



## PHASE 1T Trent Gas Turbine Package Familiarisation and Operation

<b>Who should attend</b>	: Personnel who support daily operation of the equipment.
<b>Duration</b>	: 5 days (between Mon-Fri)
<b>Location</b>	: RR Facility / Customer Facility on-shore
<b>Class Size</b>	: 12 Maximum
<b>Course Identification</b>	: Phase 1T (Trent)
<b>Prerequisites:</b>	: None

### AIMS:

Attendees will learn about the equipment design, construction, basic engineering theory, operation and operator routines required for the equipment supplied.

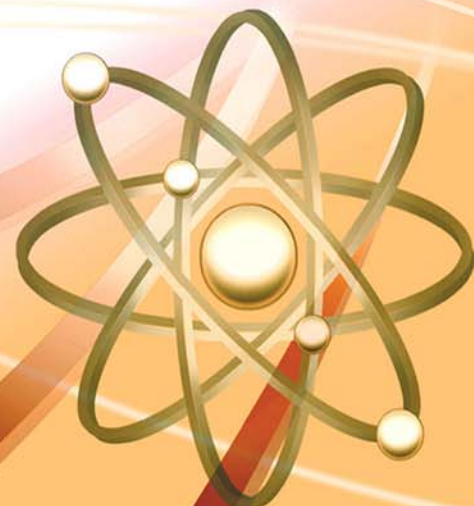
### OBJECTIVES:

Upon successful completion of the course, the attendee should be able to:

- Describe the equipment and support systems supplied on this package
- Describe basic construction and operation of the Gas Generator and Power Turbine
- Locate devices on the system diagrams and determine proper settings
- Describe the proper start and stop sequences
- Locate devices appearing in HMI displays on the proper support system diagram
- Describe operator routines required on equipment and systems

### COURSE CONTENT:

- Course Introduction
- Package introduction, unit specifications and support drawings
- Gas turbine driver theory, construction and basic operation
- Gear & driven equipment theory, construction and operation (if supplied by Rolls-Royce).
- Drawing Symbols and Instrumentation Diagrams
- Main Systems
  - Descriptions - diagrams - operator duties- problem diagnosis
    - Air system
    - Main lube oil system
    - Gas Generator oil system
    - Fuel system(s)
    - Fire and Gas System
- HMI overview and HMI displays
- Unit Control Panel features and operation within the HMI
- Condition alarm and shutdown matrix
- Unit starting, operating and stopping sequence
- Equipment knowledge exercise





## PHASE 2T                      Trent Gas Generator Familiarisation & Operation

<b>Who should attend</b>	: Operators, mechanics, technicians and supervisors who support daily operation of the equipment.
<b>Duration</b>	: 3 days (between Mon-Fri)
<b>Location</b>	: RR Facility / Customer Facility on-shore
<b>Class Size</b>	: 12 Maximum
<b>Course Identification</b>	: Phase 2T (Trent)
<b>Prerequisites:</b>	: Phase 1T recommended

### **AIMS:**

The course is designed to give the attendee a detailed knowledge of the Trent Gas Generator and required support systems.

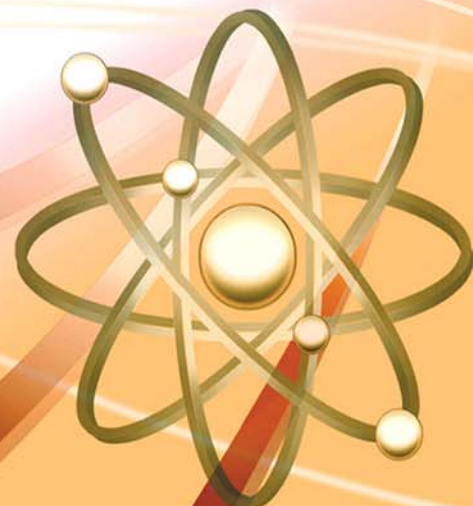
### **OBJECTIVES:**

Upon successful completion of the course, the attendee should be able to:

- Describe the theory of gas generators
- List and describe the construction of the Gas Generator
- Identify the oil requirements of the Gas Generator
- Explain the airflow and airflow control of the Gas Generator
- Describe the operation of on engine ignition, fuel, oil and air flow devices
- Explain the operating limitations of the Gas Generator

### **COURSE CONTENT:**

- Course Introduction
- Gas Turbine Theory and Construction
- Gas Generator Introduction, detailed description and Operating Limitations
- Gas Generator compressor air flow control and surge prevention
- Gas Generator bearing design and operation
- Gas Generator mounted instrumentation and sensors
- Required Gas Generator support services.
  - Fuel system – Lubricating scavenge and hydraulic oil
  - Instrument, bleed, and seal air - Ignition
- Gas Generator compressor washing procedures and intervals
- Basic Gas Generator removal and installation procedures
- Equipment knowledge exercise





## PHASE 12T Trent Gas Generator Familiarisation & Operation With Borescope Procedures

<b>Who should attend</b>	: Operators, mechanics, technicians and supervisors who support daily operation of the equipment.
<b>Duration</b>	: 4 days (between Mon-Fri)
<b>Location</b>	: Customer Facility on-shore
<b>Class Size</b>	: 12 Maximum
<b>Course Identification</b>	: Phase 12T (Trent)
<b>Prerequisites:</b>	: Phase 1T recommended

### AIMS:

The course is designed to give the attendee a detailed knowledge of the Trent Gas Generator construction and operation, as well as the oil and fuel requirements.

### OBJECTIVES:

Upon successful completion of the course, the attendee should be able to:

- Describe the theory of gas generators
- Describe the construction of the Gas Generator
- Identify the oil requirements of the Gas Generator
- Explain the airflow and airflow control of the Gas Generator
- Describe the operation of on engine ignition, fuel, oil and air flow devices
- Explain the operating limitations of the Gas Generator
- Explain borescope procedures

### COURSE CONTENT:

- Course Introduction
- Gas Turbine Theory and Construction
- Gas Generator Introduction, detailed description and Operating Limitations
- Gas Generator compressor air flow control and surge prevention
- Gas Generator bearing design and operation
- Gas Generator mounted instrumentation and sensors
- Corrective and Preventive Procedures including borescope
- Gas Generator mounted instrumentation and sensors
- Required Gas Generator support services.
- Fuel system – Lubricating scavenge and hydraulic oil
- Instrument, bleed, and seal air -- Ignition
- Gas Generator compressor washing procedures and intervals
- Basic Gas Generator removal and installation procedures

N.B: Access to Rolls-Royce Trent Gas Turbine and borescope equipment is essential.





## **PHASE 12TDLE Trent DLE Gas Generator Familiarisation & Operation With Borescope Procedures**

<b>Who should attend</b>	: Operators, mechanics, technicians and supervisors who support daily operation of the equipment.
<b>Duration</b>	: 4 days (between Mon-Fri)
<b>Location</b>	: Customer Facility on-shore
<b>Class Size</b>	: 12 Maximum
<b>Course Identification</b>	: Phase 12TDLE (Trent DLE)
<b>Prerequisites:</b>	: Phase 1T recommended

### **AIMS:**

The course is designed to give the attendee a detailed knowledge of the Trent DLE Gas Generator construction and operation, as well as the oil and fuel requirements.

### **OBJECTIVES:**

Upon successful completion of the course, the attendee should be able to:

- Describe the theory of gas generators
- Describe the construction of the Gas Generator
- Identify the oil requirements of the Gas Generator
- Explain the airflow and airflow control of the Gas Generator
- Describe the operation of on engine ignition, fuel, oil and air flow devices
- Explain the operating limitations of the Gas Generator
- Explain borescope procedures

### **COURSE CONTENT:**

- Course Introduction
- Gas Turbine Theory and Construction
- Gas Generator Introduction, detailed description and Operating Limitations
- Gas Generator compressor air flow control and surge prevention
- Gas Generator bearing design and operation
- Gas Generator mounted instrumentation and sensors
- Corrective and Preventive Procedures including boroscope
- Gas Generator mounted instrumentation and sensors
- Required Gas Generator support services.
- Fuel system – Lubricating scavenge and hydraulic oil
- Instrument, bleed, and seal air -- Ignition
- Gas Generator compressor washing procedures and intervals
- Basic Gas Generator removal and installation procedures

N.B: Access to Rolls-Royce Trent DLE Gas Turbine and borescope equipment is essential.

