



# Failure Report And Corrective Actions System Procedure

ECC RAMS Engineering Procedure: ECC-01-2023-15-PD-001

## **APPROVAL**

The Procedure preparation, review and approved shall be performed by different professional with proved competencies on RAMS fields. This procedure review take place along the lifecycle whenever it's necessary based on directive, regulation, standards or internal procedure or client requirements.

	<b>Version</b>	<b>Prepared by</b>	<b>Signature</b>	<b>Reviewed by</b>	<b>Approved By</b>	<b>Date</b>
<b>Review</b>	1	Eduardo Calixto				01/01/23
<b>Review</b>						
<b>Review</b>						

# Table of Contents

<b>TABLE OF CONTENTS</b>	<b>3</b>
<b>1 OBJECTIVES, SCOPE &amp; RESPONSIBILITIES</b>	<b>5</b>
<b>1.1 INTRODUCTION &amp; PURPOSE.....</b>	<b>5</b>
<b>1.2 GENERAL PROCESS DESCRIPTION .....</b>	<b>5</b>
<b>1.3 REFERENCES.....</b>	<b>5</b>
<b>1.4 TERMS &amp; DEFINITIONS .....</b>	<b>6</b>
<b>1.5 ACRONYM .....</b>	<b>11</b>
<b>2 SYSTEM DESCRIPTION</b>	<b>13</b>
<b>2.1 GENERAL SYSTEM DESCRIPTION.....</b>	<b>13</b>
<b>2.1.1 Rollingstock</b>	13
<b>2.1.2 Product Breakdown Structure</b>	14
<b>3 FRACAS METHODOLOGY</b>	<b>15</b>
<b>3.1. FRACAS CODIFICATION.....</b>	<b>18</b>
<b>3.2. FRACAS CONFIGURATION.....</b>	<b>19</b>
<b>3.3. FRACAS IMPLEMENTATION.....</b>	<b>24</b>
<b>3.4. FRACAS SOFTWARE .....</b>	<b>2</b>
<b>4 FRACAS DEMONSTRATION, VERIFICATION AND VALIDATION.</b>	<b>3</b>
<b>5 FRACAS IMPLEMENTATION ALONG LIFE CYCLE</b>	<b>4</b>
<b>ANNEX A – FRACAS TEMPLATE.</b>	<b>0</b>
<b>ANNEX B – FRACAS EXAMPLE.</b>	<b>1</b>

## LIST OF FIGURES

Figure 1: FRACAS implementation Flow .....	15
Figure 2: FRACAS Implementation along Life cycle .....	16
Figure 3: Example of Railway PBS.....	17
Figure 4: FRACAS online template. Source: Integrity PRO SaaS, 2018. ....	20
Figure 5: The 5 Why Test.....	22
Figure 6: The 5 Whys Test as part of online FRACAS. Source: Integrity PRO SaaS, 2018.....	23
Figure 7: Asset Management Operation cycle. Source: Stewart. P, 2017 .....	24
Figure 8: FRACAS Online template Source: Integrity PRO SaaS.....	25
Figure 9: FRACAS Anomalies Graph. Source: Integrity PRO SaaS. ....	26
Figure 10: FRACAS Anomalies Graph. Source: Integrity PRO SaaS.....	0

Figure 11: Risk versus cost/benefit. Source: Integrity PRO SaaS.....	0
Figure 11: Action by owner team activities control Source: Integrity PRO SaaS.....	1

## **LIST OF TABLES**

Table 1: FRACAS codification .....	18
Table 2: Corrective Actions.....	21