

Control Types Effects on RPN Scores

Control Type	Control Description	Severity	Occurrence	Detection
Condition Monitoring	Predictive Maintenance (e.g. Vibration, Oil Analysis, Thermography)	↔	↔	↓
Condition Monitoring	Offline Condition Monitoring (e.g. Ultrasonic thickness, HiPOT, Current draw)	↔	↔	↓
Condition Monitoring	Online condition monitoring (e.g. diff P on a DCS)	↔	↔	↓
MRO	Stocking a Spare Part	↓	↔	↔
Repair/Replace	Precision Maintenance (e.g. Lubrication, alignment, cleaning)	↔	↓	↔
Repair/Replace	Replace wear out parts based on time	↔	↓	↔
Repair/Replace	Replace random failure parts based on time (e.g. electronics)	↔	↔	↔
Repair/Replace	Replace wear out parts based on # of uses/cycles	↔	↓	↔
Repair/Replace	Replace wear out parts based on actual condition	↔	↓	↔
Design / Modification	Redundancies	↔	↓	↔
Design / Modification	Interlocks	↓	↔	↔
Design / Modification	Alarm (e.g. Pressure diff starting to increase towards limit)	↔	↔	↓
Design / Modification	Protection Devices / Relief Devices	↓	↔	↔
Design / Modification	More robust part/component installed	↔	↓	↔
Design / Modification	More robust system design (i.e. designing out problem areas)	↓	↔	↔
Inspection	Maintenance / Operator Inspections (Visual)	↔	↔	↓
Inspection	Unofficial (Undocumented/uncontrolled) Operator / Maintenance Inspections	↔	↔	↔
Functional Test	Functional Tests before a production run	↔	↔	↓
Functional Test	Time-based functional tests (e.g. annual performance test)	↔	↔	↓
Functional Test	Failure Finding Test	↔	↔	↓
Functional Test & Repair	Calibration	↔	↓	↓