

# RCM3™ INTRODUCTORY COURSE

## WHAT IS RCM3™ ?

A process used to define the minimum required safe amount of maintenance, engineering and other risk management strategies to ensure a tolerable level of safety, environmental integrity and cost effective operational capability as specified in the organization's asset management standard.

RCM3™ is quickly becoming the new standard for analysing both rotating and static assets within the industry. It aligns with ISO 31000 and fulfils ISO 55000 to allow for an approach toward asset and risk management that optimizes available resources, increases bottom line and maintain safety and environmental integrity. RCM3™ can be deemed one of the most efficient failure management programs for complexed assets and processes.

## COURSE OBJECTIVES

- To provide review group members with enough of an understanding of the basic principles of RCM for them to be able to participate meaningfully in the RCM process.
- To provide entry level training for RCM facilitators.
- To ensure that first line supervisors have a sufficient grasp of the objectives and technical content of RCM for them to be able to participate sensibly in planning an RCM project, and subsequently in helping to ensure that it is completed as planned.

## COURSE MATERIALS

- Course Manual: Based on the successful RCMII textbook by John Moubray together with the expanded RCM3™ methodology, Aladon provides a comprehensive 150 page course manual (Risk-based RCM by Marius Basson and Theuns Koekemoer) that will be released in book format soon.
- Case Studies
- RCM3™ Decision Diagram and Risk Matrix
- Exercises and Solution Sets

## KEY OUTCOMES

Attendees will become knowledgeable in the identification of:

- Core principles of RCM2™ and SAE JA1011 and improvements in how risk and reliability are directly impacted by the Operating Context.
- Prioritizing management of protected functions / systems.
- Incorporation of principles of qualitative and quantitative risk management.
- New risk based architectural structure for seamless integration with other processes like RCD™ (Reliability Centered Design) and functional FMECA, HAZOP and RBI.™
- Management of consequences and business risks while optimizing resources.
- Implementation of ISO 55000 Asset Management Standard requirements for asset reliability and performance.
- Participants will be certified as an RCM3™ Analyst in the Aladon Network

## DATES

Seminar date:  
17th – 19th July 2018

Location: TBA, Trinidad

Registration deadline:  
18th May 2018

## PRICE

Early registration:  
USD 1,750  
(09th - 30th April 2018)

Late registration:  
USD 2,000  
(01st- 18th May 2018)



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# COURSE OUTLINE

## DAY 1

Introduction to RCM and RCM3™

Growing maintenance expectations, Changing understanding of how equipment behaves, New maintenance techniques, International Standards

A Way Forward using RCM3™

History of RCM

Operating Context and Functions

What is an Operating Context and why is it important?

Function statements

Performance standards (Multiple performance standards, quantitative performance standards, qualitative standards, absolute performance standards, variable performance standards, upper and lower limits),

Different categories of functions, Exercise, Describing functions and performance standards, The operating context

Case Study

## DAY 2

Failed States / Functional Failures

Failed states, Performance standards and failure, Who should set the standard?

Failure Modes

What is a failure mode?

Failure modes (cause and mechanism) and the operating context, What failure modes should be listed? (Human error), How much detail? (Causation), Describing failure modes, Levels of analysis

Case Study

Failure Effects

Describing failure effects, what to record (local effect, next level higher effect, end effect and potential worst cause effects) and what assumptions to make

Failures Consequences

Defining worth doing criteria for:

Hidden failures consequences, Safety and Environment consequences, Operational consequences, Non-Operational consequences

Hidden failures exercise

Failure consequences exercise

## DAY 3

Risk Definition and Mitigation

Risk Management Strategies I

Proactive Tasks

Defining technical criteria (including frequencies) for:

On-condition tasks (Review of all the predictive technologies), Scheduled restoration tasks, Scheduled discard tasks, Combination of tasks

Case Study

Risk Management Strategies II

Default Tasks

Failure finding tasks (including frequency calculations), No scheduled maintenance, One-time changes (Redesign, Training and Procedures)

Case Study

Implementing RCM3™ Decisions

Applying RCM3™

What RCM3™ Achieves

## YOUR TUTOR



### Carlo Odoardi

(M. Eng, B. Eng, Dipl. T) has 30 + years experience and is a consummate Business Reliability professional with a real passion for helping asset-intensive companies achieve sustainable, world-class operational performance.

Carlo was also the past Chair of the Society for Maintenance and Reliability Professionals (SMRP) Ontario Chapter.



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