



# COLONGRA POWER STATION

CENTRAL COAST | NEW SOUTH WALES



**“ SUCCESSFUL COMPLETION OF COLONGRA POWER STATION IS A TESTAMENT TO THE STRONG WORKING RELATIONSHIP BETWEEN DELTA ELECTRICITY AND OUR MAJOR SUPPLIERS ALSTOM AND JEMENA ”**





## FROM THE MINISTER

It is with great pride that Colongra Power Station is declared open today.

Colongra Power Station is part of the NSW Government's plan to secure our long term energy future and is the largest gas generation plant in NSW.

It forms part of the Government's strategy to move away from emissions intensive technologies to more sustainable fuel sources. In fact, Colongra Power Station will produce 40% less emissions than an equivalent coal fired plant.

Hundreds of people worked on the Colongra project including many local businesses and the NSW Government is proud to support jobs across NSW with projects like this one.

Most importantly, this 667MW peaking plant secures the future energy needs of NSW. On very hot days, or very cold days, our homes, offices, schools and hospitals will have sufficient power to operate without disruption.

This is a major piece of essential state infrastructure that has been delivered on-time and on-budget thanks to a lot of hard work.

Congratulations to all the workers involved in this project, and to the community that has supported the development of this important piece of infrastructure.

**The Honourable John Robertson MLC**  
Minister for Energy



## FROM THE CHAIRMAN

With the opening of Colongra Power Station today, Delta Electricity becomes the largest electricity generator in Australia. This is a significant achievement for all Delta employees and our many partners.

Over the past decade we have been committed to designing, building and managing power stations that are either renewable or which have a much lower greenhouse impact.

Colongra Power Station is the largest gas plant in NSW with a maximum production capacity of 667MW. When operating on natural gas, it will produce 40% less greenhouse emissions than existing coal power stations.

This \$500 million plant was constructed by Alstom and a team of more than 300 workers. We are delighted to report that during the over 900,000 construction-hours, there was only one lost time injury. We have achieved an excellent safety record while building this carbon friendly facility for the people of NSW.

Natural gas is the main energy source for Colongra Power Station. The gas is delivered via an innovative pipeline that has been built by Jemena. The pipe acts as a storage bottle which allows the station to run at full capacity for five hours even if there is an interruption to gas supplies.

Colongra Power Station has been constructed using the most innovative gas electricity generation methods and equipment. Colongra is configured as four power generators using flexible and environmentally friendly dual-fuel turbines. If there is an interruption to the natural gas supply for any reason, Colongra Power Station can still generate electricity using diesel fuel.

Delta is now generating electricity using gas, hydro and biomass technologies. In our traditional coal power stations we are increasing efficiency and in addition we have initiated research in conjunction with the CSIRO into carbon capture and other methods to minimise greenhouse emissions.

Colongra Power Station is a significant milestone in our mission to deliver sustainable and large capacity baseload electricity to New South Wales and to the national grid.

Thank you to everyone involved in this complex project. Colongra is a tribute to the hard work and dedication of our extended team.

**Peter Young**  
Chairman, Delta Electricity

**“WITH THE OPENING OF COLONGRA POWER STATION TODAY, DELTA ELECTRICITY BECOMES THE LARGEST ELECTRICITY GENERATOR IN AUSTRALIA”**

# PROJECT SUMMARY

## EQUIPMENT

Gas Turbines	4 x GT13E2
Time to reach capacity	30 mins
Maximum output	667 MW
Will provide power for	700,000 homes
Weight of turbines	343 tonnes
Weight of generator	230 tonnes
Weight of transformers	155 tonnes

## POWER STATION CONSTRUCTION

Commenced construction	October 2007
Jobs created in construction	1,000
Peak number of people employed at once	350
Cubic metres of concrete	More than 8,000
Man hours of construction	Over 900,000

## PIPELINE CONSTRUCTION

Commenced construction	April 2008
Total length of 42" pipe	9km
Total length of 10" feeder pipe	3.5km
Gas pressure	13MPa
Connects to	Sydney to Newcastle pipeline

The 42 inch pipeline is the largest on-shore gas pipeline in Australia.





**“COLONGRA POWER STATION IS ANOTHER  
STEP FOR DELTA IN REDUCING CARBON  
EMISSIONS”**



# STAGES OF CONSTRUCTION



**“COMPLEX PROJECTS DEMAND  
EXCELLENCE IN MANAGEMENT  
AND COOPERATION”**



**“ENGAGEMENT WITH THE CENTRAL COAST  
COMMUNITY HAS BEEN VITAL TO THE SUCCESS  
OF THIS PROJECT”**



# DELTA ELECTRICITY IN NSW

LOCATION	UNIT SIZE	TOTAL UNITS	CAPACITY
<b>GAS</b>			
Colongra	167 MW	4	667 MW
			<b>667 MW</b>
<b>COAL</b>			
Mt Piper	700 MW	2	1,400 MW
Vales Point	660 MW	2	1,320 MW
Wallerawang	500 MW	2	1,000 MW
Munmorah	300 MW	2	600 MW
			<b>4,320 MW</b>
<b>HYDRO</b>			
Mt Piper	350 kW	1	350 kW
Chichester Dam	110 kW	1	110 kW
Dungog Water Treatment Plant	110 kW	1	110 kW
			<b>570 kW</b>
<b>BIOMASS</b>			
Condong	30 MW	1	30 MW
Broadwater	30 MW	1	30 MW
	8 MW	1	38 MW
			<b>68 MW</b>



# THANK YOU

## TO THE COMMUNITY

Delta Electricity would like to thank the community for their support of this project.

## TO ALL SUPPLIERS

Thank you to all those who helped bring this project to completion including the following major suppliers:

- Jemena
- Sumitomo
- APC Socotherm
- Enerflex
- Dresser Waukesha
- Ariel Compressor
- Diona Pty Ltd
- Codmah Pty Ltd
- Transgrid
- Areva
- John Holland
- Milvant Constructions
- Downer EDI
- Bolte Civil
- Temmco
- Toveety
- SKM
- GHD
- Evans and Peck
- Parson Brinkerhoff
- URS
- Deacons
- Middletons
- Ernst and Young
- Monteath and Powys
- CATCON
- Stowe Australia Pty Ltd
- Megalift Pty Limited
- Fracht Australia Pty Ltd
- Troy Heavy Haulage
- Triple 'M' Fire Pty Ltd
- Cummins South Pacific Pty Ltd
- Schneider Electric Industries (M) Sdn
- Bob Warran
- Tyco Flow Control Pacific Pty Ltd QLD
- Independent Portable Buildings
- Eastcoast Development Engineering
- Best Tech & Engineering Limited
- BNP Security Pty Ltd
- East Coast Amenities Pty Ltd
- DSC-SMEC
- BNF Engineering Supplies (M) Sdn Bhd
- United U-Li (M) Sdn Bhd
- OneSteel
- MRC Transmark

## ALSTOM'S MESSAGE

We would like to thank Delta for this opportunity to contribute to the ongoing development of New South Wales' power infrastructure.

Colongra power station is already providing electricity during peak hours when the state needs it most, with far fewer emissions compared to an equivalent coal-fired plant.

To be able to hand over such a highly complex project on time and under budget is an enormous achievement, and we are very proud of everyone that has worked so hard over the last two years. During the construction phase, over 1000 people have worked on the Colongra site in total, with a peak of 350 people on-site during the busiest periods of development.

Together, Delta and Alstom have achieved the highest standards of operational health and safety, with lost time injuries far below industry average. This is a testament to the great teamwork that has helped to deliver this project so successfully.

This dedication and cooperation not only exists between Alstom's various international and local business units, but also between Alstom and Delta, the unions, the local community and the New South Wales Government. Without this exceptional commitment to the common goal, the Colongra project would not be the great testament to teamwork that it is today.

Thank you, once again, to all who have made this project possible.

**Chris Raine**

President Alstom in Australia & New Zealand





**“COLONGRA POWER STATION IS PART OF THE NSW GOVERNMENT’S PLAN TO SECURE OUR LONG TERM ENERGY FUTURE ”**



## CONTACT

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