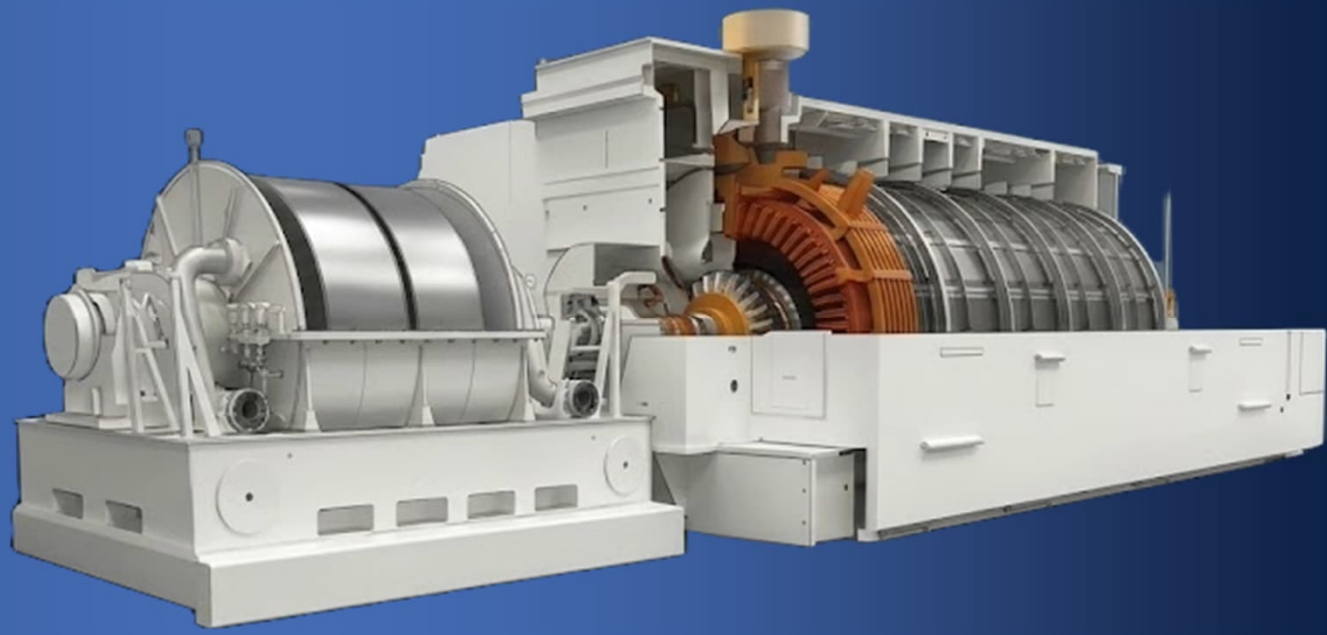
Synchronous Condenser

PANTAC SYSTEM CONTROL

Instrumentation & Control

This fast paced 2 day training course provides an overview of synchronous condenser instrumentation and control.

- Each chapter is broadly informative and suitable for anyone involved or interested in the operation and maintenance of synchronous condensers.
- The course and training material is designed to provide an understanding of safety and control instrumentation.
- Question time is allocated in each session for interactive discussion and audience participation is encouraged.



A great way to learn about the latest trends, technologies and developments in power generation.

WHAT is a SynCon?

WHERE are they located?

WHY do we need them?

WHEN do they operate?

HOW do they work?

DAY 1

8:30 **Registration, tea & coffee**

9.00 **Opening remarks**

9.10 **Introductions**
- Designs & functions
- SynCon vs BESS vs STATCOM vs Others

9:30 **Lube oil systems**
- Main / Emergency
- Filters & chip detection
- Jacking oil
- Oil cooling systems

10.40 **Morning Break**

11:00 **Bearings**
- Journal / Radial
- Roller
- Thrust

11:40 **Starters**
- Pony Motor
- Engine / Turbine
- Clutch
- Static

12.30 **Lunch break**

1:30 **Vibration**
- Vibration Transducers
- Signal conditioners and Systems
- Condition Monitoring Programs

2:10 **Excitation control**
- Permanent Magnetic Generator
- Automatic Voltage Control
- VAR compensation
- Capability curves
- Tap changers

2:50 **Electrical Protection**
- Generator Protection relay
- Syn Con settings

3.00 **Afternoon break**

3:20 **Workshop**
- Question & Answers

4:00 **Closing comments**

DAY 2

8:30 **Meet & greet, tea & coffee**

9:00 **PLC architecture**
- Simplex / Dual
- Triple / Quad

9:30 **Controls and protection**
- Fault tolerance
- Relay / analog
- PLC with trip relays
- PLC with safety PLC
- Safety PLC only

10.30 **Morning break**

11:00 **Fire protection**
- Sensors gas / temperature / smoke
- Supression CO2 / foam / fog

11:40 **Data acquisition**
- HMI events / alarms
- First out trip, time stamp
- Sequence of Events
- Historical trending

12.20 **Lunch break**

1:30 **Power Supplies**
- Control & protection Fault tolerance
- Station / Back Up supplies
- Battery banks

2:00 **Rotating Inertia**
- Flywheels
- Braking systems

2:30 **Stator cooling systems**
- Air, Water, Hydrogen

2.50 **Afternoon Break**

3:10 **Environment**
- Noise
- Bunds & Drains

3:30 **Workshop**
- Questions & Answers

4:00 **Closing comments**

Course Fee

$2,000 pp less 10% discount for multiple registrations from the same company

To register expression of interest (no charge) email info@pantac.com.au

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Web: www.pantac.com.au
Email: info@pantac.com.au
Ph: +61 432 688 779