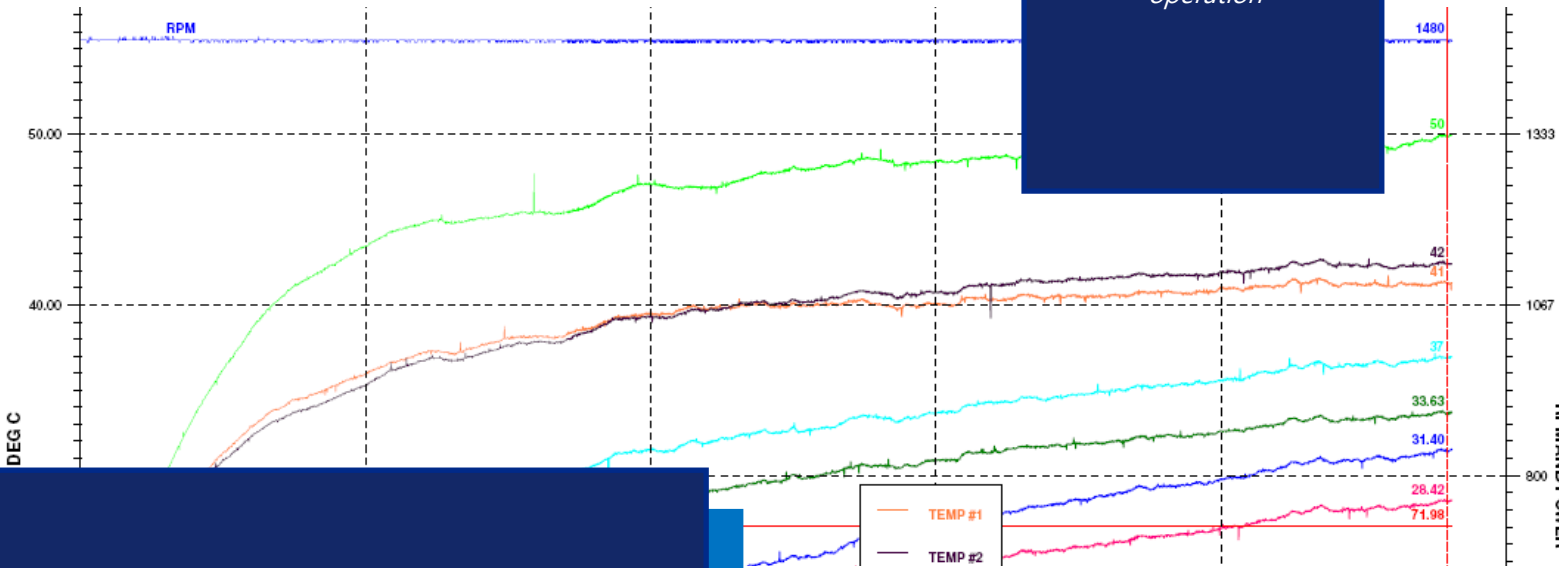


*"WES - a strong partner to get your gear unit back in operation"*



## Gear Reducer Rebuilds & Load Testing

[www.weservices.com.au](http://www.weservices.com.au)

### Capability:

- ◆ Gearbox fault assessment & refurbishment
- ◆ Gearbox load testing with up to 1.2mW breaking capacity
- ◆ Gear reducer load testing from ratios of 1:1 through to 1100:1 with detailed reports and graphs containing: RPM, Torque, Power, Bearing Temps. Oil pressure, Vibration Analysis

WES Gear Reducer Rebuilds & Load Testing Services have been added to our services in 2014.

Gear units naturally suffer wear-and-tear over time, and will require refurbishment at some stage in their lifecycle. A gearbox overhaul can be an expensive exercise, especially when shutdown, removal and transportation costs are considered on top of the overhaul itself. Having a partner getting it right the first time is important.

In many cases, the refurbished unit may be placed in storage and not put into production for an extended period of time. Therefore, it is important to execute load testing before delivery back to site to avoid unnecessary and unexpected following costs in the future. If a defect is identified during a load test it is generally relatively inexpensive to rectify the fault before delivery.



Our load testing facility has been built in collaboration with the Perth-based power transmission specialist Dana Brevini Australia. Wittenbaker Engineering Services has extensive experience & knowledge in executing load testings for industrial gear units in Western Australia. The facility is capable of load testing up to a power level of 1.2mW breaking capacity.



In addition to load testing gear units, WES will be able to load test the entire gearbox, motor and swing base assembly. This can be done as a shaft mounted assembly that closely replicates site mounting.

The back-to-back setup will test the gearbox up to 100% full load with minimum energy consumption. The drive motor is connected to the gearbox undergoing the test. The output shaft of this gearbox is in turn connected to a special purpose build electrical brake unit.

The load test, loads the bearings and gearing in such a way as to avoid gear mesh backlash that can cause errors in the vibration analysis.



The test protocol will take the gearbox through various tests that will help detect potential misalignment, including misalignment caused by load, speed or temperature, while temperature logging as well as thermal imaging are used to evaluate gearbox thermal performance. The test rig is controlled by an Advanced Motion Control System, so the load cases and test sequences are flexible and can be adjusted to the specific test plan for each gearbox. A test protocol will be provided for each performed test and will remain both with the gearbox documentation and also stored electronically for evaluation later on.

