

# RCM Checklist for Select Asset Life Cycle Phases

For each RCM project



✓	Design
	D1. Does the owner's Project Requirements and Design Intent documentation include RCM elements where appropriate?
	D2. Is an online monitoring system planned where cost-effective?
	D3. Has the use of performance data for predictive testing and inspection been considered and planned?
	D4. Is the collection of cost, cost avoidance, and cost savings data incorporated into the life-cycle cost model?
	D5. Does the CMMS allow predictive/condition-based (PdM/CBM) testing and inspection data input?
	D6. Does the Independent Design Review process provide for maintenance and operations feedback/review?
	D7. Have appropriate PdM/CBM technologies for the equipment been selected?
	D8. Does the Commissioning Plan include acceptance criteria?
	D9. Do warranty requirements address PdM/CBM monitoring?
	D10. Will an FMEA be used to determine commissioning test and maintenance task development?
	D11. Are single points of failure identified and mitigated?
	D12. Are maintainability factors (access, material, standardization) considered?
	D13. Are quantitative goals, such as Mean Time to Repair, set?
	D14. Are ease-of-monitoring factors (access and online data collection) considered?
	D15. Are there performance indicators for measuring system performance and reliability?
	D16. Do the contractor qualifications match the RCM requirements?
	D17. Has a PdM/CBM analysis capability been provided by the contractor?
	D18. Has the distribution of raw test and PdM/CBM data been incorporated into the turnover process?
	D19. Are construction phase test and maintenance results distributed to users?
	D20. Are maintenance personnel included as part of the Independent Design Review process?
	D21. Do the Owner's project requirements address availability in a quantifiable manner?
	D22. Is enhanced commissioning part of the design intent?
	D23. Has sustainability been included in the design intent?

from NASA RC Guide for Facilities and Collateral Equipment, September 2008

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✓	Construction
	C1. Were acceptance testing requirements established (prior to construction mobilization)?
	C2. Do the contractor's qualifications indicate an adequate understanding of RCM?
	C3. Is the contractor conforming to specifications and drawings?
	C4. Is the contractor conforming to bills of material?
	C5. Is the contractor conforming to installation procedures?
	C6. Has a plan been developed for overseeing the maintenance being performed prior to turnover?
	C7. Has the training of maintenance personnel been initiated?
	C8. Is the selection of maintenance tasks in progress based on the FMEA and local criticality and probability of failure?
	C9. Has the writing of maintenance procedures and instructions been initiated?
	C10. Are baseline condition and performance data recorded and made available for equipment as it is installed?
	C11. Are spare parts and material requirements based on results of FMEA and logistical issues?
	C12. Have the contractor equipment submittals been reviewed and approved by the RCM group?
	C13. Is test equipment of sufficient quality and accuracy to test and measure the system performance within the tolerances required?
	C14. Is test equipment calibrated at the manufacturer's recommended intervals with calibration tags permanently affixed to the instrument?
	C15. Is test equipment maintained in good repair and operating condition?
	C16. Is test equipment immediately re-calibrated or repaired if damaged in any way during project system testing?

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## Procurement

	P1. Are performance specifications determined to meet reliability and maintainability RCM requirements?
	P2. Are acceptance testing requirements, including criteria, specified in the procurement documents?
	P3. Are contractor qualifications matched to RCM requirements?
	P4. Is a feedback system in place for continuous equipment improvement?
	P5. Has a provision been made for PdM/CBM, if applicable?
	P6. Are baseline performance and PdM/CBM data required?
	P7. Are equipment life-cycle costs calculations required/provided?
	P8. Are embedded (on-line) sensors required/provided?
	P9. Has equipment documentation (including manuals, drawings, and recommended spare parts) been provided to maintenance?



## Maintenance and Operations

	M1. Does the existing skills inventory support the RCM program?
	M2. Is training planned to compensate for skill and technical shortcomings?
	M3. Does the training support the development of predictive analytical skills?
	M4. Does the training support RCM management and supervisory skills?
	M5. Are the documentation, procedures, and work practices capable of supporting RCM?
	M6. Are the responsibilities for systems and equipment maintenance defined and assigned?
	M7. Are the maintenance history data and results distributed to proper users?
	M8. Is there a feedback system in place for continuous maintenance program improvement?
	M9. Is root-cause failure analysis in place?
	M10. Are failed components subject to post-failure examination and results recorded?
	M11. Are predictive forecasts tracked and methods modified based on experience?
	M12. Are PM tasks and CM monitoring periodicities adjusted based on experience?
	M13. Does the CMMS fully support the maintenance program?
	M14. Are maintenance cost, cost avoidance, and cost savings data collected, analyzed, and disseminated?
	M15. Is baseline condition and performance data updated to reflect major repair or replacement of equipment?
	M16. Are appropriate measures of maintenance performance (metrics) in use?
	M17. Have Bills of Materials (BOM) been created and spares requisitioned to Stores prior to startup?