Asset Management

Identifying Minimum Maintenance Tasks



Identifying Minimum Maintenance Tasks Helps Sustain Assets for the Long-term



What is Minimum Maintenance?



Minimum Maintenance Types

Best Practice

- These are maintenance tasks that as an organization you've determined have some sort of value in performing. Value can be financial, component longevity, public perception etc.
- Examples Include:
 - Solar System Checks
 - Tower General Maintenance
 - OH Door Inspections
 - Roof Inspections
 - Electrical Component Checks

Regulatory

- These are tasks driven by industry standards and regulations.
- Examples Include:
 - CSA Regulatory Tower Inspections
 - National Building & Fire Code Fire Alarm Testing
 - Alberta Boilers Safety Association code for Boiler Inspections
 - DAM Safety Inspections

Reliability

- These are tasks driven by the equipment or component on what is typically required by the manufacturer for minimum maintenance, to achieve the desired life expectancy.
- Examples Include:
 - Generator checks and oil changes
 - HVAC system checks and maintenance
 - Boiler Checks

Safety

- These are tasks driven by company safety standards over and above industry regulations.
 - Examples Include:
 - Fall Protection Anchor Point Checks
 - Facility Safety Audits



Key Aspects of a Minimum Maintenance Standard

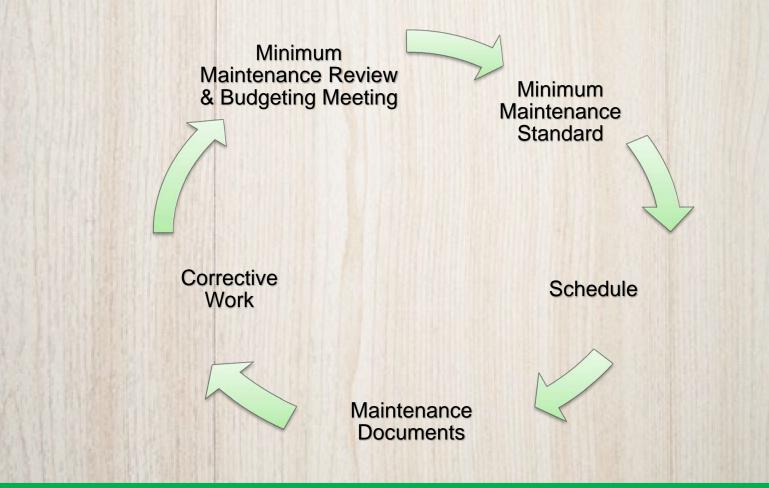
- Components and Subcomponents Identifies the area the maintenance will impact ex/ Mechanical > Generator
- Frequency how often the maintenance/operation item will happen
- Naming Convention applying a naming convention to the task will allow for easy scheduling and filing
- Description exactly what is happening for that maintenance/operations task
- Why? identifying why the item is needed
- Owner/Executor who is ultimately responsible to ensure the work is scheduled and then executed
- Timing identifies the time of year the task is most suitable for
- Documents identifies any supporting documentation



Minimum Maintenance and the Scheduling Life Cycle



From Planning to Scheduling to Execution





Facilities Planning and Scheduling Example



Minimum Maintenance Standard

Type 👻	Component	Sub Componer J	Frequency	Naming Convention -	Description 👻
					Guyed Structure - Structure and visual
					inspection of tower, CSA-S37-M86
					Document S37-01, Appendix D Guyed
Regulatory	Structural	Tower	M48 - 48 Month	M48 Tower - Inspection	Structures
					Vegetation and garbage clean up,
					onsite equipment check, tower visual
				M02 - Area General	check, anti climb guard check,
Best Practice	Misc.	Tower	M02 - 2 Month	Maintenance	vandalism or damage check
					Self Supporting Structure - Structure
					and visual inspection of tower, CSA-S37-
					M86 Document S37-01, Appendix D Self
Regulatory	Structural	Tower	M72 - 72 Month	M72 Tower - Inspection	Supporting Structures

Why?	Owner 👻	Executor 👻	Timing -	Documents 🗸
External company inspection of the tower and				
all its components to satisfy the guidelines of	Facility			M48-M72 Tower Regulatory
the code.	Manager	External Vendor	Spring/Sumr	Inspections, External Service Report
Assures our sites are maintained to a high	Facility	Maintenance		M02 Tower Site General Maintenance
level as many towers exist on private land	Manager	Worker	Year Round	Checklist
External company inspection of the tower and				
all its components to satisfy the guidelines of	Facility			M48-M72 Tower Regulatory
the code.	Manager	External Vendor	Spring/Sumr	Inspections, External Service Report



Schedule

							Schedule Owner	Ryley Girletz			SCED	Schedul	ed																	
					र 🖊	Special Areas Board	Start Date	8/29/2022			BGWR	Being W	orked																	
					X	est. 1938	Project End Date	9/2/2022			CANC	Cancelle	d																	
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						Cessford Fire Tower - past inspection recommended																								
SA2			CORR	3CIS		repairs		8/29/22 12:00 PM		0																				
SA2	2-4	TOW	PM	Brian	COMP	M02 Cessford Fire Tower - General Maintenance	8/29/22 1:30 PM	8/29/22 2:00 PM	0	2	10/29/2022																			
						Oyen Fire Tower - past inspection recommended																								
SA3		TOW				repairs		8/30/22 5:00 PM																	\square					
SA4	4-2	TOW	PM	Brian		M01 New Brigden Tower - Generator Check	8/30/22 10:00 AM	8/30/22 11:30 AM	0	1	9/29/2022														\square		\square			
						Cappon Tower - complete past tower inspection																								
SA3	3-6	TOW	CORR	3CIS	COMP	repair recommendations	8/30/22 12:30 PM	8/30/22 5:00 PM	0																		\square			
						M48 Gooseberry Tower - Radio/Repeater Tower																								
						Visual Inspections																								
						Communication Structure Inspection, 55m, CSA-S37-																								
						M86 Document S37-01, Appendix D - Guyed																								
SA4	4-2	TOW	REG	3CIS	COMP	Structures	8/31/22 8:00 AM	8/31/22 5:00 PM	0	48	9/3/2026																			
						M48 Benton Tower - Radio/Repeater Tower Visual																								
						Inspections																								
						Communication Structure Inspection, 55m, CSA-S37-																								
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SA3		TOW				Structures	9/1/22 8:00 AM		-	48																				
SA3	3-4	TOW	PM	Brian	RSCH	M02 Oyen Fire Tower - General Maintenance	9/1/22 11:00 AM	9/1/22 12:00 PM	0	2	11/1/2022																			



Maintenance Documents

Tower Site General Maintenance Checklist

Tower Name: New Brigden

Legal Location: NW-34-32-05w4

Date: Sept. 14

Inspected By: Ryley Girletz

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Special	Areas	Board

Yes No NA Corrected (Y/N)? Provide Comments if not Site Check: Is there garbage onsite? No Is the vegetation maintained to an Yes acceptable level? Is the fence in good Yes Repaired fence condition? Is the building in good Yes condition? Are locks in place? Yes Are there any other signs of damage or vandalism No onsite? Tower Check: Are the cables in good Yes condition? Is the anti-climb device in Yes good condition? Is there any visible No damage to the tower?

Other Issues Onsite:

Cable guard needs to be repaired on the building side.



Minimum Maintenance Standard Review <u>& Budgeting Meeting</u>

Minimum Maintenance Standard Review:

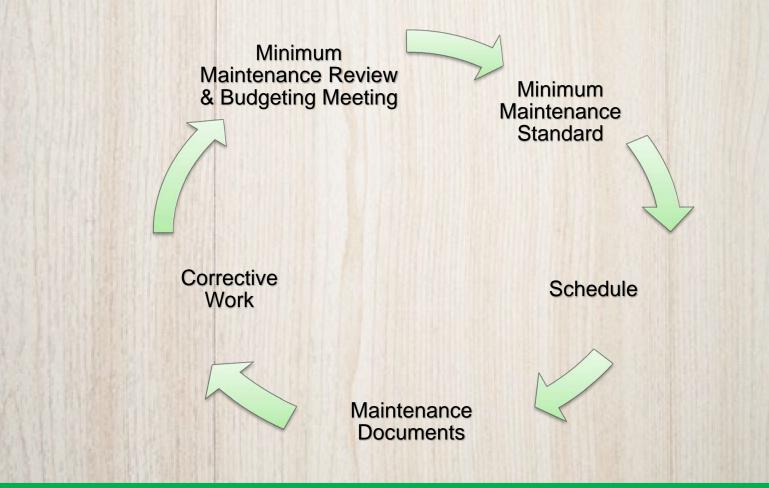
- Regulatory Items will be reviewed for changes in the regulation
- Best Practice items will be aligned to management strategies to ensure the level of service expectations put forth by council.
- Reliability items will be reviewed to assure alignment to manufacturers recommendations or field proven tasks.
- Safety items are impacted by safety bulletins, incidents and near misses throughout the previous year, and changes required in the minimum maintenance standard to positively impact safety.

Budgeting Meetings

• Once minimum maintenance items are identified, these items can then be incorporated into the schedule and subsequently the annual budget.



From Planning to Scheduling to Execution





So what is it that I'm asking for?



Project Timeline

January 2023- December 2023

- Introductory group meeting
- Introduce group and "mini" group goals
 - Establish safety, best practice and regulatory components for all asset classes
- Establishment of "mini" working groups, represented by asset class experts
- Work groups to meet monthly to identify minimum maintenance standard items
- Online meetings Meetings will be a max of 2hrs, and will require actions to be assigned and worked on outside of the meetings

February 2024

- Work group will present a Minimum Maintenance Standard to the IAMA at their winter meeting
- The minimum maintenance standard will be reviewed annually by the original working group with the goal of updating regulatory, best practice and safety components.



Questions or want to learn more?



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