mr. Alteen. Industrial customers. MS. HENLEY ANDREWS: Q. Mr. Chairman, we're going to divide up our cross-examination pretty much along the following lines with respect to this panel. And that is that I will ask the questions on	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS: Q. Okay, that's fine. So, I'll start. CHAIRMAN: Q. Okay. CROSS-EXAMINATION BY MS. JANET HENLEY ANDREWS MS. HENLEY ANDREWS: Q. I guess the best thing for me to do, Mr. Haynes, is to direct all of my questions to you and if there is somebody on the panel that who you feel is better able to answer that particular question, you can suggest to which you would re-direct it to. MR. HAYNES: A. That's fine. Q. Now, if you take a look at Schedule A, the application. The generation budget which is proposed for 2004 is \$5,079,000.00, is that
1 2 3 4 5 6 7 8 9 10 11 12 6 13 14 15 16 17 18 19	Page 135 expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a common carrier, that introduces a whole pile of other regulatory things that we're not interested in. Q. I suspect you probably had your fill of regulatory right about now. Thank you gentlemen, you've been very, very helpful, thank you very much. That's our cross- examination of the panel, Mr. Chairman. CHAIRMAN: Q. Thank you, Mr. Alteen. Industrial customers. MS. HENLEY ANDREWS: Q. Mr. Chairman, we're going to divide up our cross-examination pretty much along the following lines with respect to this panel. And that is that I will ask the questions on production portion of the capital budget and	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS: Q. Okay, that's fine. So, I'll start. CHAIRMAN: Q. Okay. CROSS-EXAMINATION BY MS. JANET HENLEY ANDREWS MS. HENLEY ANDREWS: Q. I guess the best thing for me to do, Mr. Haynes, is to direct all of my questions to you and if there is somebody on the panel that who you feel is better able to answer that particular question, you can suggest to which you would re-direct it to. MR. HAYNES: A. That's fine. Q. Now, if you take a look at Schedule A, the application. The generation budget which is proposed for 2004 is \$5,079,000.00, is that correct?
1 2 3 4 5 6 7 8 9 10 11 12 6 13 14 15 16 17 18 19 20	<ul> <li>Page 135</li> <li>expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a common carrier, that introduces a whole pile of other regulatory things that we're not interested in.</li> <li>Q. I suspect you probably had your fill of regulatory right about now. Thank you gentlemen, you've been very, very helpful, thank you very much. That's our cross-examination of the panel, Mr. Chairman.</li> <li>CHAIRMAN:</li> <li>Q. Thank you, Mr. Alteen. Industrial customers.</li> <li>MS. HENLEY ANDREWS:</li> <li>Q. Mr. Chairman, we're going to divide up our cross-examination pretty much along the following lines with respect to this panel. And that is that I will ask the questions on production portion of the capital budget and Mr. Hutchings will ask the questions with</li> </ul>	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS: Q. Okay, that's fine. So, I'll start. CHAIRMAN: Q. Okay. CROSS-EXAMINATION BY MS. JANET HENLEY ANDREWS MS. HENLEY ANDREWS: Q. I guess the best thing for me to do, Mr. Haynes, is to direct all of my questions to you and if there is somebody on the panel that who you feel is better able to answer that particular question, you can suggest to which you would re-direct it to. MR. HAYNES: A. That's fine. Q. Now, if you take a look at Schedule A, the application. The generation budget which is proposed for 2004 is \$5,079,000.00, is that correct? A. That's correct.
1 2 3 4 5 6 7 8 9 10 11 12 6 13 14 15 16 17 18 19 20 21	<ul> <li>Page 135</li> <li>expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a common carrier, that introduces a whole pile of other regulatory things that we're not interested in.</li> <li>Q. I suspect you probably had your fill of regulatory right about now. Thank you gentlemen, you've been very, very helpful, thank you very much. That's our cross-examination of the panel, Mr. Chairman.</li> <li>CHAIRMAN:</li> <li>Q. Thank you, Mr. Alteen. Industrial customers.</li> <li>MS. HENLEY ANDREWS:</li> <li>Q. Mr. Chairman, we're going to divide up our cross-examination pretty much along the following lines with respect to this panel. And that is that I will ask the questions on production portion of the capital budget and Mr. Hutchings will ask the questions with respect to information technology and</li> </ul>	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS: Q. Okay, that's fine. So, I'll start. CHAIRMAN: Q. Okay. CROSS-EXAMINATION BY MS. JANET HENLEY ANDREWS MS. HENLEY ANDREWS: Q. I guess the best thing for me to do, Mr. Haynes, is to direct all of my questions to you and if there is somebody on the panel that who you feel is better able to answer that particular question, you can suggest to which you would re-direct it to. MR. HAYNES: A. That's fine. Q. Now, if you take a look at Schedule A, the application. The generation budget which is proposed for 2004 is \$5,079,000.00, is that correct? A. That's correct. Q. With another \$3,036,000.00 expected to
1 2 3 4 5 6 7 8 9 10 11 12 6 13 14 15 16 17 18 19 20 21 22	<ul> <li>Page 135</li> <li>expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a common carrier, that introduces a whole pile of other regulatory things that we're not interested in.</li> <li>Q. I suspect you probably had your fill of regulatory right about now. Thank you gentlemen, you've been very, very helpful, thank you very much. That's our cross-examination of the panel, Mr. Chairman.</li> <li>CHAIRMAN:</li> <li>Q. Thank you, Mr. Alteen. Industrial customers.</li> <li>MS. HENLEY ANDREWS:</li> <li>Q. Mr. Chairman, we're going to divide up our cross-examination pretty much along the following lines with respect to this panel. And that is that I will ask the questions on production portion of the capital budget and Mr. Hutchings will ask the questions with respect to information technology and telecommunications. And there is one section</li> </ul>	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS: Q. Okay, that's fine. So, I'll start. CHAIRMAN: Q. Okay. CROSS-EXAMINATION BY MS. JANET HENLEY ANDREWS MS. HENLEY ANDREWS: Q. I guess the best thing for me to do, Mr. Haynes, is to direct all of my questions to you and if there is somebody on the panel that who you feel is better able to answer that particular question, you can suggest to which you would re-direct it to. MR. HAYNES: A. That's fine. Q. Now, if you take a look at Schedule A, the application. The generation budget which is proposed for 2004 is \$5,079,000.00, is that correct? A. That's correct. Q. With another \$3,036,000.00 expected to complete some projects in future years?
1 2 3 4 5 6 7 8 9 10 11 12 6 13 14 15 16 17 18 19 20 21 22 23 24	<ul> <li>Page 135</li> <li>expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a common carrier, that introduces a whole pile of other regulatory things that we're not interested in.</li> <li>Q. I suspect you probably had your fill of regulatory right about now. Thank you gentlemen, you've been very, very helpful, thank you very much. That's our crossexamination of the panel, Mr. Chairman.</li> <li>CHAIRMAN:</li> <li>Q. Thank you, Mr. Alteen. Industrial customers.</li> <li>MS. HENLEY ANDREWS:</li> <li>Q. Mr. Chairman, we're going to divide up our cross-examination pretty much along the following lines with respect to this panel. And that is that I will ask the questions on production portion of the capital budget and Mr. Hutchings will ask the questions with respect to information technology and telecommunications. And there is one section of the general properties budget which deals</li> </ul>	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Page 136 Q. That would be for the transmission panel. MS. HENLEY ANDREWS: Q. Okay, that's fine. So, I'll start. CHAIRMAN: Q. Okay. CROSS-EXAMINATION BY MS. JANET HENLEY ANDREWS MS. HENLEY ANDREWS: Q. I guess the best thing for me to do, Mr. Haynes, is to direct all of my questions to you and if there is somebody on the panel that who you feel is better able to answer that particular question, you can suggest to which you would re-direct it to. MR. HAYNES: A. That's fine. Q. Now, if you take a look at Schedule A, the application. The generation budget which is proposed for 2004 is \$5,079,000.00, is that correct? A. That's correct. Q. With another \$3,036,000.00 expected to complete some projects in future years? A. Correct.

1 MR. DOWNTON:1the plant, that would be a capacity upgrade.2A. Of the report?2None of these projects that are in here would3Q. Of the report.3actually increased to megawatt rating or the4A. Minimum filing report?4energy capability of the plant. We may be5Q. Yes.5able to get some efficiency gains, but there6A. Okay.6is no specific thing considering the7Q. Well, first of all, look at the first7justification would actually increase the8paragraph and the last sentence says, "the9filing requirements apply only to capital9filing requirements apply only to capital9Q. Now, at the bottom of page 1 of the summary,10works related either to new additions or to10the last sentence says, "that the minimum11capacity upgrades for existing plant on either11filing requirement will also specify the tests12the transmission or the generation12and guidelines used to justify the proposed13facilities".13project both in terms of the technical and the14A. Yes.14economic financial evaluations used", correct?15Q. What do you understand a capacity upgrade to15A. Yes.16be?16Q. But would you agree that notwithstanding these17A. If we were going toif you go back to the18evaluate each project that you put forward?		Page 137		Page 138
2       Q. Now, if you look at A2, under the construction project for the hydro plants, all of those are single year projects for 2004, correct?       2       guidelines for minimum filing requirements for new generation and transmission projects.         5       A. With the exception of approximately \$20,000.00       4       A. With the exception of approximately \$20,000.00         6       which was approved last year for some preliminary engineering work.       4       A. No, 1 did not.         8       0. That's right, but -       8       A. No, 1 did not.         9       A. All those projects in the hydro plants are are dealt with under thermal plant, some will       10       Q. And with respect to some of the projects that are dealt with under thermal plant, some will         11       Q. And with respect to some of the projects that are adealt with under thermal plant, some will       11       Reeves, who's on the TRL panel was going to project for the thermal and add up the thermal amounts, the portion of those projects for for 2004 is actually less than the portions of the thermal amounts, the portion of those projects are quidelines that Hydro is working with today, correct?       10       Q. Now, if you look at the summarybut these are guidelines that Hydro is working with today, correct?         20       A. That's correct.       21       M. HENLEY ANDREWS:         21       Q. Vess.       21       M. With are specific projects.         22       A. That's correct.       21       M. Withare specific projects. <td>1</td> <td>-</td> <td>1</td> <td>-</td>	1	-	1	-
4       A. Yes.         5       A. With the exception of approximately \$20,000.00       5         6       With the exception of approximately \$20,000.00       5         7       With the exception of approximately \$20,000.00       5         8       Q. That's right, but-       8         9       A. All those projects in the hydro plants are expected to complete by the end of 2004.       7         10       Q. And with respect to some of the projects that are dealt with under thermal plant, some will are dealt with under thermal plant, some will are dealt with under thermal and add up the thermal amounts, the portion of those projects for future years.       10       Q. I don't know if it's helpful, Ms. Andrews, Mr.         16       Q. And if you look at the thermal and add up the thermal amounts, the portion of those projects for future years. There's 2.38       10       Q. I don't know if it's helpful, Ms. Andrews, Mr.         16       thermal amounts, the portion of those projects.       12       speak to these guidelines because the only these guidelines.         16       those projects for future years. There's 2.38       19       Project here is the transformer which meets these guidelines.         18       those projects for future years.       12       Speak to these guidelines.       16         19       today, correct?       20       A. That's correct.       20       A. For minimum filing requirements, yes.	2	Q. Now, if you look at A2, under the construction	2	-
5       A. With the exception of approximately \$20,000.00       5       Q. Did you have any involvement in the development of the guidelines that are in the 7         6       which was approved last year for some 7       ioin submission?         8       Q. That's right, but -       8         9       A. All those projects in the hydro plants are 6       9         10       Q. And with respect to some of the projects that are in the 9       9         11       Q. And with respect to some of the projects that are in the 9       10         12       are dealt with under thermal plant, some will       11       Reeves, who's on the TRL panel was going to         12       speak to these guidelines because the only       11       Reeves, who's on the TRL panel was going to         13       project here is the transformer which meets       14       those guidelines and he was involved in the         15       Q. And if you look at the thermal and add up the       16       thermal amounts, the portion of those projects         16       those projects for future years. There's 2.38       19       10       Q. Okay. If you look at the summary-but these         18       mallion -       2       A. That's correct.       2       A. That's correct.         23       Q. Could you refer to IC-5?       23       M. Fentresport?       20       A. Fen minimum	3	project for the hydro plants, all of those are	3	new generation and transmission projects.
6       which was approved last year for some preliminary engineering work.       6       development of the guidelines that are in the 7         7       0. That's right, but -       8       A. No, I did not.         9       A. All those projects in the hydro plants are expected to complete by the end of 2004.       9       GREENE, Q.C.:         10       0. And with respect to some of the projects that are in the portion of the projects for future years?       11       Reves, who's on the TRL panel was going to 3         13       be overlapped between 2004 and future years?       14       those guidelines and he was involved in the 15         14       A. That's correct.       14       those guidelines.       16         16       thermal amounts, the portion of those projects for future years. There's 2.38       17       Q. Okay. If you look at the summarybut these         18       those projects for future years. There's 2.38       18       are guidelines that Hydro is working with         19       o. Versus 3.036,000.       21       A. That's correct.       20       A. For minimum filing requirements, yes.         21       Q. Now, IC-5 contains a letter dated August 19 of       23       MS. HENLEY ANDREWS:         24       A. Yes.       24       O. Now, it You look at the summary, the bottom of 12       14       the plant, that would be a capacity upgrade. <t< td=""><td>4</td><td>single year projects for 2004, correct?</td><td>4</td><td>A. Yes.</td></t<>	4	single year projects for 2004, correct?	4	A. Yes.
7       preliminary engineering work.       7       joint submission?         8       Q. That's right, but-       8       A. No, I did not.         9       A. All those projects in the hydro plants are expected to complete by the end of 2004.       9       GREENE, Q.C.:         10       Q. And with respect to some of the projects that 1       1       Reeves, who's on the TRL panel was going to speak to these guidelines baceuse the only 13         13       be overlapped between 2004 and future years?       14       A. That's correct.         14       A. That's correct.       14       those projects for future years. There's 2.38         19       million -       10       Q. Kat the summarybut these in the portion of those projects.         15       for 2004 is actually less than the portions of 18 those projects for future years. There's 2.38       18       are guidelines that Hydro is working with 19 today, correct?         20       A. 2.28, I'm sory, yes.       20       A. For minimum filing requirements, yes.       21         21       Q. Yow, if you look at the summary -       22       A. Which are specific projects.         23       Q. Odd you refer to IC-57       23       34       M. HAYNES:         24       A. Yes.       22       A. Which are specific the summary -       Page 140         1       the plant, that woul	5	A. With the exception of approximately \$20,000.00	5	Q. Did you have any involvement in the
8       Q. That's right, but -       8       A. No, I did not.         9       A. All those projects in the hydro plants are       9       GREENE, Q.C.:         11       Q. And with respect to some of the projects that are dealt with under thermal plant, some will       11       Q. I don't know if it's helpful, Ms. Andrews, Mr.         12       are dealt with under thermal plant, some will       12       speak to these guidelines because the only         13       be overlapped between 2004 and future years?       13       project here is the transformer which meets         14       A. That's correct.       14       those guidelines and he was involved in the         16       thermal amounts, the portion of those projects       16       MS. HENLEY ANDREWS:         17       for 2004 is actually less than the portions of million       19       today, correct?         20       A. That's correct.       20       A. That's correct.       21         21       Q versus 3,036,000.       21       MR. HAYNES:         22       A. That's correct.       23       MS. HENLEY ANDREWS:         24       A. Yes.       23       MS. HENLEY ANDREWS:         24       A. Server.       23       MS. HENLEY ANDREWS:         2       A. Of the report.       23       MS. HENLEY ANDREWS:	6	which was approved last year for some	6	development of the guidelines that are in the
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10       expected to complete by the end of 2004.       10       Q. I don't know if it's helpful, Ms. Andrews, Mr.         11       Q. And with respect to some of the projects that       11       Reeves, who's on the TRL panel was going to         13       be overlapped between 2004 and future years?       13       speak to these guidelines because the only         14       A. That's correct.       14       those projects for future years. There's 2.38       14       those projects for future years. There's 2.38         16       thermal amounts, the portion of those projects       16       MS. HENLEY ANDREWS:         17       Q. Avai, if you look at the thermal and add up the       15       development of the guidelines.         18       those projects for future years. There's 2.38       18       are guidelines that Hydro is working with         19       million -       19       today, orrect?       20       A. For minimum filing requirements, yes.         21       Q. versus 3.036,000.       21       MR. HAYNES:       23       MS. HENLEY ANDREWS:         24       A. Yes.       22       A. Minimum filing report?       23       Ms. Hat would be a capacity upgrade.         2       A. Of the report.       24       Q. Now, if you look at the summary.       Page 140         3       Q. Of the report.       24	8	Q. That's right, but -	8	A. No, I did not.
11       Q. And with respect to some of the projects that       11       Reeves, who's on the TRL panel was going to         12       are dealt with under thermal plant, some will       12       speak to these guidelines because the only         13       be overlapped between 2004 and future years?       13       project here is the transformer which meets         14       A. That's correct.       14       those guidelines and he was involved in the         16       thermal amounts, the portion of those projects       16       MS. HENLEY ANDREWS:         17       for 2004 is actually less than the portions of the project here is the transformer which meets       14         18       those projects for future years. There's 2.38       16       MS. HENLEY ANDREWS:         19       million -       20       A. Sorerct.       20       A. For minimum filing requirements, yes.         21       Q. Versus 3.036.000.       21       MR. HAYNES:       22       A. Which are specific projects.         23       Q. Could you refer to IC-5?       23       MS. HENLEY ANDREWS:       24       Q. Now, if you look at the summary, the bottom of         2       A. Yes.       22       A. Which are specific projects.       23       24       Q. Now, if you look at the summary.       29       None of these projects that are in here would       3       actua	9	A. All those projects in the hydro plants are	9	GREENE, Q.C.:
12       are dealt with under thermal plant, some will       12       speak to these guidelines because the only         13       be overlapped between 2004 and future years?       13       project here is the transformer which meets         14       A. That's correct.       14       those guidelines and he was involved in the         16       thermal amounts, the portion of those projects       16       the transformer which meets         16       thermal amounts, the portion of those projects for future years.       17       Q. Okay. If you look at the summarybut these         18       those projects for future years.       17       Q. Okay. If you look at the summarybut these         19       million -       20       A. 2.28, I'm sorry, yes.       20       A. For minimum filing requirements, yes.         21       Q versus 3,036,000.       21       MR. HAYNES:       22       A. Which are specific projects.         23       Q. Could you refer to IC-5?       23       M. KIC-5 contains a letter dated August 19 of       25       26       Now, if you look at the summary.       Page 140         1       MR. DOWNTON:       11       the plant, that would be a capacity upgrade.       2       None of these projects that are in here would         3       Q. Of the report.       3       actually increased to megawatt rating or the       4 <td>10</td> <td>expected to complete by the end of 2004.</td> <td>10</td> <td>Q. I don't know if it's helpful, Ms. Andrews, Mr.</td>	10	expected to complete by the end of 2004.	10	Q. I don't know if it's helpful, Ms. Andrews, Mr.
13       be overlapped between 2004 and future years?       13       project here is the transformer which meets         14       A. That's correct.       14       those guidelines and he was involved in the         15       Q. And if you look at the thermal and add up the       15       development of the guidelines.         16       thermal amounts, the portion of those projects       16       MS. HENLEY ANDREWS:         17       for 2004 is actually less than the portions of       17       Q. Okay. If you look at the summarybut these         18       those projects for future years. There's 2.38       18       are guidelines that Hydro is working with         19       million -       20       A. For minimum filing requirements, yes.       21         21       Q versus 3,036,000.       21       MR. HAYNES:       2         22       A. That's correct.       22       A. Which are specific projects.         23       Q. Could you refer to IC-5?       23       MS. HENLEY ANDREWS:         24       A. Yes.       24       Q. Now, if you look at the summary the bottom of         25       Q. Now, IC-5 contains a letter dated August 19 of       25       the first page of the summary -         7       Q. Well, first of all, look at the first       3       actually increased to megawatt rating or the       energ	11	Q. And with respect to some of the projects that	11	Reeves, who's on the TRL panel was going to
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16       thermal amounts, the portion of those projects       16       MS. HENLEY ANDREWS:         17       for 2004 is actually less than the portions of       17       Q. Okay. If you look at the summarybut these         18       those projects for future years. There's 2.38       18       are guidelines that Hydro is working with         19       million -       20       A. 2.28, I'm sorry, yes.       20       A. For minimum filing requirements, yes.         21       Q versus 3,036,000.       21       MR. HAYNES:       22       A. Which are specific projects.         23       Q. Could you refer to IC-5?       23       MS. HENLEY ANDREWS:       2       A. Which are specific projects.         24       A. Yes.       22       A. Monimum filing report?       20       Now, if you look at the summary, the bottom of         25       Q. Now, IC-5 contains a letter dated August 19 of       1       the plant, that would be a capacity upgrade.         2       A. Of the report?       2       None of these projects that are in here would         3       Q. Of the report?       2       None of these projects that are in here would         3       actually increased to megawatt rating or the       4       energy capability of the plant. We may be         5       Q. Yes.       5       able to get some efficiency gains, b	14	A. That's correct.	14	those guidelines and he was involved in the
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18       those projects for future years. There's 2.38       18       are guidelines that Hydro is working with         19       million -       19       today, correct?         20       A. 2.28, I'm sorry, yes.       20       A. For minimum filing requirements, yes.         21       Q versus 3,036,000.       21       MR. HAYNES:         22       A. That's correct.       22       A. Which are specific projects.         23       Q. Could you refer to IC-5?       23       MS. HENLEY ANDREWS:         24       A. Yes.       24       Q. Now, IC-5 contains a letter dated August 19 of       25       the first page of the summary.         7       Page 139       Page 140       1       the plant, that would be a capacity upgrade.         8       Q. Of the report?       2       None of these projects that are in here would       3         9       Q. Well, first of all, look at the first       8       paragraph and the last sentence says, "the       9         9       filing requirements apply only to capital       9       Q. Now, at the bottom of page 1 of the summary,         10       works related either to new additions or to       10       the tarsmission or the generation         11       capacity upgrades for existing plant on either       11       filing requirements apply only to capital	16	thermal amounts, the portion of those projects	16	MS. HENLEY ANDREWS:
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Page 139Page 1401 MR. DOWNTON:1the plant, that would be a capacity upgrade.2 A. Of the report?2None of these projects that are in here would3 Q. Of the report.3actually increased to megawatt rating or the4 A. Minimum filing report?4energy capability of the plant. We may be5 Q. Yes.5able to get some efficiency gains, but there6 A. Okay.6is no specific thing considering the7 Q. Well, first of all, look at the first7justification would actually increase the8paragraph and the last sentence says, "the8capacity of the plant.9filing requirements apply only to capital9Q. Now, at the bottom of page 1 of the summary,10works related either to new additions or to10the last sentence says, "that the minimum11capacity upgrades for existing plant on either11filing requirement will also specify the tests12the transmission or the generation12and guidelines used to justify the proposed13facilities".13project both in terms of the technical and the14A. Yes.15A. Yes.16be?16Q. But would you agree that notwithstanding these17A. If we were going toif you go back to the18evaluate each project that you put forward?	24	A. Yes.	24	
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18 late '90s when we were to upgrade the 18 evaluate each project that you put forward?	16		16	
				-
10 generating plant from take units 1 and 2 from $10$ A Ves	18			
	19	generating plant from, take units 1 and 2 from	19	A. Yes.
20 150 to 175 megawatts, that would be generation 20 Q. Both with respect to need and cost?				-
21 upgrade, a capacity increase. If we were to 21 A. Cost is not always considered, sometimes there				-
22 present to the Board, at some future year, to 22 are very few options to do all that, but		· ·		
23 replace the runners, for instance, on Bay 23 typically we look atwe do not always do a		-		
24 D'Espoir unit number 7 to increase the 24 cost benefit analysis for each and every	124	D'Espoir unit number 7 to increase the	24	cost benefit analysis for each and every
25       megawatt capacity or the energy capability of       25       project that we undertake. In many situations         Page 137 - Page 140		-		

## Discoveries Unlimited Inc., Ph: (709)437-5028

	Page 141		Page 142
1	we do, but not all.	1	Q. If we look at the project description, it says
2	Q. But is it your understanding of the	2	that it's the continuation of a project which
3	legislation of the Electrical Power Control	3	the Board has approved funds for 2003.
4	Act that the Board's mandate is to ensure	4	A. That's right.
5	least cost?	5	Q. But you would agree that all that the Board
6	A. That is what's in the Act, yes.	6	approved for 2003 was engineering and
7	Q. And can I interpret your answers as saying	7	associated overhead?
8	that with respect to the generation projects	8	A. That's correct.
9	that are proposed, none of them would be	9	Q. If you look at F-4 of the supplementary
10	regarded as either a capacity upgrade or new	10	evidence that was filed on Friday. As of May
11	project?	10	31st, none of the funds that had been approved
12	A. That's correct.	12	for 2003 had been spent with respect to this
12	Q. Now, could you take a look at IC 9?	12	project, correct?
13	A. Yes.	13	A. That's correct, yes.
14	Q. And is it fair to say that all of the	14	Q. Is that still the case today?
	-		A. I suspect it still is the case, basically this
16	generation projects are Island Interconnected	16	isbasically we're applying our engineering
17	Projects?	17	resources, right now, we have a fair number of
18	A. I think they're all common.	18	0
19	Q. Yes. So, they would all be assigned as common	19	people in the Granite Canal project, that work
20	for cost purposes?	20	will be done by the end of the year. The
21	A. To benefit all customers.	21	scope of work is basically to identify the
22	Q. Now, I'm going to start with the project at B-	22	technical requirements and prepare a
23	5 which is to replace the unit number 7	23	specification and hopefully go to tender and
24	exciter.	24	be in a position to award. We see no reason
25	A. Okay.	25	why we will not attain that objective by the
	Page 143		Page 144
1	end of 2003.	1	manufacturer cannot source suitable
2	Q. So, the actual project itself has not yet	2	components.
3	started?	2 3	components. Q. So, 30 years would have brought it to 199720
3 4	started? A. No.	2 3 4	components. Q. So, 30 years would have brought it to 199720 years would have brought it to 1997, but 30
3 4 5	started? A. No. Q. And what was approved in the 2003 budget does	2 3 4 5	components. Q. So, 30 years would have brought it to 199720 years would have brought it to 1997, but 30 years would have brought it to 2007?
3 4 5 6	<ul><li>started?</li><li>A. No.</li><li>Q. And what was approved in the 2003 budget does not include any of the actual, physical -</li></ul>	2 3 4 5 6	components. Q. So, 30 years would have brought it to 199720 years would have brought it to 1997, but 30 years would have brought it to 2007? A. Yes.
3 4 5 6 7	<ul><li>started?</li><li>A. No.</li><li>Q. And what was approved in the 2003 budget does not include any of the actual, physical -</li><li>A. Commitments to a supplier, it's not intended</li></ul>	2 3 4 5 6 7	<ul><li>components.</li><li>Q. So, 30 years would have brought it to 199720 years would have brought it to 1997, but 30 years would have brought it to 2007?</li><li>A. Yes.</li><li>Q. And that would be true with all seven</li></ul>
3 4 5 6 7 8	<ul> <li>started?</li> <li>A. No.</li> <li>Q. And what was approved in the 2003 budget does not include any of the actual, physical -</li> <li>A. Commitments to a supplier, it's not intended to make any commitments to a supplier until</li> </ul>	2 3 4 5 6 7 8	<ul><li>components.</li><li>Q. So, 30 years would have brought it to 199720 years would have brought it to 1997, but 30 years would have brought it to 2007?</li><li>A. Yes.</li><li>Q. And that would be true with all seven exciters?</li></ul>
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# Multi-Page<sup>™</sup>NL Hydro 2004 Capital Budget Application

July 7, 2005	III-Page NL Hydro 2004 Capital Budget Application
Page 14	5 Page 146
1 Q. Now, I'd like you to be shown, I think Mr.	1 Q. No, I don't. But over the course of my cross-
2 O'Reilly has this available to him, the 2003	2 examination generally I will come back to this
3 capital budget, Appendix G, Tab 1.	3 document and several others. I hadmy
4 MR. ALTEEN:	4 understanding, which waswas that when it
5 Q. Appendix G?	5 came to hearings prior to 2001, if we had
6 HENLEY ANDREWS, Q.C.:	6 documents that we wanted to show the
7 Q. Appendix G, Tab 1 is a document called "A	7 witnesses, we should bring extra copies, but
8 Condition Assessment of Exciters Within the	8 that for hearings subsequent to 2001 they
9 Bay D'Espoir Powerhouse No. 2, Hinds Lake	9 would be available.
10 Generating Station". Now, if youit's my	10 CHAIRMAN:
11 I'm sorry.	11 Q. I'm not sure. Do you know, Barbara, what the
12 GREENE, Q.C.:	12 -
13 Q. I believe we didn't use the electronic system	13 HENLEY ANDREWS, Q.C.:
14 last year for the capital budget application	14 Q. Perhaps the best thing to do, Mr. Chairman, in
15 and I don't believe that reports that were	15 order not to waste any time is I'll move on to
16 attached have been entered electronically for	16 something that doesn't require the reference
17 the purposes of this hearing. As in the GRA,	and I can come back to this tomorrow morning.
18 not all documents were filed electronically if	18 CHAIRMAN:
19 they were prepared for other purposes.	19 Q. Yes. That'll allow us time to check and see
20 HENLEY ANDREWS, Q.C.:	20 what's available electronically.
21 Q. Ms. Greene -	21 GREENE, Q.C.:
22 CHAIRMAN:	22 Q. Mr. Chairman, I can advise now it's not
23 Q. Do you have many sheets that you're referring	23 available electronically. As I said, what -
24 to there?	24 CHAIRMAN:
25 HENLEY ANDREWS, Q.C.:	25 Q. On your system, yeah.
Page 14	
1 GREENE, Q.C.:	1 hoist number 2 at the Ebbegunbaeg Control
2 Q. We had only agreed with Ms. Newman last week	2 Centre.
3 that Mr. O'Reilly would come and it was for	3 A. Control structure.
4 the purpose of the 2004 capital budget	4 Q. And this is another one where engineering or
5 application. We didn't have an electronic	5 development of specifications was approved in
6 last year. And if you'll recall, even in the	6 2003, but the actual project itself is what
7 2001 GRA it wasn't every report that was	7 you're now proposing for 2004, correct?
8 available electronically. I'm sorry if Ms.	8 A. Correct.
9 Andrews misunderstood or whatever.	9 Q. And the cost isfor 2004 is \$507,000?
10 HENLEY ANDREWS, Q.C.:	10 A. Yes.
11 Q. Oh, it wasn't a question of misunderstanding	11 Q. And is it also correct that if you look at
12 in terms of what was available electronically.	12 page F-4 that was filed on Friday, no expense
	13 has been incurred with respect to the 2003
13 The questionmisunderstanding what would be	15 has been incarica with respect to the 2005
13 The questionmisunderstanding what would be 14 available to put to the witnesses. That's	14 portion of this project to May 31st?
	*
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	Page 149		Page 150
1	with the exception, from what I can determine,	1	replace two screw stems, drive nuts and
2	of three sentences. And one of those	2	extensions?
3	sentences is obviously the very first	3	A. Yes.
4	sentence, "This project for 2004 is a	4	Q. Is that exactly the same work that was done
5	continuation of a project." The second is	5	subsequently?
6	under "Operating Experience", and there seems	6	A. What we will attempt to do is we will attempt
7	to be a sentence added that, "Since then	7	to straighten the screws, if at all possible,
8	slight bends have developed and drive nuts had	8	before we replace as opposed to go out and
9	to be replaced again."	9	buying more. One of the reasons that we'd
10	A. Yes.	10	like to take the parts that we get from gate
11	Q. Now, is that with respect to gate 2 or with	11	number 2 to fix up gate number 1 or 3,
12	respect to other gates?	12	whichever one it is, but basically the initial
13	A. Just gate number 2. There are deficiencies on	13	attempt is to straighten then out, depending
14	one of the other gates which is operable but	14	on how much they're bent.
15	not totally reliable. There is a bend.	15	Q. And when was the repairwhen you say "since
16	Basically we are expecting that when we do, we	16	then", when was the repair done to gate number
17	do that gate number 2, we'll take some of	17	2, the most recent repair?
18	those components to fix up in a little bit	18	A. Well, the most recent repair was in December
19	better shape gate number 1 or 3, I don't	19	of 2002 when we had the bent screws and we
20	recall which one.	20	replaced the nuts. Each year we go in,
21	Q. But gate number 2 is operational?	21	basically, as a matter of course. Now, we
22	A. It's operational because we have replacedwe	22	replace the drive nuts because of wear and
23	have spent, you know, additional monies to go	23	tear. Anyway, the most recent repair was
24	back and replace the nuts and the screw.	24	December of 2002, but it would not have been
25	Q. Okay. Now, in 2000 you had spent \$52,000 to	25	to replace the screw, it would have been to
	Dage 151		<u> </u>
1	Page 151	1	Page 152
1	straighten it.	1	Page 152 your submission to the Board for 2003 the
2	straighten it. Q. And when you refer to the screw, is that the	2	Page 152 your submission to the Board for 2003 the reference was to 3600 barrels of oil per day
2 3	straighten it. Q. And when you refer to the screw, is that the same thing as the screw stem?	2 3	Page 152 your submission to the Board for 2003 the reference was to 3600 barrels of oil per day from Holyrood. Do you know why that would
2 3 4	<ul><li>straighten it.</li><li>Q. And when you refer to the screw, is that the same thing as the screw stem?</li><li>A. Yes.</li></ul>	2 3 4	Page 152 your submission to the Board for 2003 the reference was to 3600 barrels of oil per day from Holyrood. Do you know why that would have changed?
2 3 4 5	<ul><li>straighten it.</li><li>Q. And when you refer to the screw, is that the same thing as the screw stem?</li><li>A. Yes.</li><li>Q. Okay.</li></ul>	2 3 4 5	Page 152 your submission to the Board for 2003 the reference was to 3600 barrels of oil per day from Holyrood. Do you know why that would have changed? A. Actually, I don't know offhand. I didn't
2 3 4 5 6	<ul><li>straighten it.</li><li>Q. And when you refer to the screw, is that the same thing as the screw stem?</li><li>A. Yes.</li><li>Q. Okay.</li><li>A. I'm sorry.</li></ul>	2 3 4 5 6	Page 152 your submission to the Board for 2003 the reference was to 3600 barrels of oil per day from Holyrood. Do you know why that would have changed? A. Actually, I don't know offhand. I didn't check that particular reference last night as
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Page 153		Page 154
1 Q. Okay.	1	with the three dates. Do you recall that?
2 A. And obviously there is awe'll explain the 32	2	A. I vaguely recall.
3 versus 36.	3	Q. And you didn't have the numbers at that time.
4 CHAIRMAN:	4	Have you calculated the maintenance costs for
5 Q. Could be you became more efficient last year.	5	these gates since that time?
6 HENLEY ANDREWS, Q.C.:	6	A. Not specifically, no, other than to ask the
7 Q. Actually, that is -	7	question what's been the most recent failure
8 A. Well, we have a little bit more efficiency.	8	and what's happened.
9 I'm not sure if it would go that high. It	9	Q. Now, your current proposal is for a wire rope
10 would be nice if Holyrood were to jump that	10	type hoist at a cost of \$507,900 in 2004?
11 much.	11	A. That's correct.
12 Q. If you -	12	Q. The existing gates have been pretty reliable,
13 GREENE, Q.C.:	13	correct?
14 Q. That actually is the primary answer, I	14	A. No, that's not correct. That is why we are
15 understand, Mr. Chairman, so-but we will	15	proposing to change it to a hoist mechanism as
16 provide an explanation, yes, of course.	16	opposed to a screw stem mechanism.
17 HENLEY ANDREWS, Q.C.:	17	Q. Yes. But you did say, in 2003, that the gates
18 Q. Yeah. And I'd rather have the evidence from	18	have been pretty reliable?
19 the witness.	19	A. They're reliable but they do require a fair
20 GREENE, Q.C.:	20	bit of O and M. Every year we have to go
21 Q. Well, the Chairman, it's nice to know that	21	change the nuts. That's helicopter time,
he's understanding our system.	22	that's people time, camp time. And with a
23 HENLEY ANDREWS, Q.C.:	23	gate hoist mechanism, based on the experience
24 Q. If you look, last November I asked you some	23	I believe I mentioned last year from Churchill
25 questions about maintenance costs associated	24	Fallsand I did not dictate or ask that these
	23	
Page 155	1	Page 156
<ol> <li>things be changed to a wire rope hoist,</li> <li>basically that wasthat came from the plant.</li> </ol>	1	<ul><li>Q. But these type of gates are still available?</li><li>A. They are available. However, all these things</li></ul>
	2	
<ul> <li>The experience inacross Canada is that there</li> <li>are about 50/50 of screw stem hoists versus</li> </ul>	3	are typically specifically designed for the
4 are about 50/50 of screw stem hoists versus		installation W/a go book to a manufacturar
5 apple systems And from my Churchill Falls	4	installation. We go back to a manufacturer
5 cable systems. And from my Churchill Falls	5	and you would have to give a fair bit of
6 experience, we have, occasionally have trouble	5 6	and you would have to give a fair bit of technical parameters on the weight of the
<ul> <li>experience, we have, occasionally have trouble</li> <li>with those, as well, but it does not require</li> </ul>	5 6 7	and you would have to give a fair bit of technical parameters on the weight of the gates, the pressure of the water and so on.
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<ul> <li>experience, we have, occasionally have trouble</li> <li>with those, as well, but it does not require</li> <li>as much maintenance or -</li> <li>Q. But that leads in to my next question, which</li> </ul>	5 6 7 8 9	and you would have to give a fair bit of technical parameters on the weight of the gates, the pressure of the water and so on. So you don't go into, you know, a - Q. They're not off the shelf?
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# Multi-Page<sup>™</sup>NL Hydro 2004 Capital Budget Application

July	7, 2003 Mult	i-rag	e NL Hydro 2004 Capital Budget Application
	Page 157		Page 158
1	the two screw stems in the drive nuts and	1	A. I should probably clarify that. I don't know
2	extensions were replaced, was there a spill	2	all the mechanics down in the Bay D'Espoir
3	associated with those replacements?	3	watershed area, but there are a couple of
4	A. No, not at that time.	4	structures that are not remotely operated, we
5	Q. Was there a spill associated with the repairs	5	have manned caps.
6	in December of 2002?	6	Q. Well, I assumed it was because at the bottom
7	A. No, I don't think so, no.	7	of page B-8 it says if a screw stem were to
8	Q. Was there any cost to consumers associated	8	break or a brass drive nut strip during gate
9	with those repairs, in other words, any loss	9	closure, the gate indication would be closed
10	of hydroelectric production that would have	10	at the energy control centre -
11	caused an increase in fuel?	11	A. That's correct.
12	A. If we did not spill, other than maybe a little	12	Q while the gate is actually in the open
13	bit less efficient operation of the hydro	13	position.
14	plant or the thermo plant, you know, just	14	A. I apologize. There are two structures that
15	which are very marginal numbers, there would	15	are not remote control, but this one is remote
16	have not been any direct impact to the	16	control. It's basically used daily. I should
17	consumer.	17	know, I only checked our internet thing the
18	Q. The existing gates are remotely operated,	18	other day and basically the control centre
19	right?	19	noticed it, acknowledged that it was moved a
20	A. That's correct.	20	meter or two for water control. My apologies.
21	Q. And the new gate would also be remotely	21	Q. And a new gate would then also be remotely
22	operated?	22	operated?
23	A. That's correct. I'm sorry. Ebbe. No, I'm	23	A. Yes. The actual electronics, etcetera,
24	sorry, Ebbe it is not remotely operated.	24	etcetera, remote control system would not be
25	Q. So it's not remotely operated?	25	changed of any consequence.
	Page 159		Page 160
1	Q. So for normal operation only one gate is used	1	A. Basically done estimates by engineering
2	so you have two extras?	2	personnel, basically, contacted the suppliers
3	A. The system is designed to handle flood	3	of these things, gave them some rough numbers
4	situations as well and that's where basically	4	or some rough dimensions and so on and came
5	you have more capacity to release water, to	5	back with a preliminary estimate on the cost.
6	avoid spills and so on, but under normal	6	Q. But am I correct that there were no other
7	routine, average precip information, not the	7	options other than this type of gate that were
8	spring run off or, you know, moderate use of	8	costed out?
9	Bay D'Espoir plant, one gate would normally do	9	A. That's correct, we did not cost to go and
10	it. It depends onit's a planning role	10	rehabilitate and redesign from the ground up a
11	within the control centre to determine how	11	screw stem mechanism. Their opinion was that
12	much water has to be in transit to meet the	12	this was the better route to go, a more
13	next days production needs or whatever the	13	reliable route to go.
14	water transit time is. But normally one gate	14	Q. And you also didn't cost out the repair cost
15	doesgate number two doesI wouldn't care to	15	associated with keeping what you got?
16	make a guess at the percentage, but it does	16	A. Not to the extent I think that you'renot to
17	most of the regulation for that particular	17	do with long term present work analysis of
18	water shed release.	18	status quo versus fixing or changing.
19	Q. Now, you would agree that the \$52,000.00	19	Q. So, what is it, Mr. Haynes, that the Board has
20	repair cost in 2002 is pretty low compared to	20	in front of it to demonstrate that this is the
21	close to 514,000.00 cost of putting in the new	21	least cost option?
22	gate that you're proposing?	22	A. This particular project, like many others
23	A. On a dollar for dollar basis, yes, cost the	23	there, basically, what the conclusion was,
24	consumer, not necessarily. Q. How did you develop your cost estimate?	24	that from based on the preliminary engineering work that was done, that the most reliable
25		25	work that was none that the most reliable

	Tuge 112 Hydro 2004 Cupital Dudget Application
Page 161	Page 162
1 method to replace and repair these gates for	1 most appropriate and the best approach.
2 the long term benefit is to basically change	2 Q. Thank you. That's a good place to break.
3 it to a hoist mechanism. There is no detail	3 CHAIRMAN:
4 cost analysis from the point of view of status	4 Q. Okay, Ms. Henley Andrews, we'll break until
5 quo and continued ONN or to go back and	5 9:00 in the morning. There were some
6 redesign the current system. It was their	6 undertakings, I think, that came out of this
7 engineering judgment that this was the	7 mornings session.
8 appropriate technology and that's all that we	8 GREENE, Q.C.:
9 put forward.	9 Q. I believe there's two for Ms. Andrews, one on
10 Q. So, there's an engineering analysis, but not	10 the depreciation and life of exciters and the
11 cost analysis?	11 other is on the change numbers and
12 A. There's an engineering review done based on	12 efficiencies for Holyrood and I believe
13 their experience and theirand a review of	13 there's only those two, Mr. Chair.
14 the records that were there on the maintenance	14 MS. HENLEY ANDREWS:
15 issues, but it was not detailed and time was	15 Q. Yes, that's my understanding.
16 not taken to go down through all the	16 CHAIRMAN:
17 meanderings that would lead you to one or the	17 Q. Yes, okay.
17 integratings that would lead you to one of the 18 other conclusions. This was done up to the	17 Q. Tes, okay. 18 GREENE, Q.C.:
1	
19 most appropriate solutions and that is what's	19 Q. And I think we probably will be in a position
20 been proposed.	20 to report on both on the commencement of
21 Q. But my question to you was what does the Board	21 tomorrow if that's satisfactory.
22 have in front of it to demonstrate that this	22 CHAIRMAN:
23 is the least cost option?	23 Q. Very well. Okay, we'll see you at 9:00 in the
A. Well, I guess they really don't have anything	24 morning. Thank you.
25 specific, other than our view that this is the	25 Upon conclusion at 1:27 p.m.
Page 163	
1 CERTIFICATE	
2 I, Judy Moss, hereby certify that the foregoing is a true	
3 and correct transcript in the matter of Newfoundland and	
4 Labrador Hydro, 2004 Capital Budget Application, heard	
5 before the board of Commissioners of Public Utilities,	
6 Prince Charles Building, St. John's, Newfoundland and	
7 Labrador on the 7th day of July, A.D., 2003 and was	
8 transcribed by me to the best of my ability by means of	
9 a sound apparatus.	
10 Dated at St. John's, Newfoundland and Labrador	
11 this 7th day of July, A.D., 2003	
12 Judy Moss	