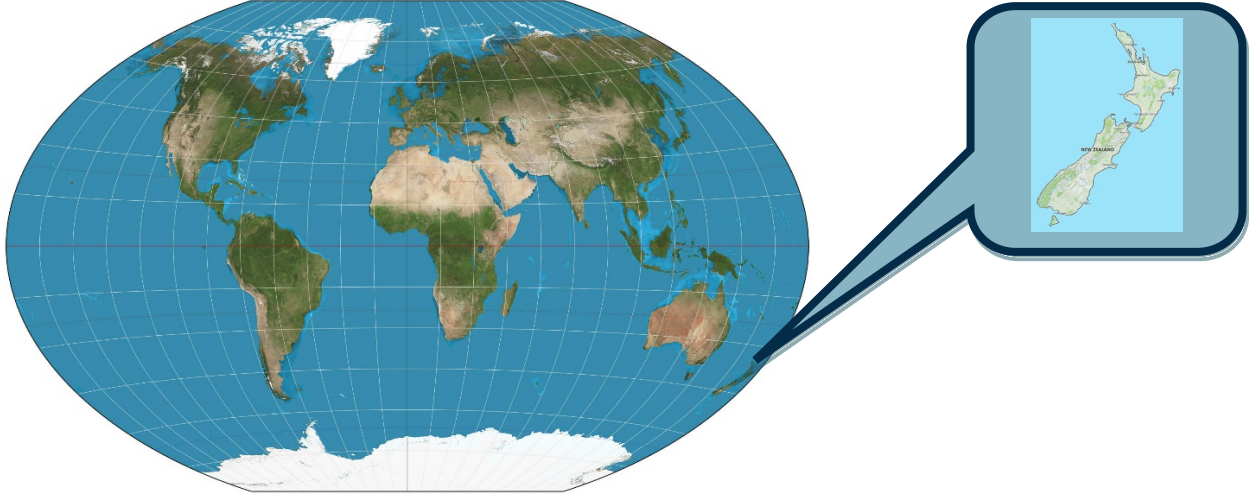


COMBINED CYCLE POWER PLANT **New Zealand**
 Post Cleaning Summary 



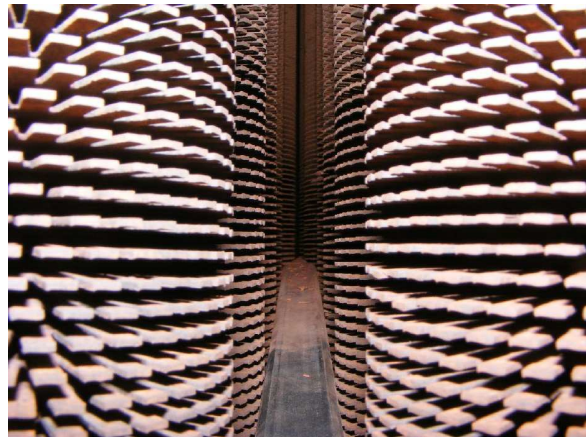
BACKGROUND:

- 1998 Commissioned
- Natural Gas
- Horizontal Gas Flow
- No cleaning history
- 2010: PIC Deep Cleaning
- Partial load

HRSG	GT & Design	Output
<ul style="list-style-type: none"> • Nooter/Eriksen 	<ul style="list-style-type: none"> • Alstom GT26 Gas Turbine • 1 X 1 	<ul style="list-style-type: none"> • 360 MW Total

ASSESSMENT: HRSG fouling causing issues

- Loss of MW output from design
- Increased back pressure on gas turbine
- Increased fuel consumption
- Increased stack temperature



CLEANING RESULTS: Benefits to the Plant

GT Back Pressure

	Before	After	Change
CT #2	n/a	n/a	-10mbar [-102mm] H2O

Output

Before	After	Change
342 MW	360 MW	+ 18 MW

- 5% increase

FINANCIAL BENEFITS:

Increased Output Revenue

Increased Output	Estimated US \$ / MW	First Year Revenue Increase
+ 18 MW	\$60.00	\$2,592,000.00 USD

- (100 days x 24 hr/day x 18 MW/hour x \$60.00)

I have the pleasure of writing this letter of recommendation in light of the recent dry ice cleaning carried out In New Zealand for Contact Energy Ltd. The dry ice cleaning was carried out in December 2010 for a duration of 18 days. Upon recommendation from other power producers abroad it was agreed to engage the services of Precision Iceblast Corporation.

Contact Energy Ltd has a strong culture and attitude to safety which was clearly emphasized to Precision Iceblast Corporation to which they responded impeccably. Precision Iceblast Corporation's attitude and management is of a very high standard. They conduct themselves in a professional manner with the aim to complete the planned work with zero harm, on time and within budget. They have a good work ethic, are well prepared and are most accommodating of the requests of the client. Their equipment, safety standards and procedures are well thought, documented and carried out. Communication between Precision Iceblast Corporation and Contact Energy Ltd was clear and informative. The level of information and content was never in question, Precision Iceblast Corporation was always open with their approach and delivery of this information with regular feedback and progress updates before during and after the project. They are very knowledgeable in this line of work and openly put forward recommendations to capitalize on the future outputs and efficiencies of your plant.

In closing, Contact Energy has achieved a marked reduction in back pressure of +/- 10mbar (average taken across the HRSG) and an increase of 18Mw. These figures were measured at the same load and approximately the same atmospheric conditions. This equates to a substantial increase in operational efficiencies and long term benefits.

Working with Precision Ice Blasting has been a pleasure. I commend them on their ability, attitude and professional manner in which they conduct their business. I am happy to stand as a verbal referee and would welcome the opportunity to work with them in the future.

Yours sincerely

Glen Minkley