

# World Class Maintenance Management – The 12 Disciplines

2022 UPGRADED VERSION

This Training will provide the delegates 129 assessments questionnaire to determine where your industry Ranks from worse to a level of World Class !!! which you can use to your advantage and determine which you need to improve.



- *Industries can declare that they are World Class in terms of Quality, Services, Safety, Building Infrastructure but achieving World Class in terms of Reliability and Maintenance is a different story. This training will tell you what it takes to achieve that level and what it takes to achieve it. . . . Rolly Angeles*

## We have upgraded this WCM training which we have included:

- ✓ MRO Spare Parts Algorithm or Decision Diagram on Whether to Stock or Not to Stock Parts.
- ✓ Clarity on What is Planned and Unplanned Downtime.
- ✓ When to Declare a Breakdown and Not.
- ✓ How to Select your Maintenance KPIs.
- ✓ Updated Survey on Top 10 Problems on PM.
- ✓ Updated Survey on Top 12 Problems on MRO Spare Parts.
- ✓ The main difference between conducting Root Cause Failure Analysis and Problem Solving Tools.
- ✓ Why our equipment is design to fail and what we can do about it.
- ✓ and more . . .

## WCM Course Overview:

- Being World Class means the ability to compete any where in the world. World Class Maintenance Management simply means the art and science of managing maintenance resources performed by best in class industries from around the world. But in most industries, the question is often raised, is it really possible to control maintenance or the pressure over maintenance is controlling us? This 2 days training and workshop will outline the 12 Disciplines in order to improve equipment reliability. These Discipline are categorized into three stages, the basics, Strategies and Advance Disciplines.

Learn what these disciplines are that most World Class Companies perform. All World Class Maintenance industries were not born World Class, they all started on being reactive themselves. Achieving World Class Maintenance needs much more than this, find out what World Class Maintenance is all about.

## WCM Course Objective:

- Understand the need for an effective and World Class Maintenance Management structure in our plant.
- Understand the importance of establishing the basics of maintenance before adopting any improvement Strategy.
- Understand when to effectively use each of the different maintenance strategies in order to fully improve the equipment reliability.
- Develop a Corporate Strategy for maintenance function.
- Provide a basic understanding on the 12 Disciplines of Maintenance Management and understand the real focus of a true and meaningful maintenance structure.
- Understand the real focus of a true and meaningful maintenance structure.
- Learn what it takes to achieve a World Class Maintenance stage in your industry.

## What They Say About WCM:

**No doubt, Mr. Rolly is an expert in maintenance field. I never came across such a beautiful learning ever.** Thanks to Mr. Rolly and my company BPCL. His thrust on lubrication, RCFA and RCM gave us another dimension to our thought process. From MP Agrawal DY Maintenance Manager, Bharat Petroleum, India.

**Presentation was very good. Knowledge and experience on the subject matter is excellent. Makes participants enjoyed the workshop.** Very useful at work place. The knowledge can be directly be used at our place of work. Pattern of course has been kept simple & understandable. Knowledge sharing is excellent. From Anant Kumar Gupta Senior Officer Maintenance / Electrical / Bhart Petroleum.

**The good point was that I came to know all about the recent development in the field of maintenance related equipment that will help me to know the consequences of failure of my equipment.** And also I came to know about the lubrication and its aspects and importance in the case of maintaining our equipment so lots of thanks to Mr. Rolly Angeles. From Pararnath M. Gosh Officer Mechanical Maintenance, Bharat Petroleum.

## What To Expect on this Training :

- **Understand** the importance of performing the basic disciplines before advancing on any continuous improvement efforts and maintenance strategies.
- **Learn** the diversity of failures and how it occurs and that not all parts will eventually wear out as most maintenance professionals assumed.
- **Discover** how World Class Maintenance people think and what are their priorities and know the most important lessons to be learned from each of these 12 Maintenance Disciplines.
- **Understand** the importance of Autonomous Maintenance and why these people are the most important in the overall maintenance strategy of any industries and learn why operators are our first line of defense on any equipment related failures and breakdowns.
- **Unfold** the secrets of lubrication and discover the ways and means to lengthen the life of your lubricant and parts.
- **Learn** why Preventive Maintenance cannot capture all equipment failures and what maintenance can do about this. And much, much more.
- **Understand** how to develop the correct maintenance tasks on any equipment through the concept of Reliability-Centered Maintenance.
- **Understand** the 12 disciplines and learn how to assess your industry on where you stand right now from the worst to the very World Class.
- **Learn** how to develop a maintenance strategy that will address the different patterns of failure.

**Module 1: Understanding Equipment Failures :**

The Challenges facing Modern Maintenance Manager and Leaders.  
 Is It Possible to Eliminate Equipment Failures?  
 What Maintenance is All About.  
 Maintenance is as Strong as its Weakest Link.  
 Common Belief by Industries on Maintenance.  
 The Patterns of Failure.  
 The Bigger Problem Industries Face Besides Failure.

**Module 2 : Understanding World Class Maintenance Management :**

Understanding World Class Maintenance Management.  
 12 Maintenance Management Discipline.

**Module 3: Discipline 1: Training and Education :**

Developing the Skills.  
 Training Needs Analysis.  
 Recommendations About this Discipline.

**Module 4: Discipline 2: Maintenance Indicators and KPIs :**

Leading and Lagging Indicators.  
 Why Maintenance Need at Least 5 KPIs.  
 How Do We Define Our Indicator.  
 Clarification Between Breakdown and Not a Breakdown.  
 MTBF, MTTF and Reliability.  
 How Do We Select Our Maintenance and KPIs.  
 Where Do We Focus our Efforts on These Indices.

**Module 5: Discipline 3: Autonomous Maintenance (Operators and Maintenance Partnership) :**

How the Feud Started Between Operations and Maintenance.  
 Why Autonomous Maintenance is Important in Maintenance.  
 The Secret to Autonomous Maintenance Success.  
 Visual Control for Operations.  
 Important Tips on Implementing Autonomous Maintenance.

**Module 6: Discipline 4: Basic Equipment Condition :**

Establishing the Basic Equipment Condition.  
 Recommendations About the 3rd and 4th Disciplines.

**Module 7: Discipline 5: Implementing PM The Right Way :**

Survey on Top 10 Problems on PM.  
 Preventive Maintenance Golden Law.  
 Integrating Precision Maintenance on PM.  
 What Maintenance Planners Should be Focusing.  
 Limitations of Preventive Maintenance.  
 How to Reduce Human Errors During PM.

**Module 8: Discipline 6: Lubrication Strategy :**

A Broader Study on Lubrication.  
 Traditional Belief About Oil.  
 What Oil Manufacturers Will Not Tell Industries.  
 Why Our Equipment is Design to Fail.  
 Absolute and Nominal Filtration (Beta Rating and Efficiency).  
 Oil Analysis Level 1 - Cleanliness of Oil.  
 Extending the Life of Oil Indefinitely.

**Module 9: Life Cycle Management :**

Concept of Life Cycle Management (Initial and Running Cost).  
 Why Cheap may be Expensive.

**Module 10: MRO Spare Parts and Storeroom Management :**

Survey on Top 12 Problems on MRO Spare Parts.  
 Spare Parts Management Explained.  
 Do All Critical Parts Need to be Stocked?  
 FSNO Analysis.  
 How to Solve Squirrel Stores Permanently.  
 MRO Decision Diagram on Whether to Stock or Not.  
 MRO Storeroom Roadmap for Improvement.

**Module 11: Root Cause Failure Analysis :**

Root Cause Failure Analysis Explained.  
 Difference Between RCFA and Analytical Problem Solving Tools.  
 Levels of RCFA, Physical, Human, System and Latent Cause.  
 Case Study on RCFA.

**Module 12: Continuous Improvements for Maintenance :**

Reliability-Centered Maintenance Explained.  
 7 Classical Steps on RCM.  
 How RCM is Implemented.

**Module 13: Condition-Based Maintenance :**

Predictive Maintenance Explained.  
 P-F Curve.

**Module 14: CMMS and Automation :**

The Value of CMMS is Based on.  
 What We Populate.

**Module 15: Applying the 12 Disciplines :**

4 Concept by Stephen Covey.

# World Class Maintenance Management – The 12 Disciplines

## About the Resource Speaker : Mr. Rolly Angeles.

Rolly, is a seasoned international reliability and maintenance consultant with 30 years of solid experience in the field. He had been invited in different countries and have conducted reliability and maintenance trainings in United Arab Emirates, India, Malaysia, Indonesia, Nigeria, Bangladesh, Botswana, Brunei, Thailand, China and South Africa. His portfolio of maintenance trainings include Maintenance Management courses on TPM, Lubrication, Tribology, Condition-Based Maintenance, RCM, RCFA, Planned Maintenance, World Class Maintenance Management, The 12 Disciplines, Oil Contamination Control, Maintenance Indices and KPI's, Maintenance Management Strategies and much more. Rolly previously worked w/ Amkor Technology Philippines, as a TPM Senior Engineer, an industry engaged in the manufacture of IC products and spearheaded their Planned Maintenance initiative compose of maintenance managers and engineers. He was also responsible for the dramatic reduction of unplanned breakdowns in their TPM Journey as well as RCM implementation on their Facilities AHU units and as well as their substation equipment. Rolly had written 10 books in series based on his original book on World Class Maintenance Management - The Twelve Disciplines. Each of the books Rolly wrote details a specific discipline on maintenance.

## TESTIMONIALS

- It was very useful to recollect the basics of maintenance. Being a technical program, the way in which the faculty explained the concepts was very good and attractive. More positive insights were given during the presentation. The best part is that we are made aware of the lying human and latent cause behind any physical cause that leads to the failure. The learning materials provided and the case studies presented were very relevant and were very useful to the program. A complete transition revolution in the maintenance approach attitude can be achieved through this program. The best part is that he used his passion to explain the concepts in such a beautiful way. *From R. Rjalaksham, Associate Manager Sterlite Industries, India*
- We were able to know more about maintenance, its causes and types. Understand more about lubrication and types of Spare Parts. Reasons for maintenance. Knowing more about oil change and the use of by-pass filtration. Learned how to reduce cost for maintenance. *From Name withheld, Stolt Nielsen*
- Topics were well explained using layman's terms. Training was adjusted according to our requirements. Sufficient training materials were given. *From Albert Siochi, Maintenance Support Manager, Stolt Nielsen*
- Instructor is a subject matter expert. Knows how to explain thoroughly and explained it well. Good materials during the training. Have gathered additional knowledge with regards to World Class Maintenance and understanding more the importance of how our team contributes to our company and to the industry we are working for. Mr. Rolly shared the knowledge. He had the passion that in the two days seminar we always have a take home. *From Precious Quistorio, Maintenance Support Administrator, PMS Support Team* Deeper understanding about maintenance. Understanding equipment failures and RCM, Life Cycle Maintenance and Management, Spare Parts Management, different strategies and patterns of failure, and Root Cause Failure Analysis. *From Deanna Decena, Senior Maintenance Support Administrative*
- Eye-opening that we should not only focus on what the manual dictates. Maintenance is such a broad topic which everyone should learn for a better working experience. All topics in the training are discussed well and understood. *From Arian Jeliza Legaspi*
- Learned the maintenance approach for reactive, preventive, predictive and proactive maintenance strategy. Realization on how important the training and skills with respect to every maintenance strategy. Changing culture from mechanic/reactive approach to RCM and RCFA, *From Alfredo Villaver, Veco Lights*
- Real life scenario. Interesting and no dull moments. Facilitator has an actual experience on the topic. Facilitator is well knowledgeable on the topic. A seasoned speaker and full of inspiration. *From James Binoya, Supervisor*
- Very entertaining and good speaker. Well explained presentation. Rocking Rolling Stones. Superv Powerpoint skills. *From Francis Baltazar Asensi, Substation and Distribution Specialists*
- Gave us more knowledge about maintenance techniques. Gave us an idea to maintain and gave us a guide on Preventive, Predictive, Proactive and Condition-Based Maintenance. *From Wendel Chua, Substation*
- The presenter is a very good communicator. The materials used are relevant and applicable from our end. The presenter is deeply knowledgeable with his topics. *From Christopher Serojano, Head, Distribution Services*

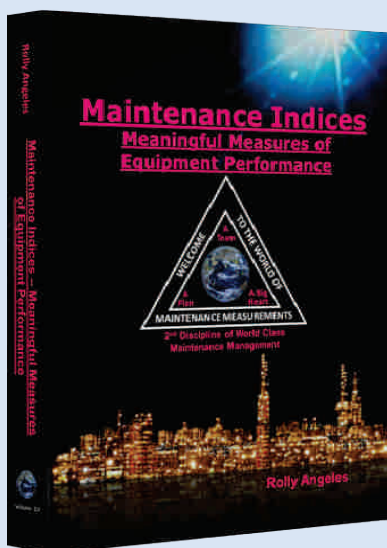
# We can arrange customized In-house Programs of Mr. Rolly Angeles as per listed topics during his visit to India

Event	Duration
Meaningful Measures of Equipment Performance - Understanding MTBF, MTTF, MTTR, MTTs, MTBA, Failure Rate, OEE and Equipment Losses	2 Days
Understanding Equipment Failure Modes and Effects Analysis for Industries	1 Day
Lubrication Strategy for Industries - Understanding the Importance of Tribology and Oil Contamination Control Awareness	2 Days
Reliability-Centered Maintenance for Industries	2 Days
Investigating Equipment Failures Through Root Cause Failure Analysis	2 Days
Understanding Autonomous Maintenance - Operator's 7 Step Journey to Empowerment	2 Days
Planned Maintenance 4 Phases to Zero Unplanned Breakdown	2 Days
Understanding MRO Spare Parts and Storeroom Management	2 Days
Understanding Condition-Based Maintenance - Total Approach to Failure Prediction and Analysis	2 Days
Maintenance - Roadmap to Reliability	2 Days
Relationship Between Equipment Losses and Overall Equipment Effectiveness	2 Days
Understanding Equipment's Overall Life Cycle Management	2 Days
Cutting - Edge Maintenance Management Strategies	2 Days
Optimizing Preventive Maintenance Strategy for Industries	2 Days

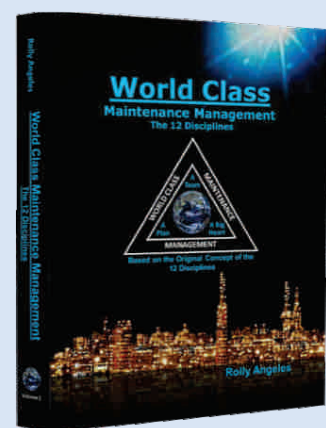
**Should your industry be interested in any of the stated In-House courses!!!**

**Kindly contact us for In-House Proposal and date availability**

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