

## Plant Performance Services

*Improving the output and efficiency of your plant*

HRL's plant performance testing capabilities are routinely applied to the power generation, mineral processing, cement, pulp and paper and petrochemical industries throughout Australia and neighbouring countries.

### Plant performance measurement

HRL expert services assist clients with the performance of their plant by:

- Independently measuring the performance of new and upgraded plant to ensure performance guarantees are met
- Determining performance levels of existing plant and detecting problem areas through routine diagnostic testing
- Measuring the extent of existing deterioration, determining the cause and recommending corrective action
- Providing innovative solutions to complex plant control, performance, operation and maintenance related issues
- Establishing baseline performance datum for future reference and greenhouse reporting, etc.

### Plant performance industry experience

HRL specialises in the performance testing and evaluation of major industrial plant including:

- All types of Combustion Boilers and Furnaces
- Steam and Gas Turbines, Generators, Engines
- Calciners, Fluid-beds, Rotary Kilns, Smelters
- Mills, Concentrators, Separators and Classifiers
- Dust Collection Equipment - Bag Filters, Scrubbers, Electrostatic Precipitators, Hot Gas Filters, Cyclones
- Pumps and Fans, Quench Towers, Cooling Towers
- Heat Exchangers, Condensers, Air Heaters, LP and HP Steam/Water Heaters

### Plant performance service capabilities

- Detailed knowledge of wide range of industrial processes.
- Specialist skills in pressure, temperature and flow measurement of air, water, steam and gases.



Performance testing of upgraded large steam turbine-generator

- Specialist test techniques and equipment tailored to meet special requirements.
- State-of-the-art measuring equipment and instrumentation.
- In-house temperature and pressure calibration facilities. Comprehensive analysis and reporting.
- Immediate results: Information calculated within hours of test.
- Handle complex and non-routine tasks
- Detailed knowledge of test and analysis codes and standards. Short notice, any location response

### Test equipment

We have the ability to utilise measured data from plant installed equipment and data logging systems. However, we usually prefer to use our own modern, portable, computer controlled datalogging equipment, as when coupled to the most accurate temperature and pressure sensors available, this provides accurate, timely results.

- Precision, calibrated, data acquisition and control system and expansion boxes connected to field laptops ( $\pm 0.03\%$ ).
- Precision, calibrated, DP ( $\pm 0.2\%$ ), P ( $\pm 0.2\%$ ), RTD ( $\pm 0.5^\circ\text{C}$ ), and SCT ( $\pm 1.0^\circ\text{C}$ ) test instrumentation.

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- Precision, calibrated, digital power meters ( $\pm 0.3\%$ )
- Development of specific flow measurement orifices and installation equipment components to improve flow measurement accuracy ( $\pm 0.6 \rightarrow 1.0\%$ ), depending upon application.
- Precision, calibrated, gas analysers and sampling equipment, velocity probes, TC's.
- All other test and field connection / checking equipment to meet all Test Code requirements.

## Calibration facilities

- NATA traceable calibration primary standards and equipment – all calibrated routinely by NATA accredited laboratories.
- Dead weight tester (0  $\rightarrow$  35 MPaG) static pressure transducers.
- Pneumatic pressure tester (0  $\rightarrow$  800 kPaG) static pressure transducers.
- Dual channel pressure calibration control unit with vacuum pumps (0  $\rightarrow$  7 MPaG and 0  $\rightarrow$  170 kPaA) static pressure transducers.
- Fluidised bed bath for RTD and SCT temperature calibrations (100  $\rightarrow$  600°C)
- Water bath for RTD and SCT temperature calibrations (0  $\rightarrow$  100°C)
- RTD ice point checks.
- RTD annealing furnace.
- DP static rig to apply static pressures up to 35 MPaG whilst setting precise DP.

## Benefits

Customers get an independent and confidential service providing:

- Optimum maintenance and outage planning.
- Maximum plant output / efficiency. Reduced waste and emissions control.
- Improved profitability through early detection of faults and losses.
- Total process solutions.

### Contact

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### Need more information? Go to [hrl.com.au](http://hrl.com.au)

The company's NATA Accredited Laboratories number is 561.

HRL Technology Group's ISO 9001 Quality Management is certified by BSI under certificate FS605116

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