PRESENTING THE 17TH ANNUAL

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Australian Gas Turbines Conference

The only meeting place for Australia's gas turbine operators & maintenance leaders

23 – 24 November 2016 | Mercure Brisbane

NOV

CONFIRMED SPEAKERS:

- Dr. Maxine Watson, *Partner*, **MorrisWatson**
- Richard Nolan, *Reliability Engineer*, **Santos**
- Simon Hurricks, *Predictive Maintenance Engineer*, **Genesis Energy**
- Thanaraj Sanmugham, *Engineer - Repair Centre*, **TNB REMACO (Malaysia)**
- Dr. Sean Norburn, *Principal Consultant – Structural Integrity*, **Quest Integrity Group**
- Dr. Matt Smillie, *Consultant Engineer*, **Quest Integrity Group**
- Nathan Griffiths, *Sales Manager*, **MJB International**
- Tony O'Brien, *Managing Director*, **Australian Winders**
- Zach McCann, *Regional Manager*, **Sonomatic Ltd.**
- Luc Jansen, *Managing Director*, **VBR Partner**
- Lloyd Price, *Senior Generator Engineer*, **GE Power Services**

TOPICS FOR 2016:

- Industry outlook
- Best practice in turbine inspections
- Operator case studies
- Turbine commissioning
- Maintenance strategies
- Failure analysis
- Overhaul & condition assessment
- Predictive maintenance
- Oil innovation and analysis

SUPPORTED BY: GTUF

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Australian Gas Turbines Conference
Wednesday 23 November 2016

DAY 1

GTUF WELCOME RECEPTION | Tuesday 22 November 2016 | 17:00 – 18:30

Take the opportunity to meet and greet your fellow conference attendees over a drink at this year's pre-conference drinks reception in the conference exhibition hall. *Complimentary attendance for all GTUF Members and conference attendees.*

8:30 Registration and morning coffee

9:00 OPENING | **Opening remarks from the Chair**

Dr. Maxine Watson, *Partner*, **MorrisWatson**

9:10 **Speed networking**

Get to know your peers right from the start with this informal speed networking session. Don't forget your business cards!

9:20 OUTLOOK | **A review of Australia's evolving energy market**

— A review of recent market conditions
— What are the key trends impacting the market?
— What are the implications for changing operating conditions?
— What are the major challenges faced by this market and how can they be mitigated?

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10:00 CASE STUDY | **Commissioning, start-up and initial operation of Santos Siemens SGT400 fleet**

— Commissioning 16 x SGT400 generator and mechanical drive packages
— Start-up and initial operational troubleshooting
— Root cause investigations
— Operator/OEM global collaboration

Richard Nolan, *Reliability Engineer*, **Santos**

10:40 Refreshment break *sponsored by* VIVA Energy

11:10 INTERNATIONAL GUEST SPEAKER | **Best practices to improve reliability and performance of dry gas seals for centrifugal compressors**

— Design considerations
— Major factors affecting Dry Gas seals life and efficient operation
— DGS Control and health monitoring
— Improve DGS operating performance
— Avoid unplanned shutdowns
— Reduce energy consumption and costs
— Extend equipment lifespan

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11:50 **Compressor corrosion: Causes, consequences and control**

Compressor performance and integrity is fundamental to gas turbine operations. Compressor performance directly relates to the output of the machine, but management of the compressor integrity often takes a back seat to the hot section and its exotic (and expensive) alloys and damage mechanisms.

Often overshadowed by hot section damage, and attentiveness to compressor performance, the actual integrity of compressor components can be easily compromised by corrosion damage mechanisms that occur during normal operations of a gas turbine. This presentation reviews the causes of corrosion in gas turbine compressors, methods to assess the condition of compressors, with case studies to illustrate the circumstances in which compressor corrosion has been a concern.

Dr. Matt Smillie, *Consultant Engineer*, **Quest Integrity Group**

12:30 Lunch

1:30 **GE Frame rotor overhauls and condition assessment case studies**

— Rotor overhaul & condition assessment
— Critical internal components only accessible during full rotor destack
— Issues found & rectified following rotor destack
— Metallurgical inspection / NDT during destack
— Rotor overhaul facility – capabilities / equipment required
— Summary & conclusions

Nathan Griffiths, *Sales Manager*, **MJB International**

2:10 **Remote inspections of turbogenerators**

— Generator maintenance overview
— Online condition assessment
— Rotor in-situ robotic inspections
— Rotor in-situ retaining ring inspection

Lloyd Price, *Senior Generator Engineer*, **GE Power Services**

3:20 Refreshment break *sponsored by* VIVA Energy

3:20 **Endring inspection 18:18 arcing damage**

— Brief history on end ring inspection
— Metallurgical overview of 18:18 rings
— Challenges for scanning 18:18 end rings
— Results and conclusions

Zach McCann, *Regional Manager*, **Sonomatic Ltd**

4:00 CASE STUDY | **Repair of Siemens V94.2 Tula and Tule Stage 4 after 152,000 EOH**

Thanaraj Sanmugham, *Engineer - Repair Centre*, **TNB (Malaysia)**

4:40 ***Q&A and open discussion***

4:50 CLOSING | Closing remarks from the Chair

5:00 Networking drinks in the exhibition space

7:00 OFFICIAL CONFERENCE DINNER

Join your peers at the end of the first event day for the official conference dinner. The ideal opportunity to network and discuss the day's proceedings over dinner, in a relaxed and informal setting.

Australian Gas Turbines Conference
Thursday 24 November 2016

DAY 2

8:30 Morning coffee

9:00 **OPENING | Opening remarks from the Chair**

Dr. Maxine Watson, *Partner,* **MorrisWatson**

9:10 **CASE STUDY | Modal balancing and over speed testing of large two pole generators, following rewinds**

The paper looks at the risks and reasoning behind sending a 42 tonne generator half way around the world to be rewound and balanced in an over speed facility.

Synopsis: Large two pole generator rotor windings deteriorate with age which is accelerated when they are thermally cycled by two shift operation. One of two things will ultimately happen; they will need rewinding at a convenient time or they will fail in service. In either case the windings will need to be removed, re-insulated and replaced. This operation will significantly alter the rotor's balance state. As most rotors will be operating above their 1st critical speed and many larger ones above the second critical speed, the balancing cannot be undertaken in either a low speed balancing machine nor in the machine. This paper looks at the options and risks of high speed balancing giving two case histories of 42 tonne hydrogen cooled rotors being balanced at two different facilities, one in Australia and one in the UK.

Simon Hurricks, *Predictive Maintenance Engineer,* **Genesis Energy**

9:50 **CASE STUDY | Life extension of generator stator winding**

— A stator winding with historical partial discharge problems
— Corona protection repairs
— Stator rewedging
— An innovative lead inversion
— Providing life extension

Tony O'Brien, *Managing Director,* **Australian Winders**

10:30 Refreshment break *sponsored by* VIVA Energy

11:00 **CASE STUDY | Outage deferral of RT 62 Power Turbines through life assessment**

Life assessment of two RT62 power turbines was performed to assess the viability of deferring the major overhaul at 100,000 hours. This presentation describes the process of developing thermal mechanical models from operational data of the power turbines and then using them to understand the life consumed due to past operation, thus enabling the assessment of risk associated with delaying the overhaul for commercial benefit.

Dr. Sean Norburn, *Principal Consultant – Structural Integrity,* **Quest Integrity Group**

11:40 **INTERNATIONAL GUEST SPEAKER | Effective oil analysis to boost gas turbine reliability**

— Turbine oil composition
— Principles of turbine oil monitoring
— Performance characteristics of turbine oils
— In-service monitoring of turbine oils
— Design management and implementation of oil analysis program
— Ready reference for oil sampling and testing schedule
— Tips for developing a sound turbine oil condition monitoring program
— Interpretation of oil analysis data and actions needed

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12:20 Lunch

1:20 **PANEL DISCUSSION | Examining repairs for enhancing component life**

— Which component damage situations can repair offer the best results for and why?
— Weighing up the economics – Is the most cost-effective choice, always the best option?
— What are the most promising, emerging technologies for enhancing component life?
— When should repair be avoided? What factors should be examined to make this decision?

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2:00 **Common issues identified during LM2500 and LM6000 gas turbine servicing**

— What are common issues that we encounter?
— What are successful solutions and which are things to avoid?

Luc Jansen, *Managing Director,* **VBR Partner**

2:40 ***Q&A and open discussion***

3:00 **CLOSING** | Closing remarks from the Chair

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Pricing Details

Register Early & Save	Early Bird Rate Book & pay on or before 21/10/2016				Standard Rate Book & pay from 22/10/2016		
Conference Package	**PRICE**	**GST**	**TOTAL**	**SAVE**	**PRICE**	**GST**	**TOTAL**
Two day conference	$2695	$269.50	$2964.50	**$330**	$2,995	$299.50	$3,294.50
***GTUF Members Rate**					$1,895	$189.50	$2084.50
Official conference dinner					$140	$14	$154

***SPECIAL GTUF MEMBER RATE :** There is a special discounted conference rate for members of the Gas Turbines Users Forum (GTUF). To see if you qualify for the $1,895 + GST discounted rate please email the conference manager: **kim.aldridge@informa.com.au**

OFFICIAL CONFERENCE DINNER: Don't forget to book your place to join for the end of day one conference dinner. The perfect opportunity to network with your colleagues and clients. Please visit: **www.informa.com.au/gasturbines2016** for updates on details for the dinner.

For full terms and conditions, please visit:
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Venue Details

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