The Capital Group
"The Power of Partnership"

Human Resource Service
Training Organisational Development Services
Financial Advisory & Debt Management Services
Events Management Services

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September 13, 2023

To Whom It May Concern

OUR REF: TCGL/PC/13/09/2023

Dear Sir/Madam,

Invitation to Corporate Training on "Root Cause Failure Analysis"

The Capital Group Limited in collaboration with Data-Trak Systems of Canada - noted for equipment maintenance and operational reliability-, is pleased to invite you to participate in its 5-day corporate training dubbed; "Root Cause Failure Analysis" scheduled for 23rd to 27th October, 2023.

The Capital Group Limited is a Management Consultancy Firm that has, for the past twenty-five years, been providing specialized services in Human Resource, Training, Outsourcing, Recruitment, People and Project Management, Corporate Restructuring and Change Management, Debt Management, Facility Management and Financial Advisory Services.

Attached to this letter is a comprehensive training proposal for your review. Please do not hesitate to contact us should you require any further information. Melvin-0552533115/0209141788

Yours faithfully,

Samuel L. Adetola

Chief Executive Officer

The Capital Group Limited
" The Power of Partnership"

ROOT CAUSE FAILURE ANALYSIS

Training

5 Day Training Workshop

Welcome

Every family has a story.
welcome to ours

CONTENTS

SUMMARY

RCFA (Root Cause Failure Analysis) is a reliability tool used to analyze operational and maintenance failures. It prompts the examination of the root causes of the failures, and the actions required to eliminate them; it is an essential ingredient in continuous maintenance cost effectiveness.

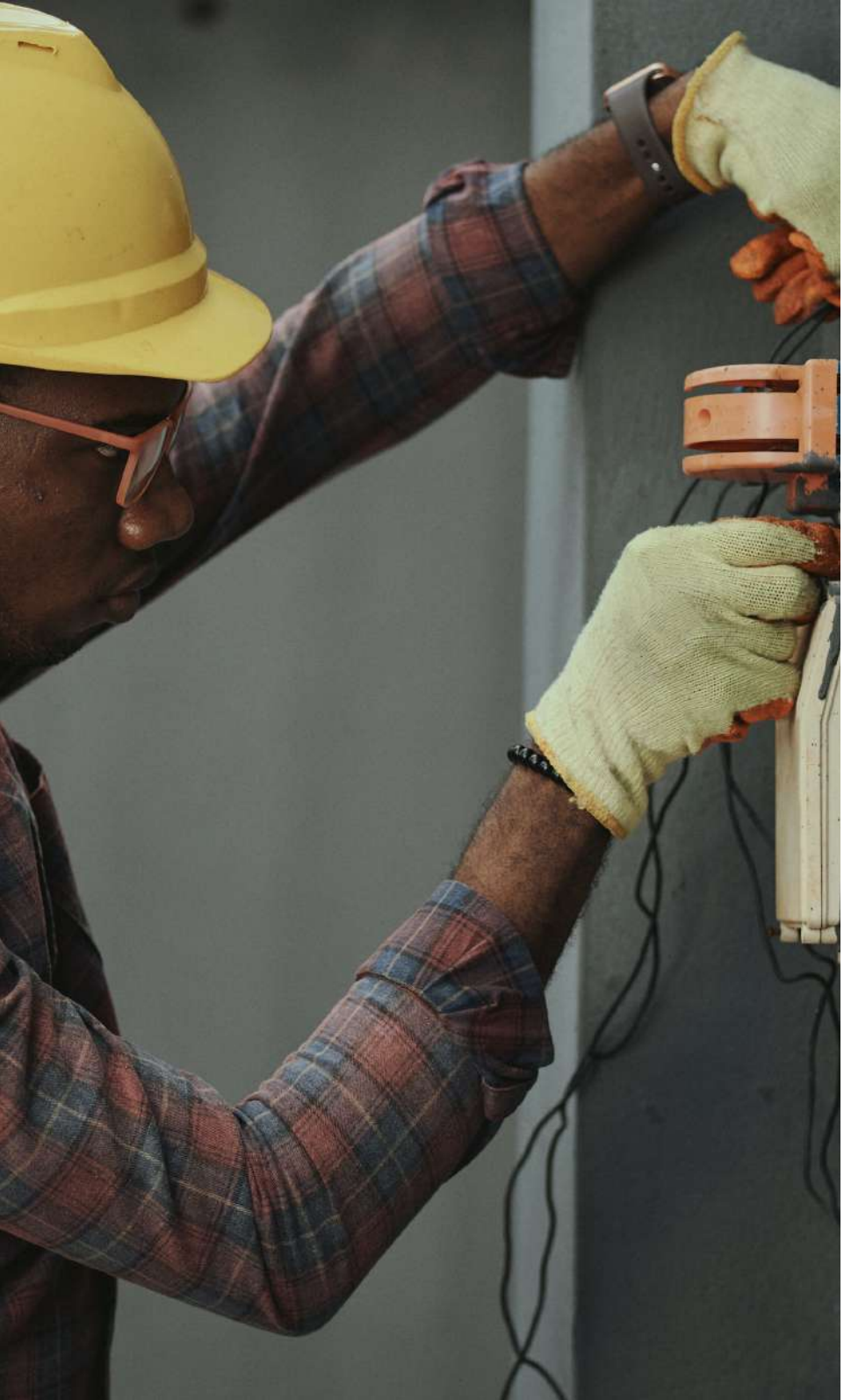
Root Cause Failure Analysis is a valuable tool that has been widely used by companies around the world; sadly, it has equally widely been misused!. But if done right, RCFA greatly aids in determining how businesses can identify, prevent and eliminate expensive failures. Yet as with all tools, it must be used correctly and kept sharp if it is to deliver on its promises.

The workshop leader – Ben Stevens – has delivered hundreds of successful training programs around the world. His experience combines Reliability and Physical Asset Management with Finance and Economics. In this program he combines advanced RCFA techniques with a practical and accessible approach for maintenance practitioners who wish to build their Maintenance Management skills.

OBJECTIVES & BENEFITS

The overall objective of the course is to provide the attendees with the tools, the practical knowledge and confidence to apply Root Cause Failure Analysis best practices to their maintenance activities.
Specifically to:

1. Decide when to use and when not to use RCFA.
2. Determine how RCFA will get to the bottom of those expensive failures.
3. Work through the necessary process to ensure correct usage of RCFA.
4. Learn how to apply RCFA in the workplace to reduce the cost of maintenance and the cost of failure.
5. See how RCFA blends in with and complements other failure tools so you can choose the right tools for the right problem.
6. Practice the techniques that make the application of RCFA so much easier
7. Understand how to keep the knowledge from going stale so the quality of the analysis and the results keep on paying dividends.



WHO SHOULD ATTEND?

Reliability Analysts and Engineers, Planners, Schedulers and their Supervisors and Managers. Engineers, Inspectors, Maintenance Project specialists involved in Failure Analysis, Failure Prevention, Preventive Maintenance, Planning and Scheduling.

Senior technicians wishing to understand Failure Analysis and Preventive Maintenance.

Technicians, supervisors and managers responsible for delivery and quality of maintenance.

PROGRAM CONTENTS

PROGRAM **CONTENTS**

Session 1 - Fundamentals of RCFA.

The first part of the program covers the basics of RCFA – where did it come from, and how does it fit with other aspects of Maintenance and Reliability. The advantages and disadvantages are explored, and highlighted in terms of when to use the technique and when not to use it.

The introduction to RCFA will define its objectives and scope, and orient it in relation to other maintenance and reliability tools. It will not work in isolation; so the prerequisites need to be well understood. RCFA is most frequently used as part of RCM (Reliability Centred Maintenance); yet it can still be very effective when separated from that technique. But of course, it has its disadvantages as well as advantages – exploring these will provide a solid grounding for the to decide on how best to use RCFA.

Included in the first session will be:

1.1 Origins and Scope of RCFA
1.2 Overview of Process and Objectives
1.3 Where does it fit in Maintenance and Reliability
1.4 Relationship to RCM
    a) RCM Overview
    b) Failure modes, symptoms, root causes
    c) What do we do with a root cause?
1.5 When to use RCFA, when not to use RCFA
    a) Equipment failure

PROGRAM **CONTENTS**

b) Beyond equipment failure to other failures
1.6 Advantages and disadvantages of RCFA
1.7 The jigsaw puzzle of related forms of Analysis:
a) FMEA (Failure Modes & Effects Analysis)
b) FMECA (Failure Modes, Effects and Criticality Analysis)
c) Fault Tree Analysis
d) Cause and Effect Analysis (Fishbone Analysis)
e) Sequence of Event Analysis

Session 2 - The RCFA Process

This is an extended practical session - the core of the program, dealing with how RCFA actually works, what are the prerequisites on which to build the success and how to increase the probability of success. The RCFA process is covered in all aspects – focusing on the practical application of the techniques. This section is always very exciting as explore all the causes of the common and not-so-common failures of familiar equipments. Yet RCFA is not focused only on equipment – it is equally applicable to processes, quality operation and management; so, examples of these will also be part of the many workshops.
Accordingly, will examine, discuss and practice each element as follows:

2.1 Initial reporting - a rigorous definition of the problem plus the preliminary assessment
a. Contents
b. Sample
c. Exercise

PROGRAM **CONTENTS**

2.2 Symptoms and Boundaries
- a) When will it not work?
- b) How broadly do we cast the net - Where do you draw the line?
- c) Exercise

2.3 Perceived causes
- a) “Everybody knows what the problem is… “- struggling with preconceived solutions
- b) History of similar failures – evidence is key

2.4 Classification of Incidents
- a) Failure
- b) Damage
- c) Operating or financial loss – output, quality
- d) HSE
- e) Exercise

2.5 Data Gathering – a key step in capturing the critical knowledge for RCFA - - Bad data is worse than no data
- a. Interviews and Physical evidence
- b. Design Review equipment
- c. Operations and Maintenance review
  - i. Installation and test
  - ii. Operation
  - iii. Maintenance
- e. Inspections, Observations and Measurements

PROGRAM **CONTENTS**

2.6 RootcausefailureanalysisTheAnalysisprocessitself–includingexercisesusing fishbone and other techniques to ensure the can take away solid knowledge to apply in their own work place

a. Techniques

i. The question why

ii. exercise

iii. Fishbone diagram

iv. Exercises

v. Modified Fishbone diagram

vi. Exercises

2.7 Categories of failure, applying standards to specific types of equipment

a) Equipment

i. Standards for different types of equipment

ii. Examples and Exercises

b) Other types of failure, including processes, communications, supervision

i.Procedures and Operation

ii.Supervisory, Communications, Human engineering

iii.Management systems, Quality Control

iv.Exercises

2.8 Selecting the right remedy Developing the corrective measures, and relating it to the right maintenance work tactics

a. What different tactics are available?

b. How to select the right one

PROGRAM **CONTENTS**

2.9 How to transfer from the analysis to the practice
2.10 Implementing the practice
2.11 Evaluating the costs and benefits of the remedies and tactics
2.12 Reports and recommendations
2.13 Preparation and content of the final report and recommendations.
2.14 Exercise

Session 3 Making RCFA Work for You

Now the Attendees will turn to the issue of how to successfully implement RCFA in a business; what to do if the analysis doesn't seem to work and there's a repeat failure; how to keep the knowledge fresh and up to date by integrating feedback related to the latest equipment and process information
This final session will focus on the implementation of the technique – an important step if RCFA is to become a standard tool in the implementation tool kit.

The key steps are:

3.1 Defining the prerequisites for implementing RCFA
3.2 Establishing the management, training and personnel requirements to make it a success
3.3 Defining the procedure to ensure adoption as a regular tool - Critical steps to make it work
3.4 Maintaining the momentum

PROGRAM **CONTENTS**

a. The Feedback Loop – essential to continuous improvement
b. Continuous Reliability Improvement – what does it take?
c. What if it doesn't work? What happens next?

3.5 Ensuring quality
3.6 Increasing reliability
3.7 Applying KPI's that will measure success
a. Exercises

Once implemented successfully, attention should shift to how the analysis process can continue to deliver the results demanded. The key here is to understand that failures will still occur, but that they do not mean that the process is flawed – merely that like all tools, keeping it sharp is vital. The program ends by focusing on how the feedback loop can be established and maintained. This will ensure that the analysis is developed and extended, and the knowledge is continually upgraded as the equipment ages.

COURSE METHODOLOGY

COURSE **METHODOLOGY**

All sessions will be a series of presentations, discussions and hands-on workshops as the program is designed to be intensely practical – built around case studies and practice exercises, and requiring the attendees to relate their learnings back to their own work place; personal action plans will be created to focus around how to develop and implement their skills. Each session is a blend of presentations, discussions, workshops, practice and case study; active participation is expected from the attendees. Course Duration will be determined by the extent and duration of the exercises.

ADDITIONAL COURSE TAKEAWAYS

1. Personal Development Plan. The PDP is often described as the most important lasting feature of the programs. After each session, attendees browse their materials, select and prioritize key elements that they want to implement or research. After the program, the selections are consolidated, and a task list is built for the top priority items. In this way, the benefits of the course can last a lifetime, and form an important part of the attendees' career development.

2. Certificate of Accomplishment based on attendance and participationt

3. The course materials are provided by email to each participant in soft copy format for use in revision sessions

WHAT they SAID....

"Facilitator was excellent, deliver the course well and he allowed individual and team participation – he is a motivator and experienced. Let him come back again" – Jar - Tech

"Really I appreciate your effort with us during course and I hope in future I will attend all courses done by you" – Majeed

"Very Educative – has broadened my knowledge of maintenance; Material was absolutely good with very good practical solutions" – Perry

"The delivery is super; the contents were fantastic; He made me a different person – he knows what he is doing and how to do it" – Maftah

ABOUT THE COURSE LEADER

/ Ben Stevens /

ABOUT THE COURSE LEADER

Ben Stevens for over 40 years was President of DataTrak Systems Inc – a Canadian company dedicated to training and consulting in the maintenance and reliability business. Ben is now in private practice focusing on maintenance and reliability training.

His experience covers all aspects of Maintenance, Materials and Physical Asset Management and CMMS/EAM systems in businesses such as Power Generation, T&D, Oil & Gas, Mining, Steel, Water and Wastewater etc. For eight years he was President of OMDEC Inc, focusing on training, consulting and software for reliability and maintenance management. Prior to that he was CMMS/EAM leader in PricewaterhouseCoopers' International Centre for Excellence in Maintenance Management.

His earlier career included being Canadian distributor, sales and support centre for CMMS/EAM systems, and CFO and CAO in several manufacturing companies. He holds a Master's Degree in Managerial Economics, and has delivered hundreds of successful international maintenance training, workshops and conference presentations around the world. He is a frequent contributor to books, journals and web-site newsletters. Detailed CV available.

ADMINISTRATIVE **INFORMATION**

Date: 23rd to 27th October, 2023.

TIME: 9:00AM T0 4:00PM

VENUE: The Capital Training Centre (Accra)

RATE PER PARTICIPANT: A Cedi Equivalent of USD 1,500.00 (Tax Exclusive)

NB: This covers tea/coffee breaks, lunch, course materials and certificate.

FEW OF
OUR CLIENTS

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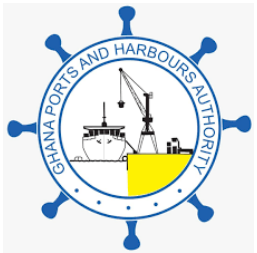

/ AMS / Ghana Specialty Fats Limited /

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