Q. Provide copies of all opinions, reviews, reports, studies and assessments commissioned or obtained by Hydro internally, or commissioned or obtained by Hydro from external sources, which address or discuss, in any respect, the overhaul of the Holyrood gas turbine, originally proposed in the 2011 Capital Budget application.

A. Please refer to IC-NLH-012 Attachment 1, which is a report resulting from an inspection of the Holyrood gas turbine carried out in 2008. This report was attached to the 2011 Capital Budget Application for the overhaul of the gas turbine. This proposal was subsequently withdrawn from the application, by amended application to the Board on November 2, 2010 (IC-NLH-012 Attachment 2). This was due to changing circumstances which resulted in the need for further study of the current condition of the Holyrood gas turbine and to further investigate options as to the next steps. This additional assessment was carried out by AMEC. Please refer to Hydro's response to NP-NLH-022 for a copy of this report.

Inspection Report
To

Borescope inspection of Avon 37029 1533 70L

Proposal Number: Alba 1633

Date: June 10 2008

Alba Power Ltd
Tel: (44) 01569 730088
Fax: (44) 01569 730099
Sales @albapower.co.uk

ISO9001 (2000 Revision) Approved
Scotland

Mill of Monquich
Netherley
ABERDEENSHIRE
AB39 3QR
Scotland

Tel: (44) 01569 730088
Fax: (44) 01569 730099
ISO9002 Approved

Table of contents

Note:

Mill of Monquich
Netherley
ABERDEENSHIRE
AB39 3QR
Scotland

Tel: (44) 01569 730088
Fax: (44) 01569 730099
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Introduction

After successful repairs and assistance in 2008 Alba Power were asked to return to complete inspection works on the unit at Holyrood.

The unit has completed 26 Hours and 54 starts since the last inspection in May 2007.

The inspection was completed 10 June 1008 after site induction.

Alba Power would like to take this opportunity to thank the client and staff at Holyrood generating site for the assistance and approach to Alba Power, this was greatly appreciated an we look forward to assisting you in the future.

If you do have any questions or queries please do not hesitate to contact us, your contact for this proposal is as follows:

Campbell C Archibald

Telephone +44 1569 730088
Fax +44 1569 730099
E-mail campbell.archibald@albapower.co.uk

Address:
Alba Power Ltd
Mill Of Monquich
Netherley
Aberdeenshire
AB39 3QR

Mill of Monquich
Netherley
ABERDEENSHIRE
AB39 3QR
Scotland

Tel: (44) 01569 730088
Fax: (44) 01569 730099
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1 Avon Repair and Borescope Inspection

On Site Personnel- Mr Campbell Archibald and Mr Martin Andrews

Date of inspection – 10 June 2008

1.1 Inspection Review

On arrival at site an induction of site-specific requirements was completed with Mr Ted Smith. This was followed by a toolbox review at the workstation.

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Netherley
ABERDEENSHIRE
AB39 3QR
Scotland

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Fax: (44) 01569 730099
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1.2 Workscope Review

The following are details of the workscope completed at site;

1.2.1 Tuesday 10 June 2008

- Plenum inspection
- Compressor inspection
- Burner removal (Where possible)
- Combustion area inspection
- Turbine area inspection
- Package inspection

1.2.2 Unit images

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AB39 3QR
Scotland

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Fax: (44) 01569 730099
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2 Borescope Results

As detailed within our workscope above the unit was borescoped throughout and within this report we will detail the sections accordingly.

All images will be provided separately on a CD for client files.

2.1 Package Plenum

On entering the plenum it was noted that a large amount of water had gathered under the intake, this will have a significant impact on the units condition, corrosion and potential for FOD ingress. In addition 2 large holes where noted in the sidewall as well as a large amount of rust particles on the floor. All of these will have a risk of ingress attached.

Water in plenum

Hole in side wall

Rust particles

Corrosion on intake

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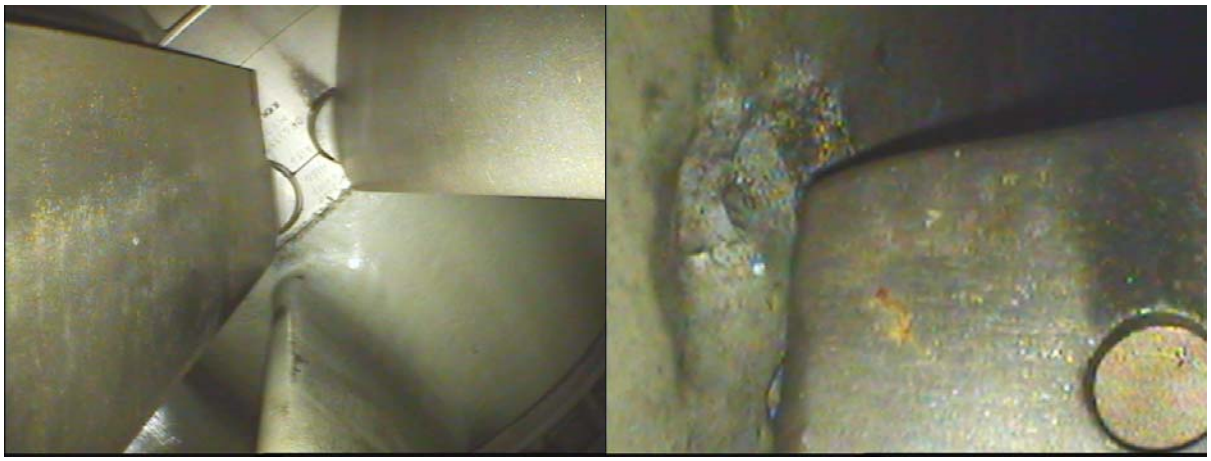
2.2 Compressor Section

It was noted that the Front bearing housing, Inlet Guide Vanes and Compressor have significant corrosion and coating loss. This has now increased greatly from last year's inspection with the addition of salt ingress and the Front Bearing housing pitting (As shown in above section)

Corrosion pitting on Front Bearing housing struts and outer casing



IGV Inner journals

FBH Wear

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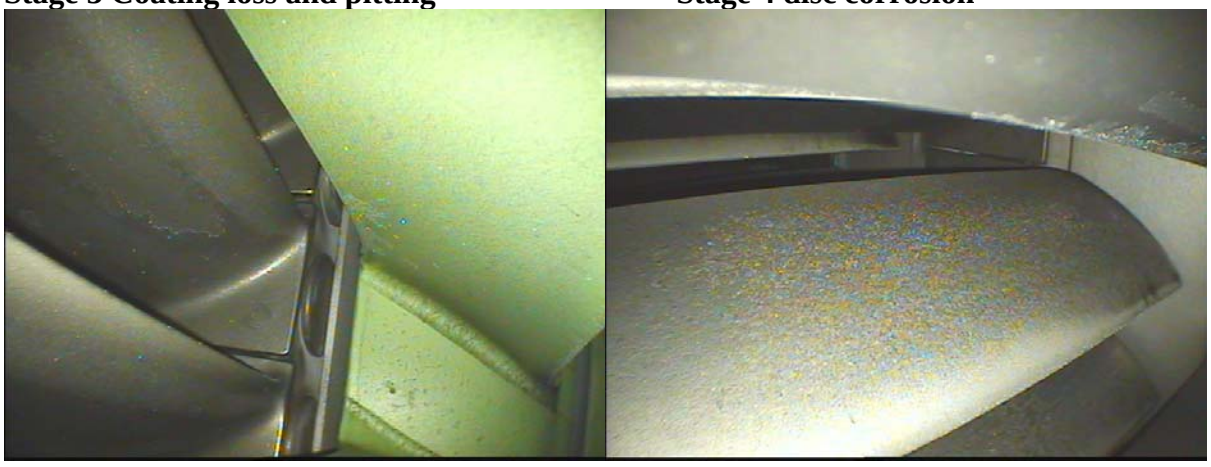
Coating loss and pitting stage 1

Stage 3 Coating loss and pitting **Stage 4 disc corrosion**



Stage 5 Salt ingress

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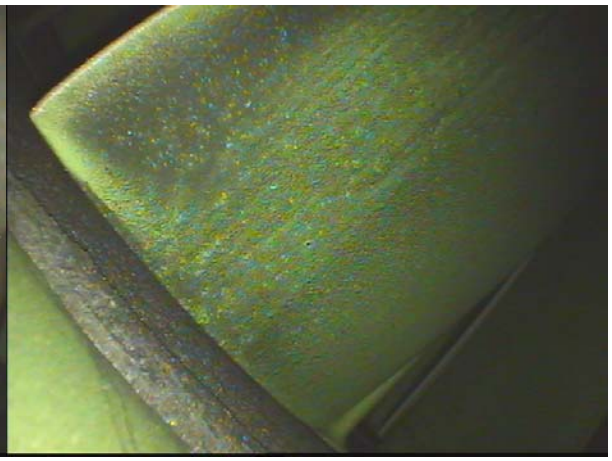
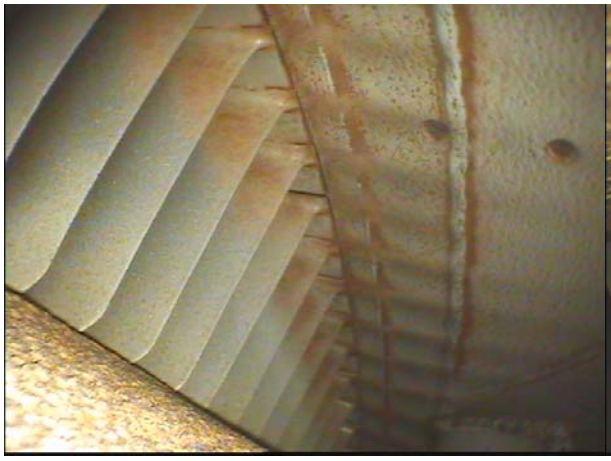
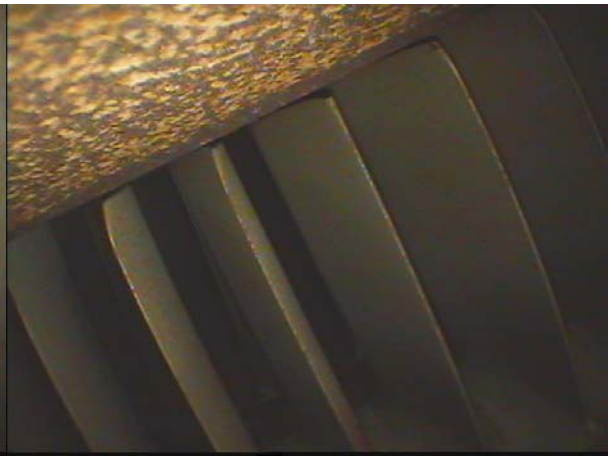
Stage 5 Disc Corrosion



Stage 4 casing and blade condition



Stage 15 OGV Corrosion



COC Corrosion

Mill of Monquich
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ABERDEENSHIRE
AB39 3QR
Scotland

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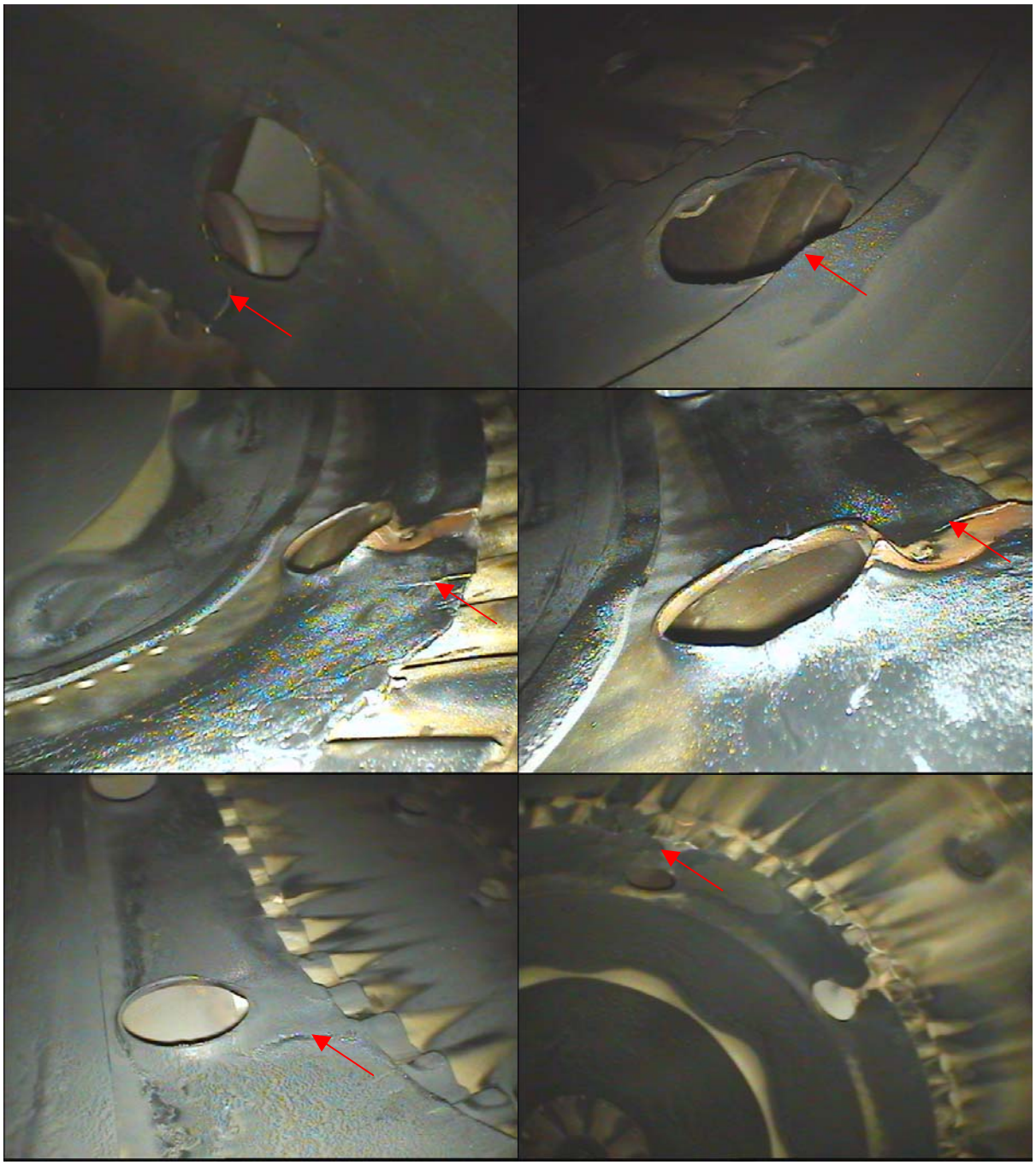
2.3 Combustion Section

In 2007 the unit showed extreme wear of the Combustion cans with cracks and loss of coating. The unit has operated 26 Hours and 54 Starts since that time which has increased the level of cracking. It may only be a matter of time before this material is released and impacts the turbine.

Access could only be gained through burners 1 and 2 due to rusting bolting in other areas, all borescope ports where removed to gain minimal access in the combustion area.



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Burner No1 after removal

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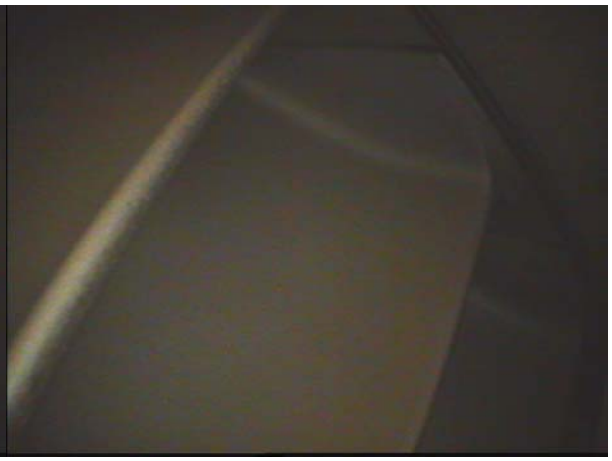
2.4 Turbine Section

Access was gained in this area through the 2 available burners as well as the thermocouples at positions 3 and 4. It will become more difficult to inspect the unit with specific clarity due to the age and condition whilst trying to return to service quickly.

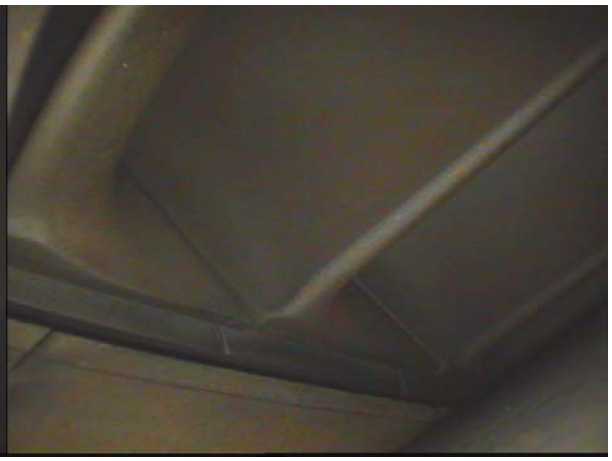
The turbine section showed minor impact damage from either combustion can material or corrosion flakes from the intake. Coating loss was evident throughout with some minor pitting.

HP Nozzle Guide Vane



HP Turbine Blade inner platform

HP Blade leading edge pitting



HP Blade outer platform

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Scotland

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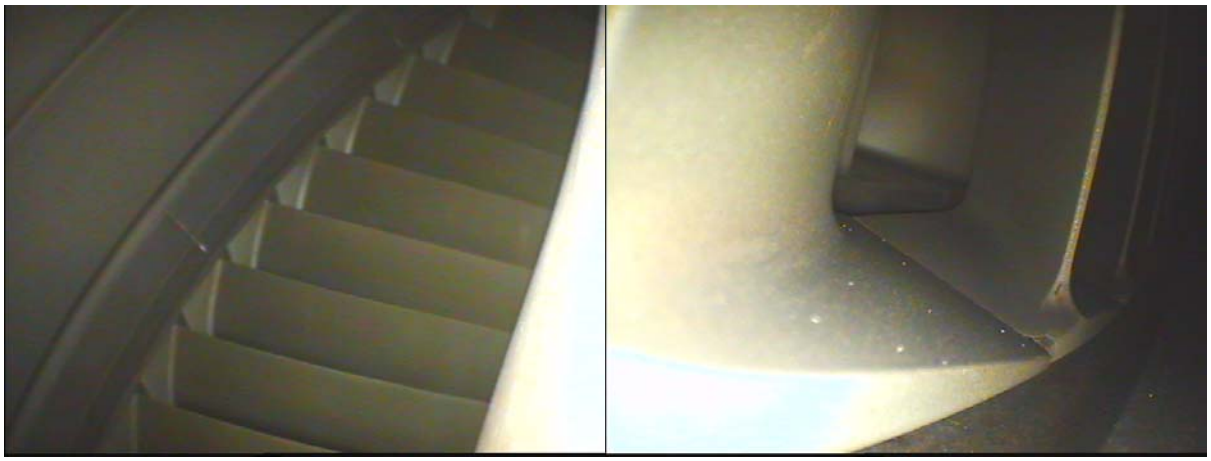
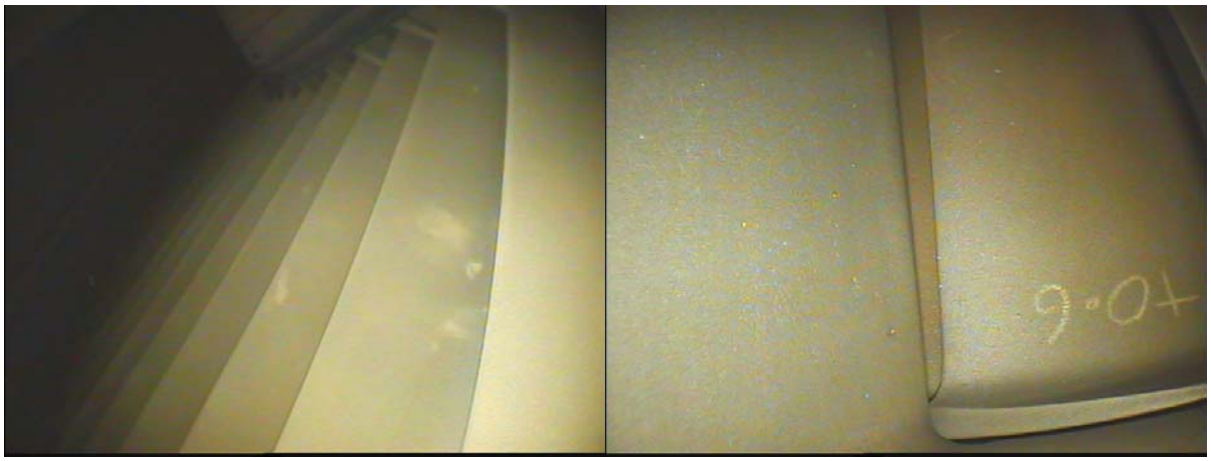


LP Turbine Blades

LP Turbine blade damage and FOD material flakes

IP Blade and NGV

IP Blade



LP Blade coating deterioration

IP Blade outer platform

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Tel: (44) 01569 730088
Fax: (44) 01569 730099
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3 Conclusions / Recommendations

After the last inspection it was highly recommended that as a minimum the Combustion cans be replaced. Whilst we understand due to budgetary and operational requirements this has not happened it must now be placed as a high priority to ensure the continuous availability of this unit.

The unit showed greater salt ingress and corrosion this year, this would be attributed to the poor condition of the intake plenum, water ingress and flaking corrosion particles. This should be addressed prior to any further running.

The unit shows signs of burner leaking, it was highlighted last year that the drains tank fills continuously and the unit has some start issues. These where and continue to be attributed to the failing of the seals in the Fuel control unit, this should be addressed to improve start reliability while reducing poor burn in the combustion area and reducing leaks back through the drains system.

The unit would ideally be returned to our facility for repair / overhaul due to the coating loss, pitting, corrosion etc. If the unit continues to run in its current condition then overhaul and replacement prices will increase while the parent material decreases in reparability.

In the immediate future the combustion cans should be changed, if a part is ingested into the turbine the unit could suffer a catastrophic failure which would not only damage and increase the Avon overhaul / replacement price, but would do considerable damage to the Power Turbine as well as be a large safety risk.

Alba Power remains flexible as always and look forward to preparing options suited to your site-specific requirements.

newfoundland labrador hydro
a nalcor energy company

Hydro Place. 500 Columbus Drive.
P.O. Box 12400. St. John's. NL
Canada A1B 4K7
t. 709.737.1400 f. 709.737.1800
www.nlh.nl.ca

November 2, 2010

Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL
A1A 5B2

ATTENTION: Ms. Cheryl Blundon
Director Corporate Service & Board Secretary

Dear Ms. Blundon:

Re: Newfoundland and Labrador Hydro (Hydro) - 2011 Capital Budget Application

Enclosed please find ten copies of a revised Application in which Hydro seeks approval of its revised capital budgets, and revisions to the following sections of Hydro's 2011 Capital Budget Application, Volume I:

Revision 1 – November 2, 2010

Section	Page Number
Table of Contents	ii
2011 Capital Projects Overview	4, 5 and 11
2011 Capital Plan	Appendix A: A-1 A-2, A-4, A-5, A-6, A-13, A-14; Appendix B: B-1
Total Capital Projects	A-1 to A-5, and A-7
2011 Capital Projects $500,000 and Over	B-1, B-2, B-5, B-6, B-13, B-14, B-15, B-16, and B-83
Projects by Classification and Type	E-1, E-2 and E-5
Schedule of Capital Expenditures 2006-2015	G-1

The revisions to Volume 1 are highlighted in yellow for ease of reference.

The revised Application is necessitated by information which came to light subsequent to the filing of the original application. Specifically, the revisions relate to the following projects.

(1) Complete Condition Assessment Phase 2 - Holyrood

Intervenors requested a copy of the report on Phase 1 of the Holyrood Condition Assessment to be reviewed prior to completing their review of the proposal to complete Phase 2. The final report on the Phase 1 has not yet been received from the consultant. Rather than further delay the 2011 Capital Budget Application process, Hydro is withdrawing this proposal. Upon receipt and assessment of the Phase 1 report, Hydro intends to request separate approval of this proposal.

(2) Overhaul Gas Turbine - Holyrood
As described in the response to Request for Information (RFI) IC-NLH 26, changing circumstances have resulted in the need to study the current condition of the Holyrood Gas Turbine and to investigate options as to the next steps to ensure least cost, reliable power. This proposal is therefore withdrawn from the current Application.

(3) Upgrade Stack Breeching Unit 1 - Holyrood
The scope of work and budget for this proposal has been revised, as submitted on October 26, 2010.

(4) Replace Network Communications Equipment – Various Sites
The cost of this project has been reduced to exclude costs associated with non-regulated activities.

Should you have any questions on the enclosed, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Senior Legal Counsel

cc: Peter Alteen/Gerard Hayes - Newfoundland Power
Paul Coxworthy - Stewart McKelvey Stirling Scales
Joseph Hutchings, Q.C. - Poole Althouse
Tom Johnson - Consumer Advocate