Marine Root Cause Analysis Map™

Start Here With Each Causal Factor

After identifying an intermediate cause, proceed to light green to identify root causes.

- Structural 1
- Machinery/ Equipment 2
- Outfitting 3
- Human 4
- External Factors 5

- Design Problem 6
- Reliability Program Problem 7
- Misuse/Overload Problem 8
- Installation/ Fabrication Problem 9
- Permanent/ Returning Officers/ Crew 10
- Newly Assigned/ Contract/ Temporary Officers/Crew 11
- Company Employee 12
- Other (Third-Party Employee) 13
- Uncharted/ Unknown Hazard to Navigation 14
- Sea/Weather Condition 15
- Sabotage/ Terrorism/War 16
- Suicide/Homicide 17
- External Events 18
- Other 19

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- Design Review/ Verification 31
- Maintenance Program Design 34
- Maintenance Program Implementation 40
- Equipment Records 68
- Management Systems 72
- Procedures 120
- Human Factors 143
- Training/ Personnel Qualifications 178
- Responsibility/ Authority 200
- Operations/Job Supervision 206
- Communications 220
- Personnel Performance 245

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- Design Input Obsolete 23
- Design Input Incorrect 24
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- Design Output Incorrect 28
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- Design Input Not Addressed in Design Output 30

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- Critical Equipment/ System Not Identified 37
- Inappropriate Maintenance Type Applied 38
- Acceptance Criteria Inadequate 39

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- Scheduling Issue 42
- Scope Issue 43
- Implementation Issue 44

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- Scheduling Issue 46
- Detection Issue 47
- Monitoring Issue 48
- Troubleshooting/ Corrective Action Issue 49
- Implementation Issue 50

Shore-based Maintenance Issue 51
- Event Specification Issue 52
- Scheduling Issue 53
- Scope Issue 54
- Implementation Issue 55

Corrective Maintenance Issue 56
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- Scope Issue 61
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- Expired License/Certificate 197
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- Not Documented 205

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- Ineffective Walkthrough 211
- Scheduling/Rotation Issue 212
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- Multiple Actions per Step 127
- No Checkout Space Provided but Should Be 128
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- Graphics/Drawing Issue 130
- Ambiguous/Confusing Language/Wording Issue 131
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Enter Here With Each Intermediate Cause

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Shape	Description
	Problem
	Problem Category
	Cause Category
	Cause Type
	Intermediate Cause
	Root Cause Type
	Root Cause

Notes

Numbers here correspond to the Map Item number in Appendix A of the **ABS** *Guidance Notes on the Investigation of Marine Incidents*

* These Items are for descriptive purposes only. Code only to *Personnel Performance - Individual Issue.*

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