

Use the successful planning methods, practices and processes that deliver high work productivity, outstanding equipment reliability, and maximum 'tool time'

Maintenance Planning and Scheduling for High Reliability and Maintenance Performance

Sydney, New South Wales, Australia – 30, 31 Jan, 1 Feb, 2012, Saxtons, 10 Barrack Street
 Brisbane, Queensland, Australia – 23, 24, 25 May, 2012, Regatta Hotel, Toowong
 Perth, Western Australia – May 30, 31 and June 1, 2012, Technology Park, Bentley

(Save money by running the course in-house if you have 4 or more people.)

Maintenance planning course improves reliability and crew productivity

This planning training is packed with the insights and the powerful techniques of successful maintenance planning and scheduling for high equipment reliability. The comprehensive content introduces you to best practice maintenance planning and scheduling systems and explains how to produce great task productivity and maintenance work quality. You learn what to do and why to do it so you can get production plant back into operation faster and running for longer. Learn how to move your maintenance planning and scheduling performance towards the Pacesetter results in the table below.

Key Performance Indicator	Poor Performance	Pacesetter Performance
'Hands on tools time' % possible	20	50
Jobs per man-day (Mech, I/E)	1 , 4	3 , 8
Testing jobs overdue %	20	2
Mechanics per Planner	8 - 10 : 1	20 - 27 : 1
Maintenance Workforce Weeks Backlog	8 – 10 weeks	4 weeks
% Planned Work	< 50%	> 80%
Schedule Compliance	< 50%	> 90%
Urgent Job Requests	70%	5%



High quality planning is a vital ingredient for top quality maintenance work performance and high equipment reliability. At the 'Maintenance Planning and Scheduling for High Reliability and Maintenance Performance' training course you learn what is done in the best job preparation and work organisation processes. You discover the good techniques, practices and methods that deliver successful maintenance planning and scheduling results. You learn the specific requirements necessary to deliver highly effective maintenance work planning and scheduling outcomes. The great Chinese philosopher Confucius said, *"In all things, success depends on previous preparation, and without such preparation there is sure to be failure."* Too much time, production and money can be lost if the preparation is not done well. Knowing how to do

maintenance planning and scheduling successfully is one of the many benefits you get from this world class training course. When you do maintenance planning and scheduling well you maximise your maintainers 'tool time' with jobs ready to go, equipment prepared and safe to work on, and all materials, resources and information at-hand so tradesmen walk from job to job, doing top quality work, right-first-time.

Great maintenance planning and scheduling lifts reliability and lowers your maintenance costs

There is a great difference between being a top Maintenance Tradesman and a top Maintenance Planner. The skill sets are completely different. This course prepares

MORE INDUSTRIAL TRAINING

- Industrial Maintenance Management Mastery
- Maintenance Planning and Scheduling for Reliability
- Enterprise Asset Management Excellence for Executives and Managers
- Applied Reliability Engineering for Operating Plants
- Plant and Equipment Root Cause Failure Analysis

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www.lifetime-reliability.com



Attendees to be top-class maintenance planners and schedulers by teaching them of the systems and processes they need to use, and providing the information, the knowledge and the skills they need to have to be successful in this incredibly important role in a company. Documented evidence confirms that proper maintenance planning and scheduling can deliver you the following benefits when compared to planning on-the-run:

- Up to 100% more work done
- ‘Tool time’ can rise to 50% of maintainers’ day
- Planned work is 4 – 12 times more efficient
- Planned work is 3 – 9 times less expensive than reactive work
- On larger jobs an hour of planning saves 3 – 5 hours execution time
- 90% of your work can be planned
- 95% of work can be done when first scheduled

The ‘Maintenance Planning and Scheduling for High Reliability and Maintenance Work Performance ’ training course teaches you how to prepare work, coordinate resources and people, install the right systems and schedule maintenance activities so maintenance work runs smoothly, maintainers deliver high-quality workmanship and are highly productive, and your machines and equipment operate reliably for far longer.

Discover how to improve maintenance planning and scheduling results

At a time when the engineering workforce is growing older and retiring, during an industry-wide and world-wide skill shortage, this maintenance planning training course teaches your maintenance planners how to organise maintenance work well and use fewer maintainers while lifting operating uptime and throughput for less cost. The course trains Attendees on the key points and best practices of planning and scheduling so when they return to work they can use the right methods and practices in the operation . Substantial and comprehensive course notes are provided and the full PowerPoint presentation are given to every attendee for future reference.

Great testimonials and unqualified support from industry for the maintenance planning and scheduling training course

People who attended the training said the following about what they experienced:

“Very good – has changed the way I think about maintenance planning.” – “Helped to give me confidence that I’m heading in the right direction in planning.” – “Usually I find if one thing of use is learnt per day then value is achieved; value has been achieved! Also good notes, CD and risk analysis template.” – “Some very good concepts to take back to work which could help our business.” – “Very interesting, more than enough information for a 3-day course.” – “The course members from industry were very impressed with the content.” – “Being a planner for only three months, I found this course excellent and relevant to my position.” – “Heaps of information put out.” – “Very informative. Eye-opener in some areas.” – “Excellent, will help with my future job prospects.”

BHP Billiton (Iron ore miner), **Fortescue Metals Group** (Iron ore miner), **Woodside Energy** (Oil and Gas producer), **BGC Construction** (Building products manufacturer), **Wesfarmers Premier Coal** (Open-cut coal miner), **Pearlsteet** (Maintenance services), **Albany Pine Plantations** (Woodchip supplier), **Esperance Port Authority** (Bulk materials), **Talison Mining** (Tantalum Miner), **Anglogold Ashanti** and **KCGM** (Gold Mining), **Onesteel** (Steel Roll Mill), **Hans Smallgoods**, **Hyne Timber** (Saw Mill), **Defence Materiel Organisation**, **Offshore Su Tu Den Group** (Vietnamese O&G), **Japanese Vietnam Petroleum** (Vietnamese O&G), **Canberra Hospital** (Facility Management), **Nickel West** (Nickel Refining), **Sandvik** (Machine Shop), **Riyadh Cement Company** (Saudi Arabia) **Mermaid Marine** (Maritime Services) **Griffin Coal**



Course Content Overview

Day 1 – Maintenance and Reliability: The Foundations of Maintenance Planning

The Purpose of Maintenance
 Defect and Failure True Cost
 Purpose of Maintenance Planning & of Scheduling
 How Maintenance Planning & Scheduling Reduce Costs
 Risk Management Fundamentals
 Plant and Equipment Life Cycle
 Equipment Criticality Analysis
Activity 1 - Equipment Criticality Example
 Failure Mode and Effects Analysis (FMEA)
Activity 2 – FMEA example
 Equipment Reliability Basics

Creating high Equipment Reliability
 Important Engineering & Equipment Care Standards
Activity 3 –Applicable Maintenance Standards
 The 6 Maintenance Types and when to use them
 Precision Maintenance for Maximum Failure-Free Life

Day 2 – Planning Maintenance Work

Activity 4 –Planning Activity
 Review and Discussion of Activity 4
 Necessary Planning Office Systems and Methods
 Data Capture for Maintenance
 Specifying Workmanship Standards



Purchasing Parts and Materials
Inventory and Stores Management
Project Management Principles and Practices
The Work Planning Process
Shutdown and Outages Best Practice
Activity 5 – Planning Activity
Review and Discussion of Activity 5

Day 3 – Work Planning (continued) and Scheduling

Failure and Defect Prevention Maintenance Procedures
Controlling Work Process Variation with 3T Limits
The Accuracy Controlled Enterprise (ACE)
Standardized Planning and Scheduling Procedure
Activity 6 – Develop Standardized Planning Procedure
Activity 7 – Planning Activity with Standardized Procedure
Review and Discussion of Activity 7
Planning and Maintenance Key Performance Indicators
Activity 8 – Developing Performance Indicators

Scheduling Maintenance Work

Visual Management
Relationship Building
Production Requirements and Limits
One Plan for Production and Maintenance
Job Task Scheduling
Scheduling Work Face Activities
Prioritising Work Orders
Manpower Scheduling and Leveling
Resources Scheduling
Preparations before the Job Starts
Addressing On-site Issues and Changes in the Plan
Monitoring Job Performance to Plan
Tracking the Schedule
Backlog Management
Activity 9 – Scheduling so Work is Done Right & On-Time
Review of Scheduling
Review of Course and Key Issues
End of Course

Details of Your Presenter:



The Course Presenter, Mike Sondalini, is a mechanical tradesman, a professional maintenance engineer, a maintenance planner and a maintenance manager. In engineering and maintenance since 1974, his career extends across original equipment manufacturing, beverage production, steel fabrication, industrial chemical manufacturing, quality management, project management, industrial asset management and industrial training. He takes attendees through a carefully structured course during which he imparts key understandings and skills needed for successful planning and scheduling. But more than that, he uses his years of experience as a maintenance manager to focus on the critical success factors of what to do, and how to do it quickly and well, so the maintenance crew can swiftly and safely minimise cost and time loss. He helps

organisations build sound business risk management practices, introduce world-class lean practices, develop ultra-high reliable enterprise asset management systems and instill the precision maintenance skills needed to continually improve plant uptime. Mike helps attendees do their planning and scheduling roles so they can improve maintenance performance through wise use of resources, in less time, and for the least downtime.

Book yourself into the course early to get a seat and the best discount

Register immediately for the course if you want to be sure of a seat. Seating is limited to a maximum of 10 people and seats are allocated on a first-come-first-served basis. Complete your registration form, then chose your payment option and fax it to us at (+61 8) 9457 8642 or scan it and email to info@lifetime-reliability.com. Book yourself and your key people into the course now; don't delay. Contact us now on mobile 0402 731 563 to confirm places are still available.

A 100% Money Back Guarantee

You get maximum protection in our seminars, courses and workshops with a 100% Money Back Guarantee. If, for whatever reason, you believe that your expectations have not been met, our fees will be totally refunded. As further compensation you keep all materials handed out during the presentation. (Guarantee is subject to the booking fee being received by the due date.)

More Course Information and On-Site Training Details

Course registration is from 8am on the first day with the course starting at 8.30am and finishing at 4.30pm each day. Please contact us by email at info@lifetime-reliability.com or by telephone on +61 8 9457 6297, or cell/mobile +61 8 (0) 402 731 563 to get more information and answer any questions that you have. We can also run our training course on-site in your operation. Contact us to get a free quotation and practical advice.

Our best regards,

Mike Sondalini
www.lifetime-reliability.com

Lifetime **R**eliability **S**olutions
...your edge in RELIABILITY

Your Course Registration Form and Payment Details

1 - Select Your Course: Maintenance Planning and Scheduling for High Reliability and Maintenance Performance 3-day Training Course

- Sydney, New South Wales – 30, 31 Jan and 1 Feb, 2012, Saxtons, 10 Barrack Street
- Brisbane, Queensland – 23, 24, 25 May, 2012, Regatta Hotel, Toowong
- Perth, Western Australia – May 30, 31 and June 1, 2012, Technology Park, Bentley

2 - Registration Fee: AUD\$2,700 plus GST \$270
Total payment is \$2,970

Payment is required prior the course start date. Attendees get a full set of course notes and workbook, a softcopy of the PowerPoint course and workbook with unrestricted usage rights within their company, along with morning tea, lunch, afternoon tea provided each day.

3 - Register:

By Phone: (+61) 0402 731 563
By Email: info@lifetime-reliability.com
By Fax: (+61 8) 9457 8642
By Post: General Training Pty Ltd,
 PO Box 2091,
 Rossmoyne, Western Australia, 6148

4 – Your Payment Options to Make Payment:

A. Electronic Fund Transfer to:

Bank: National Australia Bank
 Branch: Bull Creek Branch Office
 Shop 33 Stockland Bull Creek
 Cnr South Street and Benningfield Road
 Bull Creek, WA 6149

Account: General Training Pty Ltd
 BSB No: 086-138
 Account No: 580663221
 Swift Code: NATAAU3306P

B. Cheque in favour of ‘General Training Pty Ltd’ sent to postal address

C. Credit Card secure online at www.paypal.com.au with Visa or MasterCard (*fee applies*)

PayPal On-line Payment email address: info@lifetime-reliability.com for Order/Item # - **Planning & Scheduling**

D. Purchase Order:
 (*Only in Australia*)

Cancellation Policy: Substitute delegate welcome. To cover administration costs, printing costs and training venue penalties there is 80% refund with prior 30 days notice of cancellation, 70% refund between 30-15 days, 50% refund after 15 days. 25% refund for non-attendance.

5 - Delegate Details (One form per person attending):

Name:

Job Title:

Company:

Street/Box:

Suburb:

Zip/Post Code: State/Country:

Email:

Phone No:

6 - How did you find out about the course?



Detailed Content of Maintenance Planning and Scheduling Course

Day 1

Maintenance Strategy and Reliability: The Foundations of Maintenance Planning

The Purpose of Maintenance

- Sustaining Production
- Equipment Reliability
- Failure Avoidance
- Defect Elimination

Defect and Failure True Cost

The Purpose and Role of Maintenance Planning and of Scheduling

How Maintenance Planning and Scheduling Reduce Costs

- The Strategic Business Importance of Planning Maintenance

Plant and Equipment Life Cycle

- Life Cycle Costs / Life Cycle Profits
- Equipment Condition Monitoring

Risk Management Fundamentals for Maintenance

Equipment Criticality Analysis – identify plant and equipment at risk

Activity – Do a simple Equipment Criticality example

Failure Mode and Effects Analysis (FMEA) - identify parts at risk and necessary maintenance.

Activity – Do a simple FMEA example

High Equipment Reliability Fundamentals

- Maximum Allowable Downtime
- Calculate True Downtime Cost per Hour
- Increasing Equipment Reliability
- Increasing System Reliability

International Engineering and Equipment Care Standards

- Alignment and Distortion
- Lubrication
- Balance and Vibration
- Bearing/Shaft Clearances
- Looseness
- Contamination and Cleanliness

Activity – Identifying Applicable Engineering and Maintenance Standards for the Site

Maintenance Types

- Preventive, Predictive/Condition Monitoring, Breakdown, Corrective, Block (Shutdown), Opportunity
- Proactive Inspection and Detection Rounds/Watch-keeping

Precision Maintenance for Maximum Failure-Free Life

- Creative Disassembly
- Precision Assembly
- Precision Installation
- Using Condition Monitoring to Test Work Quality
- Measure Machine Baseline Condition



Day 2

Planning Maintenance Work

Activity – *Planning Activity* and Review and Discussion of Activity

Necessary Planning Office Systems and Methods

- Work Order Costing
- Plant and Equipment Information
- Planning Documents and their Control
- Equipment Records and their Control
- Job Procedures
- Job Records and their Control
- Equipment Performance Trending
- Job Performance Trending
- Track Planning Performance & Benefits
- Job, Work and Personnel Safety

Specifying Workmanship Standards

- Standardized Work
- Setting the Standards for a Job
- Identifying Necessary Skills for a Job
- Failure Preventing Job Procedures

Data Capture for Maintenance

Inventory Purchasing and Management

- Refurbishment Decisions and Costs
- Important Purchasing Information
- Useful Store Control Practices
- Good Storage Practices
- Working with and Developing Suppliers

Project Management Principles and Practices

- Identify Work Priorities
- Set Project Goals and Objectives
- Specifications and Contracts
- Bar (Gantt) Charts
- PERT Charts (Critical Path)
- Checkpoints and Checklists
- Preparing for All Eventualities

The Work Planning Process

- Site Investigation
- Root Cause Analysis
- Failure History
- The Required Documentation
- Specifying Important Information to Capture During the Job
- Developing Job Procedure with Required Outcomes and Measures
- Specifying Materials
- Specifying Subcontract Resources
- Specifying Tools and Ancillary Equipment
- Specifying Human Resources
- Build-in Time for Quality Work
- Developing the Job Plan and Times
- Setting Job Performance Requirements
- Specifying Job Quality Standards
- Safety Considerations
- Calculate Maintenance Cost vs Budget
- Compiling the Job Pack
- Job Task Planning
- Scheduling the Job Plan
- Job Planning and Review Meetings
- Preparations Before the Job Starts
- Complete the Checklists
- Job and Workmanship Feedback
- Post-Job Review
- ‘Lessons Learnt’ Meeting
- Continuously Improving the Planning

Shutdown and Outages Planning

- Using Project Management Methodology
- Successful Shutdown Management Strategies

Activity – *Planning Activity* and Review and Discussion of Activity





Day 3

Failure Prevention and Defect Elimination Maintenance Procedures

Controlling Work Process Variation with 3T Work Quality Standards

Activity – Develop Accuracy Controlled Maintenance Procedure

Standardizing Planning Procedures and Scheduling Procedures

Activity – Develop Standardized Planning Procedure

Activity – Planning Activity and Review and Discussion of Activity

Planning and Maintenance Key Performance Indicators

- Maintenance Effectiveness Indicators
- Equipment Performance Indicators
- Production Indicators
- Planning Indicators
- Job Quality Indicators
- Supplier Performance
- Inventory/Store Management
- Safety
- Top-performance Industry Benchmarks

Activity – Setting, Measuring and Trending the Types of Performance Indicators

Scheduling Maintenance Work

Visual Management in All Occasions

Relationship Building

- Identify planning/scheduling value add
- Bring groups together to cooperate
- Request others' improvement ideas

Production Requirements and Limits

The Production Plan

- Liaison with Production
- Scheduling into the Production Plan

Important Time Management and Scheduling Concepts

Clear Job and Work Order Scheduling

Prioritise Work Orders based on Operational Risk

Manpower Scheduling and Resources Scheduling

Activity – Design standardized Scheduling Process

Preparations before the Job Starts

Addressing On-site Issues and Changes in the Plan with Team-based Risk Analysis

Monitoring Job Performance and Schedule

Backlog Management

Activity – Scheduling to Get the Job Done Right First Time

Review of Course and Key Issues

Feedback Questionnaire

End of Course