



Maintenance – Roadmap to Reliability

October 28 to 30, 2020 @ El Cielito Hotel, Sta. Rosa, Laguna



Phase 1: Restoration and Addressing the Basics



Phase 2: Addressing Design Weaknesses



Phase 3: Improving the Way we do Maintain Equipment



Phase 4: Predict Equipment Lifetime

Reasons why you need to attend this training

LEARN how to start-up and organize the Maintenance pillar and understand the most important preparations needed to improve the reliability of industry's assets and equipment.

PROVIDE a crystal clear direction and roadmap for maintenance on how the highest reliability of your equipment and assets in your industry

LEARN what support operators needs from Maintenance.

LEARN the details on how to integrate RCM (Reliability-Centered Maintenance) into the higher Phases/Steps of Planned Maintenance. Find out if TPM and RCM is contradict or complement to each other.

DISCOVER how to reduce unplanned breakdowns in your equipment and assets.

LEARN how to implement Planned Maintenance right the first time and avoid costly mistakes and seeing what works and not.

LEARN how to prepare and develop the Maintenance "MASTER PLAN".

LEARN what it takes to implement Planned Maintenance right the first time.

LEARN how your industry can save on cost on doing Maintenance.

DISCOVER what the effects will be if this will be implemented correctly in your industry.

FINALLY ask yourself, is my plant ready for the Planned Maintenance experience?



0919-451-1708
0920-482-8225



rollyangeles@rsreliability.com
marievic_angeles@rsreliability.com



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Package Includes

- Morning / Afternoon meals and Lunch
- Hard Copy of MRR Training Materials
- Maintenance – Roadmap to Reliability Book in pdf
- Exercises on MRR
- Case Study on Planned Maintenance
- USB soft copy of MRR Trainings
- Certificate of completion
- MRR book (372 pages)

Who Should Attend

- Maintenance and Reliability Managers
- TPM Office, Facilitators and Coordinators
- Facilities/Utilities Managers
- Preventive/Predictive Maintenance Group
- Reliability Engineers and Managers
- Operations and Production Managers
- Top Management and Decision Makers
- Continuous Improvement Groups
- Plant and Facility Engineering Staff
- Rotating Equipment Engineers
- Electrical and Mechanical Personnel
- CBM and PdM Personnel
- Maintenance and Reliability Managers
- Maintenance and Technical Support Group
- Plant Asset Managers
- People in Charge of Planning and Scheduling
- People Involved in Repairs and Troubleshooting
- Head of Maintenance Organization
- People in Charge of Safety and Environment
- People Involved in Reliability and Maintenance
- Reliability Engineers
- Maintenance Supervisors

About the Resource Speaker

Rolly, is a seasoned international reliability and maintenance consultant with 30 years of experience in the field. He had been invited in different countries and have conducted reliability and maintenance trainings in UAE, China, Thailand, Brunei, India, Malaysia, Indonesia, Nigeria, Botswana, Bangladesh and South Africa. His portfolio of maintenance trainings include Maintenance Management courses such as Total Productive Maintenance, Lubrication and Tribology, Condition-Based Maintenance, Reliability-Centered Maintenance (RCM), Root Cause Failure Analysis, Planned Maintenance, World Class Maintenance Management, The Twelve Disciplines, Oil Contamination Control, Maintenance Indices and KPI's, Maintenance Management System and much more. Rolly previously worked with Amkor Technology Philippines as a TPM Senior Engineer, an industry engaged in the manufacture of Integrated Circuit products and spear-headed their Planned Maintenance organization compose of maintenance managers and engineers. He was responsible for the dramatic reduction of unplanned breakdowns in their TPM Journey as well as RCM implementation on their Facilities Air Handling Units and as well as their sub-station equipment. Rolly is currently working as an independent reliability and maintenance consultant. Rolly had released three books on maintenance first which is World Class Maintenance Management – The 12 Disciplines, second Maintenance – Roadmap to Reliability and recently his 3rd book which is Reliability – A Shared Responsibility for Operators and Maintenance which are real life base struggles of maintenance in industries.



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Brief Overview About MRR

This course covers a strategy for maintenance people to achieve a high reliability of their equipment and assets through the principles of Planned Maintenance Four Phases to Zero unplanned breakdown strategy. Phase 1 deals with Stabilizing MTBF, main activity involved here is restoration by establishing Equipment Basic Equipment Condition. Phase 2 deals with Addressing Equipment Weak nesses in Design and addressing them to prolong the lifespan of parts. Phase 3 and 4 of Planned Maintenance deals with developing a Maintenance Tasks Selection Diagram in order to classify which parts will fall on the different maintenance tasks available. This is where Reliability-Centered Maintenance can be used. Phase 4 if Planned Maintenance is about Predicting Failures through a system known as Condition-Based Maintenance and the use of Diagnostic tools to monitor condition of parts.

MRR Objective

Provide a detailed and structured approach through the application of TPM’s Planned Maintenance

Realize the importance of establishing basic equipment condition in our equipment

Provide an understanding on what Planned Maintenance is and what it wants to achieve

Learn how to implement the four phases of Planned Maintenance as well as understand the six failure patterns and how it affects us in our day to day maintenance activities



Maintenance – Roadmap to Reliability Master Class Meralco Power Academy, September 13 to 15, 2017



Maintenance – Roadmap to Reliability Master Class ONGC, Derhadun, India, January 29 to 31, 2018

Very alive, energetic and informative. Lots of resources like the Rolling Stones, powerpoint. Facilitator is an expert. Application of layman’s term for non technician people. There are recognition (giving chocolates) and comparison on pre and posts exams. From Maureen Tating, Human Resources, Technical Documentation Specialists, Transition Optical



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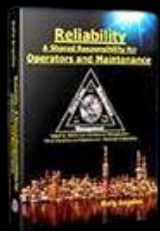
Maintenance – Roadmap to Reliability Day 1

- 8:00 – 8:30 - Coffee and Registration
- 8:30 – 9:00 - Welcome and Introduction of resource speaker
- Take MRR Pre-post IQ Quiz
- 9:00 - 10:00 - Introduction : Changing The Maintenance Culture
- Domino Effect of Being Reactive
- Can Maintenance Really Eliminate Equipment Breakdowns
- 1000 - 1015 - Morning Break / Meals
- 1015 - 1200 - **Module 1 : Maintenance – Roadmap to Reliability Overview**
- Planned Maintenance Defined
- 4 Phases of Planned Maintenance
- The 2 sides of Failure
- The Concept of Planned Maintenance Activities
- MRR Preparatory Stage
- How Maintenance is Being Approached By Industries
- What Constitute a Breakdown and Not
- Knowing MTBF, MTTF and MTTR
- Understanding what MRR wants to achieve
- 1200 - 1300 - Lunch
- 1300 - 1500 - **Module 2 : Phase 0 – MRR Preparatory Stage**
- Understanding The Need for An Effective Maintenance Structure
- Establishing the Maintenance Vision and Mission
- Importance of Conducting Machine Ranking
- Developing a Master Plan for Maintenance
- MRR Phase 0 Details Step by Step Roadmap of Activities
- 1500 - 1515 - Afternoon Break / Meal
- 1500 - 1700 - **Module 3 : Phase 1 - Stabilize MTBF**
- The Need To Restore and Address the Basics on Our Equipment
- 3 Basic Activities on Planned Maintenance Phase 1
- Maintenance Guidance and Support for Operators
- Function Loss and Function Reduction Breakdown
- What Phase 1 will Achieve (60 to 80% Reduction in Unplanned Breakdown)
- Horizontal Replication of Phase 1 Activities
- Detailed Step by Step Roadmap of Activities for Phase 1
- 1700 - End of Day 1

Registration Start : 8:15 to 8:30 am
 Start of Training : 8:30 am
 Morning Break : 10:15 to 10:30 am
 Lunch Break : 12:00 to 1:00 pm
 Afternoon Break : 3:15 to 3:30 pm
 End of Day 3 : 5:00 pm

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Included in the package
 In pdf file (372 pages)



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Maintenance – Roadmap to Reliability Day 2

- 08:00 – 08:30 - Coffee and Recap of Day 1
- 0830 - 1000 - **Module 4 : MRR Phase 2 Addressing Design Weakness**
 - Concept of Phase 2 – Every Equipment Has Its Weaknesses In Design
 - How to Addressing Equipment Design Weaknesses
 - Analytical and Problem Solving Techniques for Maintenance
 - Investigating Equipment Failures Through RCFAs
 - Step by Step Detailed Roadmap of Activities for Phase 2
- 1000 - 1015 - Morning Break / Meals
- 1015 - 1200 - Understanding Different Types of Wear
 - Perform Exercise on Wear Abrasive, Adhesive, Erosive, Fatigue and Corrosive Wear
 - Understand How To Control These Types of Wear
 - Take Quiz on Different Types of Wear
 - Case Study on Phase 2
- 1200 - 1300 - Lunch
- 1300 - 1500 - **Module 5 : MRR Phase 3 Periodically Restore Deterioration**
 - Common Belief on Maintenance – Does All Parts Wear Out
 - Understanding Infant, Random and Age Related Failures
 - Understanding Reliability-Centered Maintenance
 - Preparing the RCM Information Worksheet
 - Deriving functions, functional failures, failure modes and effects
 - Completing the first part of the RCM Process
- 1500 - 1515 - Afternoon Break / Meal
- 1515 - 1700 - Hidden and Evident Failures
 - Understanding the Consequences of Failure Environmental, Safety, Operational and Non-Operational Consequences
 - Failure Consequences Exercise
- 1700 - End of Day 2

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 Lunch Break : 12:00 to 1:00 pm
 Afternoon Break : 3:15 to 3:30 pm
 End of Day 3 : 5:00 pm

A very course aimed at providing the necessary skills in developing and maintain a World Class Maintenance strategy. This could be the only solution for organization in very competitive market with a high maintenance costs life. *From Botswana Ash. From Thabane Malasa. Divisional Engineer*

Review of basic concept to successful maintenance. Sharing of facilitators personal experience setting up the program and final results achieved after many years of implementation. Emphasis placed on ownership of maintenance activities by engineering and maintenance and operations. View that the two are partners as opposed to customers service provider relationship. *From Godfrey Nilala, Superintendent Wellfield, Botswana Ash*



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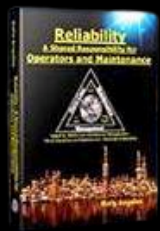
Maintenance – Roadmap to Reliability Day 3

- 0800 - 1000
 - Recap of Day 2
 - Understanding the Different Maintenance Tasks
 - Preventive Maintenance
 - Survey on Top Ten Problems on Preventive Maintenance
 - **Module 6 : PM Phase 4 Predict Equipment Lifetime**
 - Understanding the Concept of Predictive Maintenance
 - P-F Curve Explained
 - Integrating RCM into the TPM Planned Maintenance Structure
 - Understanding the Different Maintenance Tasks Available
 - Understanding the Maintenance Algorithm or Decision Diagram
 - Deriving the Maintenance Tasks for Equipment
 - Completing the final part of the RCM process
 - Phase 3 and 4 Roadmap of Activities
- 1000 - 1015
 - Morning Break / Meals
- 1015 - 1200
 - Understanding Reactive, Preventive, Predictive and Proactive Maintenance
 - **MRR WORKSHOP 1 Workshop on Maintenance Tasks**
- 1200 - 1300
 - Lunch
- 1300 - 1400
 - **MRR WORKSHOP 2 : Planned Maintenance Board Game**
- 1500 - 1515
 - Afternoon Break / Meal
- 1515 - 1600
 - Actual Case Study: JIPM Planned Maintenance Success Story
- 1600 - 1630
 - Take Post Quiz on MRR
 - Check Pre-Post Quiz on MRR
- 1630 - 1700
 - Starting an Improvement Reliability
 - Awarding of Certificates
 - Summary and Closing
- 1700
 - End of Seminar

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MRR Testimonies and Feedback:

Highly related and useful to improve our maintenance performance. This has given me a clear knowledge of reliability maintenance. Gives us a clear view of our goals in maintenance with a corresponding roadmap and support. This training aims to equip us with the knowledge and skills on how to achieve a World Class Maintenance. I am very certain that this training will have a positive impact on our organization on achieving a reliable, efficient, cost effective, safe and environmental sound operation. From Jose Bernabe Sison, Maintenance Superintendent, DMCI Palawan

Understanding on Planned Maintenance, set-up and scheduling to reduce breakdowns by having high availability and to reuse Preventive Maintenance scheduled checklists through the introduction and implementation of RCM , maintenance KPI's and indices. From Clifford Pampo, Maintenance Planner, DMCI Palawan

Very interesting and useful for our daily basic work. It can lessen the breakdown and downtime on our equipment and machines because of this training. From Ernesto Catbagan, Plant Electrician, DMCI Palawan

We were able to know more how well should we be planning in order to come up with better and effective activities. We are now farther than what we were before. The way we think on the problems, on what best approach we could provide. We now have our standards on creating a better planning. From Ellazar Salazar, Junior Engineer, DMCI Palawan

I think the good points of this training is to improve the plant maintenance knowledge at the engine. Any trainee can feel free to raise questions and provide feedback and share. From Froilan Esmenda, Maintenance, DMCI Palawan

We learned a lot on proper and most accurate way on maintenance planning and to distribute tasks on our maintenance technicians. From Lawrence Ted Bundac, Plant Electrician, DMCI Palawan

Introduction of a new system for the maintenance that can help to achieve our goals for the company and also give us good advise on how to solve analytical problems that may encounter in our current maintenance system. From Cyril Belmonte, Electrical Maintenance Supervisor, DMCI Palawan

Enhance the knowledge of maintenance of equipment devices. Learning new ideas on CM, PM and all types of maintenance. The trainer have a wide ideas on topics. From Alvin Pacomios, Operation Superintendent, DMCI Palawan

Understand the step by step activities to perform the improvement in conducting maintenance. Class activity for more understanding on the theory. Understand difference between MTBF and MTTF. Understand how to reduce unplanned breakdown. Understand that maintenance team alone is unable to perform the change to achieve the reliability in maintenance without operators. From Wan Munaifah Wan Hussein, Manager

Simple, lots of knowledge have been transferred. Activities and stories were the best part. Had improved in mind setting on maintenance. From Muhamad Sharwan, Technical Executive

Interesting fact and data, easy to understand and lots of ideas that can be used in the field. From Modh Asrul Mod Nasri

Very interesting subject. A must in our field of maintenance. From Leo Estremera, PM Technician Onsemi

Very detail, very informative, really opened up ideas on how to improve in our work. From Kamal Anas, Support and



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Reliability and Maintenance Consultancy Firm Presents

Maintenance – Roadmap to Reliability

November 20 to 22, 2019 @ El Cielito Hotel, Sta. Rosa, Laguna



Phase 1: Restoration and Addressing the Basics



Phase 2: Addressing Design Weaknesses



Phase 3: Improving the Maintenance Task through RCM



Phase 4: Predict Equipment Lifetime

Training Investment Costs:

- 1 Delegate: Php 32,000.00 + 12% VAT
- 2 Delegates: Php 60,000.00 + 12% VAT
- 3 Delegates: Php 88,000.00 + 12% VAT
- 4 Delegates: Php 120,000.00 + 12% VAT
- 5 Delegates: Php 150,000.00 + 12% VAT

Kindly provide documents if your industry is NON-VAT

Payment Procedure and Policy:

- Payment can only be accepted through cash or check basis. For payments in check kindly pay to RSA Reliability and Maintenance Consultancy Firm. Kindly complete the name of the firm on the check.
- An Official Receipt will be provided after issuance of complete payment for this event.
- Payment should be done during registration, kindly advise the delegates to carry with them the payment for this training. To avoid future problems on our part. No payment, No entry policy would be enforced on this seminar workshop.
- 10% service tax will be deducted provided industry joining the event to provide BIR form 2307 together with the payment

How To Register for this Event:

- Step 1: Send us an email on the following:
- Full Name of Delegates: (FN, MI, LN)
 - Position or Designation / Department
 - Name of Industry
 - Type of Industry
 - How is payment to be made Cash or Check
 - Is your industry VAT or NON-VAT
- Step 2: Once we have confirmed the names of those you will send, we will provide a confirmation email.

Step 3: Strictly NO walk in in this class.

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Cancellation, Postponement Policy

- For delegates who will not complete the duration of the training seminar & workshop, RSA Reliability & Maintenance Consultancy Firm will offer no refunds regarding this matter, certificates of attendance will only be provided to those delegates that will complete the three day seminar and workshop.
- In the event that the seminar will be cancelled as a result of unforeseen events such as Acts of God or other uncontrolled reasons, RSA Reliability and Maintenance Consultancy Firm shall assume no liability whatsoever in the event this seminar and workshop be cancelled, postponed, move or rescheduled due to this fortuitous and unforeseen event.
- In case of a low turn out of delegates for this event, RSA Reliability and Maintenance Consultancy Firm reserves the right to move or cancel the event. An email will be sent to concerned parties regarding the cancellation or movement.
- In the event you would like to cancel your participation in this seminar, kindly send us an email one week before the event is due. If you have made an advance payment and your delegates did not attend and have not informed us one week before the event, you will be charged with the full amount of the training fee.

100% Money Back Guarantee



- If for any reasons you were not happy or satisfied with the outcome of the training. Our small firm offers you **Unconditional 100% Payment Back** and you keep the WCM Book and all the materials provided during the training provided payment had been received during the registration period.