



## Understanding Equipment Availability Analysis and Prediction

### Introduction

Availability is used to measure the combined effect of reliability, maintenance and logistic support on the operational effectiveness of a system. It is a key indicator of system performance for both designer/manufacturers and operators. Emerging business practices such as Availability Guarantees, Equipment and Component Leasing, Contractor Logistic Support, Performance-Based Logistics, Power By The Hour and similar contractual arrangements, require accurate Availability prediction to ensure that the performance requirements of the customer are met.

The course provides participants with an introduction to the basic knowledge and techniques required for Availability Analysis and Prediction.

### Designed For

This course has been designed for practicing engineers, analysts and managers and others who need to gain basic knowledge and understanding of analytical tools and techniques that can be applied in Availability Analysis and Prediction.

### Objectives

By the end of this course you will be able to -

- Appreciate the significance of availability and its significance for operational effectiveness and cost
- Identify the factors that determine availability
- Understand different availability measures for performance
- Understand how availability predictions can be made

### Content

#### ■ What is Availability

Concepts and definitions of availability

#### ■ Why is Availability Important

Operational and financial ramifications of availability  
Performance

- Availability Performance
  - Operational Effectiveness
  - Cost
  - Revenue
  - Profit

- Availability Trade-Off

#### ■ Factors that Determine Availability

Equipment characteristics, operational organisation and environmental impact on availability performance

- Operational Factors
  - Use Requirements
  - Environment
  - Policies, Processes and Procedures -
    - Operations
    - Maintenance
    - Support
- Design Factors
  - Component/System Reliability
  - Component/System Maintainability
  - Component/System Supportability

#### ■ Measures of Availability

Key issues concerning the measurement of availability and practical limitations

- Steady-State
  - Inherent Availability
  - Achieved Availability
  - Operational Availability
- Time Interval
  - Instantaneous
  - Average
- Applications and Limitations

#### ■ Analysis and Prediction

Examination of approaches used to model availability

- Component Availability
- System Availability
  - Reliability Block Diagram Approach
    - Fundamentals
    - Practical Implementation
  - Overview of Alternative Approaches

#### ■ Availability Improvement

Considerations for improvement and optimisation of availability

- Engineering Strategies
- Management Strategies

Case studies will be presented during the course and participants will work through practical exercises using Excel spreadsheets.

### Length

3 days

<b>Details</b>	
<b>Dates</b>	07 – 09 May 2008 17 – 19 September 2008
<b>Time</b>	0900 – 1700
<b>Venue</b>	Woodbury Park Hotel, Golf and Country Club –approximately eight miles by road from Exeter (the nearest major city).
<b>Cost</b>	GB Pounds £950-00 + UK Value Added Tax (VAT) @ 17.5% <b>Total Payable £1116-25 per person</b>  The cost includes all instruction, course materials, daily lunches and light refreshments.
<b>Accommodation</b>	Accommodation is not included in the fee. Participants are responsible for the arrangement and payment of their accommodation. Reduced rates are available at Woodbury Park Hotel – contact Woodbury Park Hotel Reservations direct requesting the 'Mirce Engineering' rate. Contact details are –  Woodbury Park Hotel, Golf and Country Club, Woodbury, Exeter, EX5 1JJ, United Kingdom  Tel +44 (0) 1395 233 382 Fax +44 (0) 1395 233 384 Email enquiries@woodburypark.co.uk Web www.woodburypark.co.uk  A list of alternative accommodation in other hotels and guesthouses in the area of the course venue is available from Mirce Engineering on request.
<b>Booking</b>	Please complete a Booking Form for each participant and return it to Mirce Engineering.

## Contact us

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