Federal Incinerator Regulations

for Remote Alaska Incinerators

Commercial/Industrial (CISWI) and Other Solid Waste Incinerators (OSWI)

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ADEC Air Compliance Program

Background:

EPA established federal New Source Performance Standards and Existing Source Emission Guidelines for CISWI and OSWI units. Federal Guidelines are set for States to regulate existing sources. If a state fails to update their State Implementation Plan adopting standards at least as stringent as the federal guidelines by the CAA deadlines, the CAA obligates EPA to impose a federal plan. EPA also has published a proposed Federal Implementation Plan for Alaskan CISWI.

CISWI:

Commercial/Industrial Solid Waste Incineration (CISWI) units include small, remote incinerators, such as those used at mine camps, oil and gas facilities and construction camps. A small, remote CISWI combusts 3 tons per day or less solid waste and is more than 25 miles driving distance to the nearest municipal solid waste landfill.

The CISWI definitions in 40 C.F.R. 60.2265 exclude cyclonic burn barrels (smart-ash units). Air curtain incinerators that burn only clean lumber, wood waste, and/or yard waste are only required to meet the requirements under 40 C.F.R. 60.2242 and under 60.2245 through 60.2260.
40 C.F.R. 60.2020 exempts those units regulated under separate federal solid waste incinerator standards and guidelines, such as medical/infectious wastes or sewage sludge.

OSWI:

Other Solid Waste Incineration (OSWI) units include very small municipal waste incinerators, such as those used at Utqiaġvik (Barrow) Landfill and Skagway. The OSWI definitions in 40 C.F.R. 60.2977 do NOT exclude regulatory requirements for cyclonic burn barrels (smart-ash units). Air curtain incinerators that burn only clean lumber, wood waste, and/or yard waste are required to meet only the requirements in 40 C.F.R. 60.2970 through 60.2974 and are exempt from all other requirements of the OSWI rule. Units used by law enforcement and federal agencies for contraband or prohibited goods, national security, and temporary use incinerators for disaster recovery are not subject to OSWI according to 40 C.F.R. 60.2887. OSWI also does not apply to incinerators and air curtain incinerators at Class II or III municipal solid waste landfills in Alaska.

40 C.F.R. 60.2887 also excludes those units regulated under separate federal solid waste incinerator standards and guidelines, such as CISWI, medical/infectious wastes, or sewage sludge.

NEW CISWI

New CI: For those which construction, reconstruction or modification commenced **after June 4, 2010.**

New CI incinerator federal obligations: 40 CFR 60, Subpart CCCC (40 CFR 60.2000-2265).

Alaska adopted these standards by reference in 18 AAC 50.040(a)(2)(JJ). The adopted federal standards are as revised February 1, 2016.

For small, remote incinerators, the following apply:

- Emission Standards: Metals, acid gases, CO, PM, NO_x, SO_2, dioxins, and fugitive ash opacity.
- Infers acid gas and possibly PM emission controls
- Initial and periodic emission testing
- Emission control monitoring
- Siting analysis
- Waste management plan
- Operator training
- Periodic reporting

TABLE 8 TO SUBPART CCCC OF PART 60—EMISSION LIMITATIONS FOR SMALL, REMOTE INCINERATORS THAT COMMENCED CONSTRUCTION AFTER JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER AUGUST 7, 2013

For the air pollutant	You must meet this emission limitation[1]	Using this averaging time	And determining compliance using this method
Cadmium	0.67 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Carbon monoxide	13 parts per million dry volume.	3-run average (1 hour minimum sample time per run).	Performance test (Method 10 at 40 CFR part 60, appendix A–4).
Dioxins/furans (total mass basis).	1,800 nanograms per dry standard cubic meter..	3-run average (collect a minimum volume of 1 dry standard cubic meters per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	31 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Fugitive ash	Visible emissions for no more than 5 percent of the hourly observation period.	Three 1-hour observation periods	Visible emissions test (Method 22 at 40 CFR part 60, appendix A–7).
Hydrogen chloride	200 parts per million by dry volume.	3-run average (For Method 26, collect a minimum volume of 60 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Lead	2.0 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters).	Performance test (Method 29 at 40 CFR part 60, appendix A–8). Use ICPMS for the analytical finish.
Mercury	0.0035 milligrams per dry standard cubic meter.	3-run average (For Method 29 and ASTM D6784–02 (Reapproved 2008),[2] collect a minimum volume of 2 dry standard cubic meters per run. For Method 30B, collect a minimum volume as specified in Method 30B at 40 CFR part 60, appendix A).	Performance test (Method 29 or 30B at 40 CFR part 60, appendix A–8) or ASTM D6784–02 (Reapproved 2008).[2]
Oxides of nitrogen	170 parts per million dry volume.	3-run average (for Method 7E, 1 hour minimum sample time per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).
Particulate matter (filterable).	270 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters).	Performance test (Method 5 or 29 at 40 CFR part 60, appendix A–3 or appendix A–8).
Sulfur dioxide	1.2 parts per million dry volume.	3-run average (1 hour minimum sample time per run).	Performance test (Method 6 or 6c at 40 CFR part 60, appendix A–4).

1 All emission limitations are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the Total Mass Basis limit or the toxic equivalency basis limit.

EXISTING CISWI

Existing CI: Those for which construction commenced after November 30, 1999 but no later than **June 4, 2010**, or commenced modification or reconstruction after June 1, 2001 but no later than August 7, 2013.

Existing CI incinerator federal obligations: None current, but pending final rulemaking as explained below:

Alaska has adopted the federal guidelines by reference in 18 AAC 50.040(a)(2)(LL), but has not submitted the guidelines for approval in the State Implementation Plan. Therefore, existing CI incinerators are not subject to the guidelines.

On January 10, 2017, EPA proposed a federal plan for States that have yet to submit a SIP revision. Alaska is one of the listed States. EPA has proposed a compliance schedule of ***February 7, 2018.*** For small, remote incinerators, the following apply:

- Emission Standards: metals, acid gases, CO, PM, NOx, dioxins, and fugitive ash opacity.
- Infers acid gas and possibly PM emission controls
- Initial and periodic emission testing
- Emissions control monitoring
- Waste management plan
- Operator training
- Periodic reporting

TABLE 8 TO SUBPART III OF PART 62—MODEL RULE—EMISSION LIMITATIONS THAT APPLY TO SMALL, REMOTE INCINERATORS AFTER FEBRUARY 7, 2018

For the air pollutant	You must meet this emission limitation [1]	Using this averaging time	And determining compliance using this method
Cadmium	0.95 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Carbon monoxide	64 parts per million dry volume.	3-run average (1 hour minimum sample time per run).	Performance test (Method 10 at 40 CFR part 60, appendix A–4).
Dioxins/furans (total mass basis).	4,400 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	180 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Fugitive ash	Visible emissions for no more than 5 percent of the hourly observation period.	Three 1-hour observation periods	Visible emissions test (Method 22 at 40 CFR part 60, appendix A–7).
Hydrogen chloride	300 parts per million dry volume.	3-run average (For Method 26, collect a minimum volume of 120 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Lead	2.1 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters).	Performance test (Method 29 at 40 CFR part 60, appendix A–8). Use ICPMS for the analytical finish.
Mercury	0.0053 milligrams per dry standard cubic meter.	3-run average (For Method 29 and ASTM D6784–02 (Reapproved 2008),2 collect a minimum volume of 2 dry standard cubic meters per run. For Method 30B, collect a minimum sam- ple as specified in Method 30B at 40 CFR part 60, appendix A).	Performance test (Method 29 or 30B at 40 CFR part 60, appendix A–8) or ASTM D6784–02 (Reapproved 2008).2
Oxides of nitrogen	190 parts per million dry volume.	3-run average (for Method 7E, 1 hour minimum sample time per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).
Particulate matter (filterable)	270 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 1 dry standard cubic meters).	Performance test (Method 5 or 29 at 40 CFR part 60, appendix A–3 or appendix A–8).
Sulfur dioxide	150 parts per million dry volume.	3-run average (for Method 6, collect a minimum of 20 liters per run; for Method 6C, 1 hour minimum sample time per run).	Performance test (Method 6 or 6c at 40 CFR part 60, appendix A–4).

1 All emission limitations are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the Total Mass Basis limit or the toxic equivalency basis limit.

NEW OSWI

New OSWI: For those which construction commenced **on or after December 9, 2004**, and those which modification or reconstruction commenced **on or after June 16, 2006**

New OSW incinerator federal obligations: 40 CFR 60, Subpart EEEE (40 CFR 60.2500-2515).

Alaska adopted these standards by reference in 18 AAC 50.040(a)(2)(MM). The adopted federal standards are as revised February 1, 2016.

For new very small municipal waste incinerators, the following apply:

- Emission Standards: metals, acid gases, CO, PM, NO_x, SO_2, opacity, dioxins.
- Infers acid gas and possibly PM emission controls
- Initial and periodic emission testing
- Continuous Emissions Monitoring (CEMS) for CO and O_2
- Siting analysis
- Waste management plan
- Operator training
- Periodic reporting

TABLE 1 TO SUBPART EEEE OF PART 60—EMISSION LIMITATIONS

As stated in § 60.2915, you must comply with the following:

For the air pollutant	You must meet this emission limitation [a]	Using this averaging time	And determining compliance using this method
1. Cadmium	18 micrograms per dry standard cubic meter.	3-run average (1 hour minimum sample time per run).	Method 29 of appendix A of this part.
2. Carbon monoxide	40 parts per million by dry volume.	3-run average (1 hour minimum sample time per run during performance test), and 12-hour rolling aver- ages measured using CEMS. [b]	Method 10, 10A, or 10B of appendix A of this part and CEMS.
3. Dioxins/furans (total basis)	33 nanograms per dry stand- ard cubic meter.	3-run average (1 hour minimum sample meter time per run).	Method 23 of appendix A of this part.
4. Hydrogen chloride	15 parts per million by dry volume.	3-run average (1 hour minimum sample time per run).	Method 26A of appendix A of this part.
5. Lead	226 micrograms per dry standard cubic meter.	3-run average (1 hour minimum sample time per run).	Method 29 of appendix A of this part.
6. Mercury	74 micrograms per dry standard cubic meter.	3-run average (1 hour minimum sample time per run).	Method 29 of appendix A of this part.
7. Opacity	10 percent	6-minute average (observe over three 1-hour test runs; i.e., thirty 6-minute aver- ages).	Method 9 of appendix A of this part.
8. Oxides of nitrogen	103 parts per million by dry volume.	3-run average (1 hour minimum sample time per run).	Method 7, 7A, 7C, 7D, or 7E of appendix A of this part, or ANSI/ASME PTC 19.10– 1981 (IBR, see § 60.17(h)) in lieu of Methods 7 and 7C only.
9. Particulate matter	0.013 grains per dry standard cubic foot.	3-run average (1 hour minimum sample time per run).	Method 5 or 29 of appendix A of this part.
10. Sulfur dioxide	3.1 parts per million by dry volume.	3-run average (1 hour minimum sample time per run).	Method 6 or 6C of appendix A of this part, or ANSI/ ASME PTC 19.10–1981

[a] All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.

[b] Calculated each hour as the average of the previous 12 operating hours.

EXISTING OSWI

Existing OSWI: Those units for which construction commenced **on or before December 9, 2004**.

Existing OSW incinerator federal obligations: None current.

Alaska has adopted the federal guidelines by reference in 18 AAC 50.040(a)(2)(NN), but has not submitted the guidelines for approval in the State Implementation Plan.

Therefore, existing OSW incinerators are not subject to the guidelines.