Daily, Weekly, Monthly, Quarterly, and Annual Preventative Maintenance Examples

Daily Preventative Maintenance Example

Sample System Checks – Daily

Item		Tag	Set Point	Record Daily Value or Status
Pressures	Instrument air	**PG1**	>90 psig	
	Sample pressure	**PG2**	>2 psig	
	Probe vacuum	**VG1**	<10 inch Hg	
	Sample probe purge air	**FR1**	>80 psig	
Flows	Total sample flow	**RM1**	4-5 lpm	
	NO_X analyzer flow	**RM2**	~1.5 lpm	
	CO analyzer flow	**RM3**	~1.5 lpm	
	O_2 analyzer flow	**RM4**	~1.5 lpm	
	Gas sample total flow	**RM5**	4-5 lpm	
Visual checks	Room/enclosure temperature	HVAC	75°F, ±5°F	
	Moisture sensor/filter	**MS1**	Clean and dry	
	Cooler temp	**GC1**	Green light = okay	
	Drain pump	**DP1** and **DP2**	Turning approx. 6 rpm	
	Sample line temp control	**TC1**	250°F, ±10°F	

Note: this is only an example list - in this case for a source level extractive CEMS, and that the set points would be for this system only.

Weekly Preventative Maintenance Example

Sample System Checks – Weekly

Item	Value or Status (Completed, OK, Replaced)
Perform all daily checks.	
Perform manual calibration check.	
Check moisture sensor (**MS1**) and tubing downstream of sample conditioner for moisture. Remove and dry as necessary. Check sample conditioner (**GC1**) for proper operation.	
Verify sample line heater operation by checking current with amp meter.	

DAS Checks – Weekly

Item	Value or Status (Completed, OK, Replaced)
Check/change backup media (CD disk, tape, etc).	
If enabled, verify that automatic backups have occurred for the week.	
Verify there is sufficient disk for another week of data.	

Monthly Preventative Maintenance Example

Sample System Checks – Monthly

Item	Value or Status (Completed, OK, Replaced)
Perform all daily and weekly checks.	
Check sample pump (SP1); replace diaphragms and disks as needed, usually every 4 months.	
Check peristaltic pump tubing (DP1 and DP2), replace as necessary.	
Change desiccant media (DH1 and DH2).	
If equipped with an air compressor: 1. Check/change oil as needed. 2. Check for excessive water build-up	
Check filter on shelter HVAC system. Clean or replace as needed, usually every 2-3 months.	
Check CGA/linearity cal gas bottle pressures > 500 psig. Order new gas bottles as needed keeping in mind the lead time may be several weeks.	

**CGA/Linearity Gas Cylinders

Quarterly Preventative Maintenance Example

Sample System Checks – Quarterly

Item	Value or Status (Completed, OK, Replaced)
Perform all daily, weekly, and monthly checks. Note that all routine maintenance is to be performed prior to the required quarterly audit test.	
If sample gas pressure (**PG2**) shows a decline, perform probe maintenance. Replace the filter element and clean the filter chamber as necessary. Replace O-rings. Verify probe box heater is operating. If flow is low, check sample pump (**SP1**).	
Verify and calibrate all CEMS alarm switches.	
The rear motor on the drain pumps (**DP1/DP2**) should be given two drops of #20 non-detergent oil. Do not over oil. Clean off any dust or dirt.	
Perform CEMS sample system leak check and flow balance procedure.	
Check ammonia scrubber (**AS1**). When deposits are visible 75% of the way up the length of the scrubber, scrubbing media needs to be replaced. Depending on concentration of NH_3 and flowrate, media life may last 30,000 hrs.	
Perform general housekeeping duties inside shelter/cabinet. Dust/clean all equipment surfaces.	

Annual Preventative Maintenance Example

Sample System Checks – Annual

Item	Value or Status (Completed, OK, Replaced)
Perform all daily, weekly, monthly, quarterly, and semiannual checks. Note that all routine maintenance is to be performed prior to the required annual RATA.	
Replace sample pump (**SP1)** diaphragms.	
Inspect and clean thermoelectric cooler fan (**GC1**).	
Inspect and replace as needed Fluororubber, polypropylene, PVC, toalone, and Teflon joints.	

QA Audits – Annual

Item	Value or Status (Completed, OK, Replaced)
Perform any required annual RATA.	All testing completed on:
Check results for the RATA Bias Adjustment Factor and enter the BAF into the DAHS record field.	
For Appendix D reporting units: Perform annual fuel flowmeter accuracy check before close of the quarter in which due.	Analysis completed on: