NOLWAZI AFRICA

3-DAY LEAN MAINTENANCE

What has to be changed in the traditional approach to maintenance operations and plant/assets management in order - to face - the challenges of the years 2000

2 - 4 March 2011, The Windhoek Country Club Resort and Casino

// Introduction

This course is very interactive and supplemented with abundant practical exercises and case studies. This course is beneficial for all Industrial Sectors (Manufacturing Industry Continuous Process Industry Construction Industry Service Establishments Engineering) and for Public/Governmental and Semi-Public Bodies and Institutional active in all size maintenance works.

// Course Objectives

- Understand the basics of modern Maintenance and Plant Management and the Lean Thinking philosophy, performance goals and critical success factors
- Understand the real reasons of failure of maintenance operations managed and planned with a "traditional" style
- Trigger a different thinking mechanism suited to focus onto crucial issues of the planning process
- Use lean ideas to see maintenance works as "waste-less flow processes" and to think about improvement of the whole maintenance function
- Equip your toolbox with lean planning tools, tips and techniques
- Learn how to ensure Maintenance works of any size/scale will be accomplished in time, within budget and with overall satisfaction
- Understand the difference between traditional Plant Management and Lean Plant/Assets Management
- Learn how to transmit lean concepts to your own people and to external parties such as maintenance sub-contractors

Who Should Attend?

- Heads and Directors of Operations, Maintenance and Production
- Operations Managers, Maintenance Managers
- Reliability Engineers, Production Managers or Engineers
- Maintenance Supervisors, Maintenance Planners, Schedulers and Controllers
- Plant Managers/Assets Managers
- Engineering Managers or Chief Engineers
- Project and Shutdown Managers / Leaders / Planners / Coordinators

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Message from Dr. Carlo Scodanibbio

Dear Delegates,

Maintenance. It has been officially invented and structured as a plant management discipline over 60 years ago. Technically, it has gone through many and major changes: maintenance techniques have been improved, modified, widened and new maintenance techniques have been discovered over the last 2 decades. Organisationally, however, maintenance has only somewhat changed with the advent of Nakajima's TPM Total Productive Maintenance. Today, maintenance is changing again.

Today, we discover that "maintenance" does not always deliver what it promises: plant, machinery and equipment operating efficiently and effectively along their entire lifecycle and at the least possible total cost.

The signals are clear and well known: major breakdowns still materialise in spite of excellent preventive maintenance and even autonomous maintenance practices minor breakdowns, minor stoppages, idling, reduced-capacity operation, quality defectiveness and other malfunctions are still present in the majority of factories and plants world-wide in spite of efforts and investments to reduce them considerably maintenance costs are still too high for the level of competitiveness required nowadays waste (of maintenance manpower, of materials, of operation time) is at un-acceptable levels large maintenance works and yearly shut-down projects are seldom completed in time and within budget outage maintenance often becomes panic management.

There is a common denominator to all signals above: inadequate project management and inadequate planning that is, inadequate thinking. Most maintenance works even routine, scheduled maintenance activities ARE project works by their own nature and as such should be handled. However, project management practices are only dedicated (when it so happens!) to large-scale maintenance works and with doubtful effectiveness. Project Management and, even less, Lean Project Management, are hardly known to maintenance people at ALL levels. That's what is lacking.

The real revolution in the maintenance world is taking place only now. Under the Lean Thinking philosophy, lean principles can and should be deployed also in maintenance activities and made known to all those concerned, including maintenance technicians and workers.

This course will be a shocking course for many of you. Because it demystifies all traditional principles of the first industrial revolution on which the majority of enterprises, still today, are built or around which they operate. By presenting in rather great detail the philosophy of the second industrial revolution applied to the maintenance world and the main tools and disciplines readily available to all enterprises to perform in an "excellent" status, this course is a door-opener to lean maintenance practices for whoever is: ready to listen to message prepared to abandon obsolete principles, formulas and approaches willing to get to "lean" status.

By showing that "thinking" is what must change at all levels in the maintenance domain, this course will prove that higher levels of performance can be achieved if you create the right conditions.

I hope to see you there, best regards,

Dr Carlo

Day One

- What is "Maintenance"
- Definitions and classification of Maintenance operations
- Overview of main Maintenance Operations:
- Reactive Maintenance (Breakdown Maintenance)
- Preventive Maintenance (Scheduled routine Maintenance)
- Predictive Maintenance (Condition-based Monitoring)
- RBI (Risk Based Inspection)
- RCM (Reliability Centred Maintenance)
- IPF (Instrument Protective Function)
- Shut-down Maintenance
- Outage Maintenance.
- The impact of the TPM (Total Productive Maintenance) discipline in the Maintenance domain
- "Traditional" TPM goals today's TPM goals
- The 6 Big Equipment Losses
- Measuring OEE (Overall Equipment Effectiveness) under the TPM angle of view
- Equipment Ranking
- Specific TPM tools: SOCO (5S) and Workplace Management - Establishment of Equipment Optimal Conditions the PM Analysis tools to fight equipment Minor Stoppages tools to fight equipment Reduced Speed tools to fight inadequate output Quality tools to fight Start-up Yield Losses tools to fight "accelerated" deterioration and for prevention of breakdowns
- The difference between traditional equipment overhaul/refurbishing and TPM Equipment Restoration
- TPM as "integration" system between all organisational areas that deal with plant and machinery
- TPM Autonomous Maintenance: the heart of TPM
- TPM programs for the Maintenance and for the Production/Plant Operation Departments
- Maintainability Improvement and Maintenance Prevention: new horizons under the TPM Plant Management philosophy.
- Standardisation and Equipment Maintenance Standards
- Maintenance Planning and Maintenance Records
- Spare Parts Management
- Plant Management Economics: Maintenance Budget Management Maintenance Budget Control Minimising Equipment Life-Cycle Costs
- Measuring TPM Effectiveness

Day Two

- ALL Maintenance Works are Project Works! As such, they must be planned and managed accordingly!
- "Traditional" Project Management and Project Planning: overview of basics concepts and core principles.
- Planning, Scheduling, Controlling Projects: the "traditional" approach
- Basic reasons for Planning
- The traditional PBS (Project Breakdown Structure)
- PERT and CPM: basics
- The Project Program
- Gantt (Bar) Diagram
- The Earned Value method
- Project Risk Management
- Analysis of the weaknesses and failures in traditional Planning: why so many projects are completed late, with cost overruns and dissatisfaction?
- Why "project performance" is often poor?
- The root causes of poor performance date back to over 2 centuries ago. We have gone into the 21st century, with enterprises designed in the 18th and 19th centuries to perform well in the 20th . Is our Industrial DNA still polluted by those obsolete principles that gave birth to the first Industrial Revolution?

Case Studies

- Today's key to World-Class Performance in all Industrial Sectors: Lean Thinking basic core principles.
- Deploying Lean Thinking principles in the Maintenance domain, in the Project world and in the Planning area. Targets: elimination of waste establishment of flow.
- What is a Lean Project and Lean Maintenance Project Management
- Where does waste hide in traditional projects
- Where does waste hide in maintenance works and how to identify the main items of waste: idling, walking, talking, moving, excessive handling, double-handling, searching, un-necessary work steps, making errors and mistakes, fixing errors an mistakes, misunderstandings, trial-and-error approaches, overlooking, inadequate or excessive or un-necessary supervision/control, waste in paperwork, waste of materials, etc. - how to reduce waste drastically why maintenance works don't flow.

- The starting points: how should maintenance project's processes be planned for subsequent, lean implementation how to conceive and visualise flow working processes
- Team Exercising: traditional planning vs. lean planning see the differences
- Analysis: why do we plan "by impulse"? Why don't we have enough time to plan "lean"? Is it really a matter of time or rather of "style of thinking"? Why do we miss the "crucial" points and overlook that "something really important"? Why do we discover "unforeseen/s" and "surprises" during works executions?

Day Three

- The role of Creativity in planning
- The relationship between Creative Thinking and Lean Thinking
- The difference between traditional "automated", reactive thinking and "lean", proactive and projective thinking.
- Lean Planning operationally.
- The concept of the Last Planner: how to eliminate all waste in Project and Maintenance works.
- How to make maintenance work flow, work-package after work-package
- How to conceive "realistic assignments"
- How to plan them how to assure a high PPC (Percent Plan Complete)
- How to improve the PPC even further by using the 5Why technique.
- The "lean" approach to Preventive/Scheduled Maintenance works: why Maintenance Personnel should be Last Planners.
- The "lean" approach to large-scale and Shut-down Maintenance operations the Concurrent Engineering approach
- Lean Risk Management, or deploying Risk reduction techniques to assure regular work-flow and respect of the time parameter.
- FMEA (Failure Mode and Effect Analysis)
- FTA (Fault Tree Analysis)
- Markov Chain and others.
- The "lean" approach to management of external maintenance sub-contractors integrating them in the works' flow.
- About Maintenance Planning Software: is it really beneficial? Under what conditions?
- Lean Plant & Assets Management. What has to be changed in the traditional approach: the focus must be on "process flow" and not in individual "efficiency"

Case Studies

- The "super-star-galactica" cul-de-sac in Plant Selection and Management. Methods first, then Technology or how to maximise value added for equipment life.
- Lean Planning, Lean Maintenance, Lean Plant Management and People. A new breed of people is required in the modern maintenance world - the "multi-skill" and "multi-function" factors - the "empowerment" factor - self-planning - self-control. Should everybody be a "last planner"?

Your Course Director

Dr Carlo Scodanibbio, born in Macerata, Italy in 1944, holds a doctor degree in Electrical Engineering from Politecnico di Milano in 1970. He has over 40 years of experience in Plant Engineering, Plant Management, Project Engineering and Project Management, as well as Industrial Engineering and Operations Management.

He has been an Independent Industrial Consultant and Human Resources Trainer since 1979 and has worked in a wide spectrum of companies and industries in many countries including Southern Africa, Italy, Cape Verde, Romania, Malta, Cyprus, Lebanon, Mauritius, Kenya, Saudi Arabia, Malaysia and India. His area of expertise lies in World-Class Performance for Small and Medium Enterprises in the Project, Manufacturing, and Services sectors.

He has co-operated, inter-alia, with several Italian Chambers of Commerce and Industry, the Cyprus Chamber of Commerce and Industry, the Cyprus Productivity Centre, the Malta Federation of Industry, the Mauritius Employers' Federation, the Romanian Paper Industry Association, the United Nations Industrial Development Organisation, the Federation of Kenya Employers and the University of Cape Town.

His courses and seminars, conducted in English, Italian and French, have been attended by over 14.000 Entrepreneurs, Managers, Supervisors and Employees. They feature a very high level of interaction, and are rich in simulations, exercising and real case studies. The approach is invariably "hands-on" and addressed for immediate, practical application.

REGISTRATION FORM

3-DAY LEAN MAINTENANCE

2 - 4 MARCH 2011 // THE WINDHOEK COUNTRY CLUB RESORT AND CASINO

(NOL145)

To register for this event please complete the registration form below and fax it to +27 (0)86 570 8986 or email it to info@nolwaziafrica.com. Alternatively please call us on +27 (0)12 654 5346.

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COURSE FEES PER DELEGATE

R8995,00 (VAT exclusive) **x ..... Delegates = R .....**

Please note that payments is required no later than 10 days from invoice date. In the the event of non-payment, Nolwazi Africa reserves the right to cancel the booking and the full amount under disagreement will be due and payable.

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CONFIRMATION DETAILS

Upon reception of your booking, we will e-mail each registered person our delegate confirmation pack. this pack will include venue information with a map and specific event details. If you have not received confirmation within one week of booking, kindly contact us on +2712 654 5346 for assistance. Delegate fees include all workshop materials, lunch and refreshments for each day. Please note that hotel accommodation and travel are not included in the price. We can offer travel and hotel booking assistance if required. Please feel free to contact us, we will gladly assist you.

CANCELLATION & TRANSFER POLICY

Delegates unable to attend the event may send a substitute delegate in their place. Please send written details of substitution. Written cancellations must be received more than 10 working days prior to the date of the event and will be liable for 50% of the event fee. Failure to cancel, or cancellations received 10 working days or less prior to the event date, will result in liability for the full event fee. Nolwazi Africa reserves the right to alter the program and speaker details without notice.

GROUP DISCOUNTS

2 Delegates	**@ 5% discount**
3 Delegates	**@ 10% discount**
5+ Delegates	**@ 15% discount**

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Delegate 1:

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Designation: .....

Contact Tel Number: .....

Email: .....

Delegate 2:

Full Name: .....

Designation: .....

Contact Tel Number: .....

Email: .....

Delegate 3:

Full Name: .....

Designation: .....

Contact Tel Number: .....

Email: .....

Delegate 4:

Full Name: .....

Designation: .....

Contact Tel Number: .....

Email: .....

Delegate 5:

Full Name: .....

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Your Sales Executive: Charles Winton