

Chapter 1: Why Failures are Important

- 1.1: Failure Defined
- 1.2: A Vision of Light: The Thomas Alba Edison Story
- 1.3: Thailand's Sandwich Man: From Riches to Rags and Bouncing Back
- 1.4: The Jackie Chan Story: I Failed Miserably as Bruce Lee
- 1.5: Usain Bolt: The Fastest Man on Earth
- 1.6: Why Failures are Important?
- 1.7: Famous Quotes on Failure
- 1.8: Why MTTR and RCFA are The Opposite of Both Worlds
- 1.9: The Slow and the Fast Train

Chapter 2: Understanding Root Cause Failure Analysis

- 2.1: Root Cause Failure Analysis Explained
- 2.2: Difference Between RCFA, RCA, and Failure Analysis
- 2.3: Chronic and Sporadic Failure
- 2.4: The Golden Rule on Root Cause Failure Analysis
- 2.5: Why Many Root Cause Initiatives Fail
- 2.6: Top Reasons Why We Need to Perform RCFA
- 2.7: Is Root Cause Failure Analysis Reactive or Proactive?
- 2.8: Defining the Problem (The Cause and Effect Relationship)

Chapter 3: Different Problem Solving Tools and RCFA

- 3.1: A Different Root Cause Failure Analysis Experience
- 3.2: Difference Between Analytical Problem Solving Tools and RCFA
- 3.3: Fishbone or Ishikawa Diagram
- 3.4: FMEA/FMECA Explained
- 3.5: Five-Why Analysis
- 3.6: P-M Analysis
- 3.7: Pareto's 80/20 Rule
- 3.8: Fault Tree Analysis
- 3.9: 8-Disciplines
- 3.10: Kepner-Tregoe
- 3.11: Steps in Conducting Focused Improvement

Chapter 4: The Life-blood of Root Cause Failure Analysis

- 4.1: Evidence: The Lifeblood of Root Cause Failure Analysis
- 4.2: Three Types of Evidence on RCFA
- 4.3: Which Failures will Warrant RCFA Investigation
- 4.4: How to Conduct the Interview Process in Root Cause
- 4.5: RCFA Logic Tree Diagram
- 4.6: The Physical, Human, and Latent Cause of the Problem
- 4.7: RCFA Joke – The Evidence Tells It All
- 4.8: Take Quiz on Physical, Human, System, and Latent Cause of the Problem

Chapter 5: Understanding The Physical Cause of Failures

- 5.1: Understanding the Process of Wear

- 5.2: Most Common Types of Mechanical Wear Explained
- 5.3: Ductile and Brittle Fracture
- 5.4: Different Types of Mechanical Stress
- 5.5: Understanding Bearing Failures
- 5.6: Why Lubricating Oil Fail?
- 5.7: Understanding the Physical Cause of Failures
- 5.8: Electronic Failure Modes and Causes

Chapter 6: The Study of Human Errors

- 6.1: Understanding Human Errors
- 6.2: Human Fatigue – The Circadian Rhythm
- 6.3: Maintenance Induced and Non-Maintenance Induced Errors
- 6.4: Classic Case of Human Error - The Sinking of the RMS Titanic
- 6.5: The Real Heroes on RMS Titanic
- 6.6: It's Human Nature to Blame
- 6.7: Is It Possible to Eliminate Human Error in Maintenance?
- 6.8: Reducing Human Errors in Maintenance
- 6.9: The E-Experiment

Chapter 7: Understanding the Latent Cause of the Problem

- 7.1: Latent Cause Explained
- 7.2: Ending Our Probe on the Latent Cause of the Problem
- 7.3: Are Latencies Good or Bad?
- 7.4: Classic Case of Latent Cause: The Challenger Disaster
 - 7.3.1: Physical Cause of the Challenger Disaster
 - 7.3.2: Human Cause of the Challenger Disaster
 - 7.3.3: Latent Cause of the Challenger Disaster
- 7.5: Situation, Filter, and Outcome
- 7.6: Understanding the Latent Cause of the Problem
 - 7.6.1: Latent Cause of the RMS Titanic Sinking
 - 7.6.2: Latent Cause of the Bhopal Tragedy
- 7.7: Latencies is About the Song Man in the Mirror by Michael Jackson
- 7.8: Addressing the Organizational and Personal Latencies

Chapter 8: Guidelines for Conducting an RCFA Investigation

- 8.1: Training on RCFA Investigation Process
- 8.2: Setting-up a Centralized RCFA Core Team or Council
- 8.3: Traits of a Good Principal Investigator and Evidence Gathering Team
- 8.4: Preliminary Steps Before Conducting a Root Cause Investigation
- 8.5: Detailed Steps in Conducting an RCFA Investigation
- 8.6: Details in Preparing for the Stakeholder Meeting
- 8.7: How to Make RCFA as Part of a Structured System

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- 9.1: RCFA Corrective Measures
- 9.2: Different Types of Corrective Actions

- 9.3: Validation of Corrective Actions
- 9.4: Horizontal Replication of Improvements

Chapter 10: Case Study on RCFA

- 10.1: How Root Cause is Performed
- 10.2: Performing RCFA on a Personal Level
- 10.3: Actual Case Study on Root Cause Failure Analysis
 - 10.3.1: Identifying the Stakeholders, and Deriving the Latent Cause

Chapter 11: FAQs, Tips, and Don'ts on RCFA

- 11.1: Frequently Asked Questions on RCFA
- 11.2: Tips on Conducting a Root Cause Failure Analysis
- 11.3: Don't on Root Cause Failure Analysis

Chapter 12: The Conclusion

- 12.1: All Failures have a Reason for Failing
- 12.2: Root Cause Will Not Eliminate the Failure Totally
- 12.3: What is Hindering your People from Performing Root Cause?

Appendix A: Answers to RCFA Quizzes

Appendix B: RSA Maintenance Courses

Appendix C: RCFA Training Course Details (2 Days)

Appendix D: Previous RCFA Training Classes Conducted

Appendix E: Feedback from Root Cause Failure Analysis Training Serving Maintenance Mankind Worldwide

Glossary on Maintenance

RSA Maintenance Books Collection in Series