Minute to Pen it

FROM COMPLEX REQUIREMENTS TO CLEAR SOLUTIONS



SHIP REPAIR INSIGHTS

NOVEMBER 2026: WEEK 1

NAVY SHIP REPAIR INOVATION

BEYOND TECHNOLOGY: IMPROVING EXECUTION

THE QUESTION BEHIND THE INNOVATION

Are We Improving Ship Repair—or Just the Processes That Govern It?

Some of the most effective innovations in Navy ship repair may have little to do with new technology. Improving work item completeness, technical documentation, and engineering responsiveness before production begins could eliminate delays that equipment and automation alone cannot resolve.

1

WORK ITEM DEFICIENCY

Missing drawings, conflicting requirements, incomplete references, and unclear acceptance criteria.

2

TECHNICAL CLARIFICATION

Questions raised before work begins.

3

ENGINEERING REVIEW

Analysis and decisions made by responsible authority.

4

POTENTIAL WORK STOPPAGE

Delyed procedure approval and production interuption.



THE WATERFRONT REALITY

A Work Item requires flushing a shipboard piping system, but the supplied drawing does not reflect the installed configuration. The contractor must request clarification before establishing a valid flushing path. Engineering review follows, potentially delaying procedure approval and production. The technical requirement may be correct, but the Work Package was not ready for execution.

Technical standards define what must be accomplished. Technical readiness ensures the work can be executed efficiently, safely, and without unnecessary delays.

SEVEN PRACTICAL INNOVATIONS

IDEAS TO IMPROVE PCP AND WORK PACKAGE READINESS AND MAINTENANCE EXECUTION

1 **Work Package Readiness**

Identify missing drawings, conflicting requirements, incomplete references, and unclear acceptance criteria before production.

2 **Shipboard System and Flow-Path Verification**

Verify piping configurations, system boundaries, isolation points, and maintenance flow paths.

3 **Technical Issue Resolution and Escalation**

Track technical questions, responsible authorities, decisions, and time to resolution.

4 **Standardized Repair and Maintenance Procedures**

Develop reusable, validated procedures while retaining ship-specific verification and required approvals.

5 **Task-Specific Digital Workforce Training**

Improve worker understanding of technical requirements, procedures, inspections, and documentation.

6 **Condition-Based Maintenance and Contamination Prevention**

Use oil analysis, contamination monitoring, and condition assessments to improve maintenance planning.

7 **Repair Delay Prediction and Root-Cause Analysis**

Identify recurring causes of maintenance delays and apply lessons learned to future availabilities.

MEASURE WHAT MATTERS

Fewer technical deficiencies at work release. Faster engineering resolution. Less avoidable rework. More predictable maintenance schedules.

THE CENTRAL QUESTION | Should innovation be measured by what it produces or by the problems it prevents?

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