

Best powerful maintenance strategies, methods and practices that create productive, problem-free operations and highly reliable production assets

Industrial Maintenance Management Mastery for High Reliability the Plant Wellness Way

Email us to register for the next course in your city

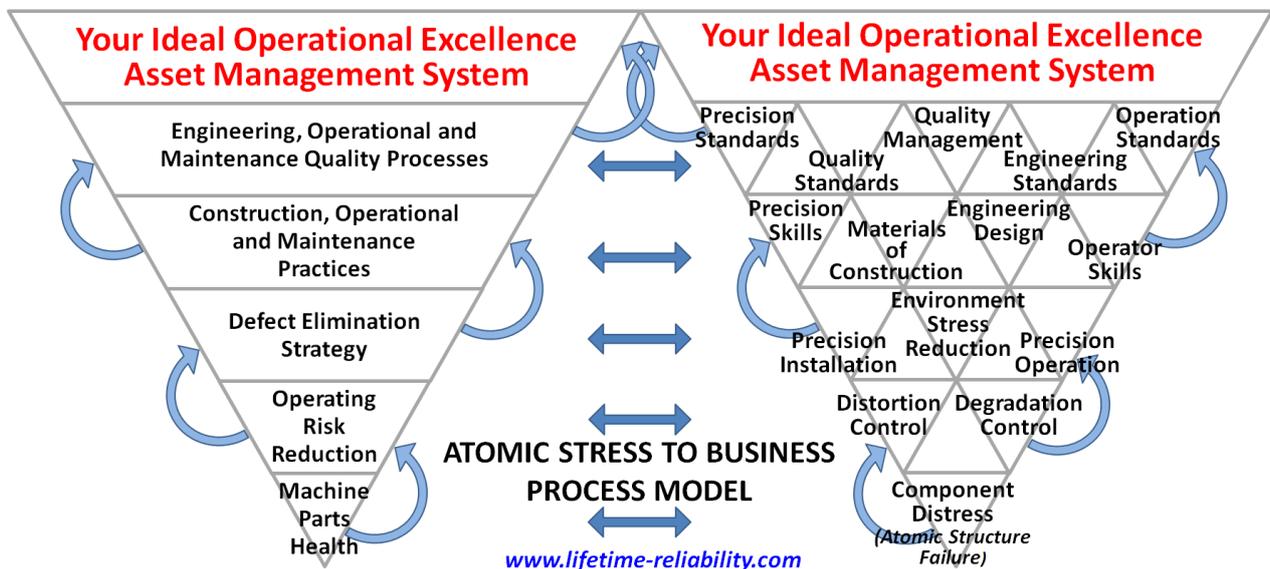
(Save money by running the course in-house if you have 4 or more people.)

Join the maintenance mastery course that teaches how to make your equipment outstandingly reliable and create maintenance excellence that saves you \$100,000's in maintenance costs and downtime losses

This maintenance management course is crammed with reliability and maintenance insights, knowledge and skills that you need to get operational excellence and world-class maintenance results. This is maintenance training where you learn to master maintenance and use your maintenance systems and work processes to create world class equipment reliability.

Maintenance that does not make you the most operating profit possible is a poor sort of maintenance. In LRS maintenance management courses you learn the Plant Wellness Way to maintenance mastery. This maintenance training course explains the six-step methodology that takes you from atomic stress to the business processes used for operational excellence and certain world-class maintenance performance.

The Plant and Equipment Wellness Way



Over the three days of the maintenance management course you are taught how to use the Plant Wellness Way to build ideal asset maintenance processes for your operation from the ground up. Your mastering maintenance training covers how to find the least cost, right maintenance and operating strategies that make your equipment run breakdown-free, produce at maximum sustainable capacity with first-pass quality throughput, and make nonstop high operational profits.

When done well your maintenance management strategies deliver the six purposes of maintenance – equipment reliability, failure avoidance, defect elimination, least operating costs, risk reduction and maximum production. Fail to achieve one of them and your maintenance efforts will



not get the big pay-offs that they should. Maintenance Management Mastery for high performance the Plant Wellness Way focuses your maintenance on maximising operating profit by driving reliability growth at every stage of the business life-cycle. This maintenance training course shows and explains how to select and use only the maintenance strategy and methods that means your operation has:

- zero breakdowns,
- steady production at maximum capacity,
- equipment that makes first-pass quality product,
- sustained, high plant availability,
- soaring equipment reliability,
- high energy efficiency from equipment,
- ever falling maintenance costs,
- a continual improvement culture.

Know the maintenance strategies, methods & practices that lift your operation to new heights of performance

You learn how to focus your maintenance methods and practices on defect removal and failure prevention in every phase of the life-cycle. You learn critically important requirements for maintenance success and exactly what to do to drive your equipment reliability higher. Understanding how to intentionally make your business processes and production equipment more and more reliable turns average operations into world-class operations. This maintenance course is packed with insights and powerful techniques that you can use every day in your operation to make it less costly, faster, leaner, safer, waste-free and have zero breakdowns.

Push your boundaries to World Class Maintenance

Becoming a world-class operation at industrial plant and equipment maintenance will take a short time for you. This maintenance course challenges existing mindsets, questions common paradigms and introduces the key improvements that turn operations around fast. If you think it takes years to have outstanding maintenance success you will be happily surprised at how simple and quick it is with the Plant Wellness Way to maintenance management mastery. Low maintenance costs, high equipment reliability, high plant availability and sustainable production rates can be yours much faster than ever because you build only the smallest system you need for world class maintenance performance.

Use this maintenance training course to get higher returns-on-investment from your operating plant

Achieving the least unit cost of production is a strategic business imperative and a project investment necessity. Your maintenance management should be focused on delivering maximum returns to the business in ways that secures its future success while ensuring current operating profitability. Plant Wellness driven maintenance is used to maximise the return on investment from your plant and equipment by improving the productivity of your operation through reducing the cost of maintenance, boosting output and lifting plant uptime. Because reliability is central to maintenance success the course makes sure you understand the key reliability principles. The information and techniques you learn at this maintenance course are at the forefront of modern maintenance and reliability practices. In future you will do maintenance differently to what you do now because you will know better, simple, yet powerful techniques from your maintenance training gained at this seminar. You'll learn the best methods to rapidly focus your maintenance efforts for highest productivity and profits.

Details on Your Maintenance Course Presenter



Mike Sondalini B Eng (Hons), MBA, CP Eng.: The seminar presenter, Mike Sondalini, uses his extensive practical industrial equipment expertise and business experience to take attendees through a carefully structured coverage during which they learn the key knowledge, understandings and skills that deliver practical and valuable contributions to improve asset productivity, reduce maintenance costs and maximise production performance and quality. In engineering and maintenance since 1974, Mike's career extends across original equipment manufacturing, beverage production, steel fabrication, industrial chemical manufacturing, quality management, project management, industrial asset management and industrial training. He uses his years of experience as a maintenance manager in business to focus on the critical success factors of what to do, and how to do it quickly and well. He shows you how you and your

MORE TRAINING

Operational Excellence the Plant Wellness Way

Maintenance Planning and Scheduling for Reliability

Lifecycle Asset Management Excellence the Plant Wellness Way

Applied Reliability Engineering for Operating Plant Improvement

World Class Machinery and Rotating Equipment Reliability

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www.lifetime-reliability.com





people can make wise asset management decisions, effectively use your resources, work expertly in the least time necessary, and continually improve your operation's productivity, efficiency and effectiveness. His book 'Plant and Equipment Wellness' is published by Engineers Media, a subsidiary of Engineers Australia.

World class Maintenance Course teaches You Industrial Maintenance Management Mastery using new Plant Wellness Way SOLUTIONS

Learn and understand how the best maintenance processes prevent failure by using systematic inspection, detection, and correction of embryonic failures before they develop into problems. You will discover and use the right principles and the best maintenance and operating practices for successful maintenance management systems. By attending the Plant Wellness Way maintenance course you get industrial plant maintenance training content that puts you in total control of your maintenance results. You know and understand how to create and manage world class maintenance performance.

Day 1 – Key Risk and Reliability Concepts for Plant and Equipment Wellness Success

Operating Risk Identification

The Creation of Reliability

- The vital few reliability concepts
- Improving equipment reliability

Two Reliability Engineering Insights

- Series systems
- Parallel systems
- Reliability Properties 1, 2, 3

Process Mapping for Reliability

- Equipment
- Work activities

Physics of Failure (PoF)

- Materials atomic limitations
- Design materials selection

Degradation Curve Causes

- Rate of equipment failure
- Sensible condition monitoring

Variability and Defect Creation

- Defect generation model
- Defect elimination strategy

Instantaneous Cost of Failure

- Breakdowns go business-wide
- Cost surge from failure

- Calculating DAFT Costs

Life-Cycle Costs and Profits

- Design = operating costs
- Maintenance ≠ reliability

Operating Risk Rating

Atomic Stress to Business Process

- One universal model
- Design fewer, smaller processes

The True Causes of Failure

- What Deming saw
- People = half the problem
- Business process = the other half

Business Tendency to Fail

- Measure your business SD
- Measure your process SD

Risk and Probability of Failure

- Frequency reduction strategies
- Consequence reduction strategies

Calibrating your Business Risk Matrix

- Make your business risks visible
- Understand your choices

Operating Risk Assessment

- Setting your risk boundary

- Doing a PEW Criticality Rating

Building Your Business Tool Kit

- What quality really is
- Business risk reduction first

Operating Risk Controls

Process Map to See the Truth

- Use Series Reliability Property 1
- Use Series Reliability Property 2

PoF Analysis finds what FMEA Can't

- PoF Analysis Methods explained
- Requirements for powerful PoFA

Power Law Implications of Risk

- Interactions within a system
- Havoc from free-agents

Risk Reduction Strategy Choices

- Consequence management
- Chance management

Selecting Risk Management Strategies

- 8 questions to answer
- 9 steps to great strategy

Q&A Forum with Attendees

Day 2 – Introducing a Powerful Plant Wellness Operating and Maintenance Strategy

Introducing Risk Controls

Organisational Structure Problems

- A work process is a series design
- Designs that support your people
- How teams create reliability

Reliability Principles in Team Creation

- Use parallel teamwork
- Why autonomous teams are best

Accuracy Controlled Enterprise (ACE)

- Design SPC into work processes
- Standardise on the best way to work

Accuracy Controlled Procedures

- Writing standards into procedures
- The 3Ts of precision workmanship
- Adding 3Ts into procedures

Useful Key Performance Indicators

- Measure what matters at all levels

- Turning data into information

- Present information visually

Mining Maintenance History

- Use the information you have
- A timeline is most useful
- View failure modes' distribution

Reliability Growth

Reducing Equipment Parts Failure

- Weibull Analysis ≠ Reliability
- Limitations of Series Reliability Property 2

Reliability Growth Cause Analysis

- Minimise stress in parts
- Precision reduces stress

Crow-AMSAA Growth Plots

- Collecting suitable data
- Log-Log plots in Excel

CM and Predictive Maintenance

- CM ≠ less maintenance
- Choosing easy CM technologies
- Selecting parts replacement

Preventive Maintenance Strategy

- PM activities ≠ Reliability
- Selecting PM frequency

Risk Continual Improvement

Failure Root Cause Analysis

- Latency root causes explained
- Series Reliability Property 3
- Only 5-Why when there is evidence

Degradation Management

- Condition monitoring of degradation
- Standardised operation = Reliability

Deformation Management

- Set high reliability standards



- Common errors causing equipment deformation
 - Learn by Creative Disassembly
- Precision Maintenance
- 13 precision maintenance must-dos
 - Introducing precision maintenance to the workforce
- Lubrication Standard
- Lubrication cleanliness

- Lubrication management
- Balancing Standard
- Balance limits
 - Common errors causing out-of-balance
- Alignment Standard
- Shaft alignment limits
 - Common errors causing misalignment

- Bearing Vibration Standard
- Common errors causing bearing vibration
 - Control of bearing vibration
- Maintenance Work Quality Assurance
- Setting accuracy control standards
 - Writing ACE 3T procedures
- Q&A Forum with Attendees

Day 3 – Practice and Application Day: Bring it together Under the Plant Wellness Umbrella

Examples and/or practical use of the following techniques and methods will be case studied or performed by Attendees:

- Selecting 'Just-Right' Maintenance Strategy
- Business Process Mapping
- Reliability Calculations
- Risk Reduction Effectiveness Rating
- PEW Equipment Criticality
- Simple Ways of Failure History Analysis

- PoF / FMEA – Parts Hardware Level Analysis
- Maintenance Strategy Selection
- Reliability Growth Cause Analysis
- Failure Distributions and Weibull Charts
- Crow-AMSAA System Reliability Plots
- Writing Accuracy Controlled Procedures
- 5-Why Root Cause Analysis with Latency

Open Discussion Forum with Attendees

Those EARLY BIRDS who register secure their seats and save 20%

For EARLY BIRDS who book and pay a month in advance, the 3-day maintenance management mastery the Plant Wellness Way course costs \$2,400 plus GST. The standard price is \$3,000 plus GST and payment must be received before the course start date. Included in the price are softcopy of the presentation slides and course notes, arrival tea/coffee, morning and afternoon tea/coffee with finger food and a light lunch. **YOU MUST BRING YOUR OWN LAPTOP OR PAD** to view the slides, as there is no printed course book handed out during the training.

Call now to get a place and then make your payment in time to get a seat. It is best to register immediately for the course if you want to be sure of a seat. Seating is limited and is allocated on a first-come-first-served basis. Complete your registration form then choose your payment option and scan the registration form into an email to info@lifetime-reliability.com. Book yourself and your key people into the course now. You can contact us on mobile 0402 731 563 to confirm places are still available.

You get Full Protection of a 100% Money Back Guarantee

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

More Course Information Details You Need to Know

Confirmation of your registration goes by email to the address on the registration form and includes all venue details. On the first-day venue doors open from 8.00am with the course starting at 8.30am and finishing at 4.30pm each day. Included in the price are soft copy of course notes, arrival tea/coffee, morning and afternoon tea/coffee with finger food and a light lunch. Morning and afternoon teas are 15 minutes and lunch is 30 minutes duration. Please check local road maps, or the venue website, to find nearby parking.

A softcopy of the full PowerPoint presentations and course book are given to every attendee for future reference and unlimited use within their company. **YOU MUST BRING A LAPTOP OR ELECTRONIC PAD TO THE COURSE.**

A certificate of training is provided at the end of the course.

We can also run our training course on-site in your operation. Ask us for a free quotation and practical advice.

Contact us by email at info@lifetime-reliability.com.au 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.



Your Course Registration Form and Payment Details

1 – Select Your Course: Maintenance Management Mastery for High Reliability using the Plant Wellness Way

City: _____ **Dates:** _____

2 – Registration Fee:

EARLY BIRD: AUD\$2,400, GST \$240 **Total** \$2,640

STANDARD: AUD\$3,000, GST \$300 **Total** \$3,300

Early Bird payment is required in full a month before the course start date.

Standard Payment is required in full prior the course start date. Attendees **MUST BRING A LAPTOP** to get a softcopy of the PowerPoint slides and course book, 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.au

By Fax: (+61 8) 9457 8642

By Post: General Training Pty Ltd,
 PO Box 2091,
 Rossmoyne, 6148, WA
 Australia

4 – Pick Payment Option and Make Payment:

A. Electronic Fund Transfer to:

Bank: National Australia Bank
 Branch: Riverton Branch Office,
 Cnr High Road and Willeri Drive,
 Riverton, WA 6148
 Account: General Training Pty Ltd
 BSB No: 086-138
 Account No: 580663221
 Swift Code: NATAAU3306P

B. Cheque in favour of ‘General Training Pty Ltd’

C. Credit Card secure online at www.paypal.com.au with Visa, Am-Ex or MasterCard (fees apply)

PayPal On-line Payment:
 email address: info@lifetime-reliability.com for
 Order/Item # - **Maintenance Mastery PWW**

D. Purchase Order:
 (Only in Australia)

Cancellation Policy: Substitute delegate welcome. To cover administration costs, management 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?

7 - If via the Internet, which website address?