

§ 63.2291 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (5) of this section.

(1) Approval of alternatives to the compliance options, operating requirements, and work practice requirements in §§ 63.2240 and 63.2241 as specified in § 63.6(g). For the purposes of delegation authority under 40 CFR part 63, subpart E, “compliance options” represent “emission limits”; “operating requirements” represent “operating limits”; and “work practice requirements” represent “work practice standards.”

(2) Approval of major alternatives to test methods as specified in § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major alternatives to monitoring as specified in § 63.8(f) and as defined in § 63.90.

(4) Approval of major alternatives to recordkeeping and reporting as specified in § 63.10(f) and as defined in § 63.90.

(5) Approval of PCWP sources demonstrations of eligibility for the low-risk subcategory developed according to appendix B of this subpart.

§ 63.2292 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA), in 40 CFR 63.2, the General Provisions, and in this section as follows:

Affected source means the collection of dryers, refiners, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products. The affected source includes, but is not limited to, green end operations, refining, drying operations (including any combustion unit exhaust stream routinely used to direct fire process unit(s)), resin preparation, blending and forming operations, pressing and board cooling operations, and miscellaneous finishing operations (such as sanding, sawing, patching, edge sealing, and other finishing operations not subject to other NESHAP). The affected source also includes on-site storage of raw materials used in the manufacture of plywood and/or composite wood products, such as resins; onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing; and miscellaneous coating operations (defined elsewhere in this section). The affected source includes lumber kilns at PCWP manufacturing facilities and at any other kind of facility.

Agricultural fiber means the fiber of an annual agricultural crop. Examples of agricultural fibers include, but are not limited to, wheat straw, rice straw, and bagasse.

Biofilter means an enclosed control system such as a tank or series of tanks with a fixed roof that contact emissions with a solid media (such as bark) and use microbiological activity to transform organic pollutants in a process exhaust stream to innocuous compounds such as carbon dioxide, water, and inorganic salts. Wastewater treatment systems such as aeration lagoons or activated sludge systems are not considered to be biofilters.

Capture device means a hood, enclosure, or other means of collecting emissions into a duct so that the emissions can be measured.

Capture efficiency means the fraction (expressed as a percentage) of the pollutants from an emission source that are collected by a capture device.

Catalytic oxidizer means a control system that combusts or oxidizes, in the presence of a catalyst, exhaust gas from a process unit. Catalytic oxidizers

include regenerative catalytic oxidizers and thermal catalytic oxidizers.

Combustion unit means a dryer burner, process heater, or boiler. Combustion units may be used for combustion of organic HAP emissions.

Control device means any equipment that reduces the quantity of HAP emitted to the air. The device may destroy the HAP or secure the HAP for subsequent recovery. Control devices include, but are not limited to, thermal or catalytic oxidizers, combustion units that incinerate process exhausts, biofilters, and condensers.

Control system or add-on control system means the combination of capture and control devices used to reduce HAP emissions to the atmosphere.

Conveyor strand dryer means a conveyor dryer used to reduce the moisture of wood strands used in the manufacture of oriented strandboard, laminated strand lumber, or other wood strand-based products. A *conveyor strand dryer* is a process unit.

Conveyor strand dryer zone means each portion of a conveyor strand dryer with a separate heat exchange system and exhaust vent(s). Conveyor strand dryers contain multiple zones (e.g., three zones), which may be divided into multiple sections.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any compliance option, operating requirement, or work practice requirement;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart, and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any compliance option, operating requirement, or work practice requirement in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart. A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the standard is up to the discretion of the

entity responsible for enforcement of the standards.

Direct-fired process unit means a process unit that is heated by the passing of combustion exhaust through the process unit such that the process material is contacted by the combustion exhaust.

Dryer heated zones means the zones of a softwood veneer dryer or fiberboard mat dryer that are equipped with heating and hot air circulation units. The cooling zone(s) of the dryer through which ambient air is blown are not part of the dryer heated zones.

Dry forming means the process of making a mat of resinated fiber to be compressed into a reconstituted wood product such as particleboard, oriented strandboard, medium density fiberboard, or hardboard.

Dry rotary dryer means a rotary dryer that dries wood particles or fibers with a maximum inlet moisture content of less than or equal to 30 percent (by weight, dry basis) and operates with a maximum inlet temperature of less than or equal to 600 °F. A dry rotary dryer is a process unit.

Engineered wood product means a product made with lumber, veneers, strands of wood, or from other small wood elements that are bound together with resin. Engineered wood products include, but are not limited to, laminated strand lumber, laminated veneer lumber, parallel strand lumber, wood I-joists, and glue-laminated beams.

Fiber means the discrete elements of wood or similar cellulosic material, which are separated by mechanical means, as in refining, that can be formed into boards.

Fiberboard means a composite panel composed of cellulosic fibers (usually wood or agricultural material) made by wet forming and compacting a mat of fibers. Fiberboard density generally is less than 0.50 grams per cubic centimeter (31.5 pounds per cubic foot).

Fiberboard mat dryer means a dryer used to reduce the moisture of wet-formed wood fiber mats by applying heat. A *fiberboard mat dryer* is a process unit.

Flame zone means the portion of the combustion chamber in a combustion unit that is occupied by the flame envelope.

Furnish means the fibers, particles, or strands used for making boards.

Glue-laminated beam means a structural wood beam made by bonding lumber together along its faces with resin.

Green rotary dryer means a rotary dryer that dries wood particles or fibers with an inlet moisture content of greater than 30 percent (by weight, dry basis) at any dryer inlet temperature or operates with an inlet temperature of greater than 600 °F with any inlet moisture content. A *green rotary dryer* is a process unit.

Group 1 miscellaneous coating operations means application of edge seals, nail lines, logo (or other information) paint, shelving edge fillers, trademark/gradestamp inks, and wood putty patches to plywood and composite wood products (except kiln-dried lumber) on the same site where the plywood and composite wood products are manufactured. Group 1 miscellaneous coating operations also include application of synthetic patches to plywood at new affected sources.

Hardboard means a composite panel composed of inter-felted cellulosic fibers made by dry or wet forming and pressing of a resinated fiber mat. Hardboard generally has a density of 0.50 grams per cubic centimeter (31.5 pounds per cubic foot) or greater.

Hardboard oven means an oven used to heat treat or temper hardboard after hot pressing. Humidification chambers are not considered as part of hardboard ovens. A *hardboard oven* is a process unit.

Hardwood means the wood of a broad-leaved tree, either deciduous or evergreen. Examples of hardwoods include, but are not limited to, aspen, birch, poplar, and oak.

Hardwood veneer dryer means a dryer that removes excess moisture from veneer by conveying the veneer through a heated medium on rollers, belts, cables, or wire mesh. Hardwood veneer dryers are used to dry veneer with less than 30 percent softwood species on an annual volume basis. Veneer kilns that operate as batch units, veneer dryers heated by radio frequency or microwaves that are used to redry veneer, and veneer redryers (defined elsewhere in this section) that are heated by conventional means are not considered to

be hardwood veneer dryers. A *hardwood veneer dryer* is a process unit.

Kiln-dried lumber means solid wood lumber that has been dried in a lumber kiln.

Laminated strand lumber (LSL) means a composite product formed into a billet made of thin wood strands cut from whole logs, resinated, and pressed together with the grain of each strand oriented parallel to the length of the finished product.

Laminated veneer lumber (LVL) means a composite product formed into a billet made from layers of resinated wood veneer sheets or pieces pressed together with the grain of each veneer aligned primarily along the length of the finished product. *Laminated veneer lumber* is also known as parallel strand lumber (PSL).

Lumber means boards or planks sawed or split from logs or timber, including logs or timber processed for use as utility poles or other wood components. Lumber can be either green (non-dried) or dried. Lumber is typically either air-dried or kiln-dried.

Lumber kiln means an enclosed dryer operated by applying heat to reduce the moisture content of lumber.

Medium density fiberboard (MDF) means a composite panel composed of cellulosic fibers (usually wood or agricultural fiber) made by dry forming and pressing of a resinated fiber mat.

Method detection limit means the minimum concentration of an analyte that can be determined with 99 percent confidence that the true value is greater than zero.

Miscellaneous coating operations means application of any of the following to plywood or composite wood products: edge seals, moisture sealants, anti-skid coatings, company logos, trademark or grade stamps, nail lines, synthetic patches, wood patches, wood putty, concrete forming oils, glues for veneer composing, and shelving edge fillers. Miscellaneous coating operations also include the application of primer to oriented strandboard siding that occurs at the same site as oriented strandboard manufacture and application of asphalt, clay slurry, or titanium dioxide coatings to fiberboard at the same site of fiberboard manufacture.

Molded particleboard means a shaped composite product (other than a composite panel) composed primarily of cellulosic materials (usually wood or agricultural fiber) generally in the form of discrete pieces or particles, as distinguished from fibers, which are pressed together with resin.

MSF means thousand square feet (92.9 square meters). Square footage of panels is usually measured on a thickness basis, such as $\frac{3}{8}$ -inch, to define the total volume of panels. Equation 6 of § 63.2262(j) shows how to convert from one thickness basis to another.

Nondetect data means, for the purposes of this subpart, any value that is below the method detection limit.

Non-HAP coating means a coating with HAP contents below 0.1 percent by mass for Occupational Safety and Health Administration-defined carcinogens as specified in 29 CFR 1910.1200(d)(4), and below 1.0 percent by mass for other HAP compounds.

1-hour period means a 60-minute period.

Oriented strandboard (OSB) means a composite panel produced from thin wood strands cut from whole logs, formed into resinated layers (with the grain of strands in one layer oriented perpendicular to the strands in adjacent layers), and pressed.

Oven-dried ton(s) (ODT) means tons of wood dried until all of the moisture in the wood is removed. One oven-dried ton equals 907 oven-dried kilograms.

Parallel strand lumber (PSL) means a composite product formed into a billet made from layers of resinated wood veneer sheets or pieces pressed together with the grain of each veneer aligned primarily along the length of the finished product. *Parallel strand lumber* is also known as laminated veneer lumber (LVL).

Partial wood products enclosure means an enclosure that does not meet the design criteria for a wood products enclosure as defined in this subpart.

Particle means a discrete, small piece of cellulosic material (usually wood or agricultural fiber) produced mechanically and used as the aggregate for a particleboard.

Particleboard means a composite panel composed primarily of cellulosic materials (usually wood or agricultural

fiber) generally in the form of discrete pieces or particles, as distinguished from fibers, which are pressed together with resin.

Plywood means a panel product consisting of layers of wood veneers hot pressed together with resin. Plywood includes panel products made by hot pressing (with resin) veneers to a substrate such as particleboard, medium density fiberboard, or lumber. Plywood products may be flat or curved.

Plywood and composite wood products (PCWP) manufacturing facility means a facility that manufactures plywood and/or composite wood products by bonding wood material (fibers, particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a panel, engineered wood product, or other product defined in § 63.2292. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include, but are not limited to, plywood, veneer, particleboard, molded particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

Press predryer means a dryer used to reduce the moisture and elevate the temperature by applying heat to a wet-formed fiber mat before the mat enters a hot press. A *press predryer* is a process unit.

Pressurized refiner means a piece of equipment operated under pressure for preheating (usually by steaming) wood material and refining (rubbing or grinding) the wood material into fibers. Pressurized refiners are operated with continuous infeed and outfeed of wood material and maintain elevated internal pressures (*i.e.*, there is no pressure release) throughout the preheating and refining process. A *pressurized refiner* is a process unit.

Primary tube dryer means a single-stage tube dryer or the first stage of a multi-stage tube dryer. Tube dryer stages are separated by vents for removal of moist gases between stages (*e.g.*, a product cyclone at the end of a

single-stage dryer or between the first and second stages of a multi-stage tube dryer). The first stage of a multi-stage tube dryer is used to remove the majority of the moisture from the wood furnish (compared to the moisture reduction in subsequent stages of the tube dryer). Blow-lines used to apply resin are considered part of the primary tube dryer. A *primary tube dryer* is a process unit.

Process unit means equipment classified according to its function such as a blender, dryer, press, former, or board cooler.

Reconstituted wood product board cooler means a piece of equipment designed to reduce the temperature of a board by means of forced air or convection within a controlled time period after the board exits the reconstituted wood product press unloader. Board coolers include wicket and star type coolers commonly found at medium density fiberboard and particleboard plants. Board coolers do not include cooling sections of dryers (e.g., veneer dryers or fiberboard mat dryers) or coolers integrated into or following hardboard bake ovens or humidifiers. A *reconstituted wood product board cooler* is a process unit.

Reconstituted wood product press means a press, including (if applicable) the press unloader, that presses a resinated mat of wood fibers, particles, or strands between hot platens or hot rollers to compact and set the mat into a panel by simultaneous application of heat and pressure. Reconstituted wood product presses are used in the manufacture of hardboard, medium density fiberboard, particleboard, and oriented strandboard. Extruders are not considered to be reconstituted wood product presses. A *reconstituted wood product press* is a process unit.

Representative operating conditions means operation of a process unit during performance testing under the conditions that the process unit will typically be operating in the future, including use of a representative range of materials (e.g., wood material of a typical species mix and moisture content or typical resin formulation) and representative operating temperature range.

Resin means the synthetic adhesive (including glue) or natural binder, including additives, used to bond wood or other cellulosic materials together to produce plywood and composite wood products.

Responsible official means responsible official as defined in 40 CFR 70.2 and 40 CFR 71.2.

Rotary strand dryer means a rotary dryer operated by applying heat and used to reduce the moisture of wood strands used in the manufacture of oriented strandboard, laminated strand lumber, or other wood strand-based products. A *rotary strand dryer* is a process unit.

Secondary tube dryer means the second stage and subsequent stages following the primary stage of a multi-stage tube dryer. Secondary tube dryers, also referred to as relay dryers, operate at lower temperatures than the primary tube dryer they follow. Secondary tube dryers are used to remove only a small amount of the furnish moisture compared to the furnish moisture reduction across the primary tube dryer. A *secondary tube dryer* is a process unit.

Softwood means the wood of a coniferous tree. Examples of softwoods include, but are not limited to, Southern yellow pine, Douglas fir, and White spruce.

Softwood veneer dryer means a dryer that removes excess moisture from veneer by conveying the veneer through a heated medium, generally on rollers, belts, cables, or wire mesh. Softwood veneer dryers are used to dry veneer with greater than or equal to 30 percent softwood species on an annual volume basis. Veneer kilns that operate as batch units, veneer dryers heated by radio frequency or microwaves that are used to redry veneer, and veneer re-dryers (defined elsewhere in this section) that are heated by conventional means are not considered to be softwood veneer dryers. A *softwood veneer dryer* is a process unit.

Startup means bringing equipment online and starting the production process.

Startup, initial means the first time equipment is put into operation. Initial startup does not include operation solely for testing equipment. Initial

startup does not include subsequent startups (as defined in this section) following malfunction or shutdowns or following changes in product or between batch operations. Initial startup does not include startup of equipment that occurred when the source was an area source.

Startup, shutdown, and malfunction plan (SSMP) means a plan developed according to the provisions of § 63.6(e)(3).

Strand means a long (with respect to thickness and width), flat wood piece specially cut from a log for use in oriented strandboard, laminated strand lumber, or other wood strand-based product.

Temporary total enclosure (TTE) means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source, as defined in Method 204 of 40 CFR part 51, appendix M.

Thermal oxidizer means a control system that combusts or oxidizes exhaust gas from a process unit. Thermal oxidizers include regenerative thermal oxidizers and combustion units.

Total hazardous air pollutant emissions means, for purposes of this subpart, the sum of the emissions of the following six compounds: acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde.

Tube dryer means a single-stage or multi-stage dryer operated by applying heat to reduce the moisture of wood fibers or particles as they are conveyed (usually pneumatically) through the dryer. Resin may or may not be applied to the wood material before it enters the tube dryer. Tube dryers do not include pneumatic fiber transport systems that use temperature and humidity conditioned pneumatic system supply air in order to prevent cooling of the wood fiber as it is moved through the process. A *tube dryer* is a process unit.

Veneer means thin sheets of wood peeled or sliced from logs for use in the manufacture of wood products such as plywood, laminated veneer lumber, or other products.

Veneer redryer means a dryer heated by conventional means, such as direct wood-fired, direct-gas-fired, or steam heated, that is used to redry veneer

that has been previously dried. Because the veneer dried in a veneer redryer has been previously dried, the inlet moisture content of the veneer entering the redryer is less than 25 percent (by weight, dry basis). Batch units used to redry veneer (such as redry cookers) are not considered to be veneer redryers. A *veneer redryer* is a process unit.

Wet control device means any equipment that uses water as a means of collecting an air pollutant. Wet control devices include scrubbers, wet electrostatic precipitators, and electrified filter beds. Wet control devices do not include biofilters or other equipment that destroys or degrades HAP.

Wet forming means the process of making a slurry of water, fiber, and additives into a mat of fibers to be compressed into a fiberboard or hardboard product.

Wood I-joists means a structural wood beam with an I-shaped cross section formed by bonding (with resin) wood or laminated veneer lumber flanges onto a web cut from a panel such as plywood or oriented strandboard.

Wood products enclosure means a permanently installed containment that was designed to meet the following physical design criteria:

(1) Any natural draft opening shall be at least four equivalent opening diameters from each HAP-emitting point, except for where board enters and exits the enclosure, unless otherwise specified by the EPA Administrator.

(2) The total area of all natural draft openings shall not exceed 5 percent of the surface area of the enclosure's four walls, floor, and ceiling.

(3) The average facial velocity of air through all natural draft openings shall be at least 3,600 meters per hour (200 feet per minute). The direction of airflow through all natural draft openings shall be into the enclosure.

(4) All access doors and windows whose areas are not included in item 2 of this definition and are not included in the calculation of facial velocity in item 3 of this definition shall be closed during routine operation of the process.

(5) The enclosure is designed and maintained to capture all emissions for discharge through a control device.

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Work practice requirement means any design, equipment, work practice, or operational standard, or combination

thereof, that is promulgated pursuant to section 112(h) of the CAA.

[69 FR 46011, July 30, 2004, as amended at 71 FR 8372, Feb. 16, 2006]

TABLE 1A TO SUBPART DDDD OF PART 63—PRODUCTION-BASED COMPLIANCE OPTIONS

For the following process units . . .	You must meet the following production-based compliance option (total HAP ^a basis) . . .
(1) Fiberboard mat dryer heated zones (at new affected sources only)	0.022 lb/MSF 1/2".
(2) Green rotary dryers	0.058 lb/ODT.
(3) Hardboard ovens	0.022 lb/MSF 1/8".
(4) Press predryers (at new affected sources only)	0.037 lb/MSF 1/2".
(5) Pressurized refiners	0.039 lb/ODT.
(6) Primary tube dryers	0.26 lb/ODT.
(7) Reconstituted wood product board coolers (at new affected sources only)	0.014 lb/MSF 3/4".
(8) Reconstituted wood product presses	0.30 lb/MSF 3/4".
(9) Softwood veneer dryer heated zones	0.022 lb/MSF 3/8".
(10) Rotary strand dryers	0.18 lb/ODT.
(11) Secondary tube dryers	0.010 lb/ODT.

^aTotal HAP, as defined in §63.2292, includes acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde. lb/ODT = pounds per oven-dried ton; lb/MSF = pounds per thousand square feet with a specified thickness basis (inches). Section 63.2262(j) shows how to convert from one thickness basis to another.

NOTE: There is no production-based compliance option for conveyor strand dryers.

TABLE 1B TO SUBPART DDDD OF PART 63—ADD-ON CONTROL SYSTEMS COMPLIANCE OPTIONS

For each of the following process units . . .	You must comply with one of the following six compliance options by using an emissions control system . . .
Fiberboard mat dryer heated zones (at new affected sources only); green rotary dryers; hardboard ovens; press predryers (at new affected sources only); pressurized refiners; primary tube dryers; secondary tube dryers; reconstituted wood product board coolers (at new affected sources only); reconstituted wood product presses; softwood veneer dryer heated zones; rotary strand dryers; conveyor strand dryer zone one (at existing affected sources); and conveyor strand dryer zones one and two (at new affected sources).	(1) Reduce emissions of total HAP, measured as THC (as carbon) ^a , by 90 percent; or (2) Limit emissions of total HAP, measured as THC (as carbon) ^a , to 20 ppmvd; or (3) Reduce methanol emissions by 90 percent; or (4) Limit methanol emissions to less than or equal to 1 ppmvd if uncontrolled methanol emissions entering the control device are greater than or equal to 10 ppmvd; or (5) Reduce formaldehyde emissions by 90 percent; or (6) Limit formaldehyde emissions to less than or equal to 1 ppmvd if uncontrolled formaldehyde emissions entering the control device are greater than or equal to 10 ppmvd.

^aYou may choose to subtract methane from THC as carbon measurements.

TABLE 2 TO SUBPART DDDD OF PART 63—OPERATING REQUIREMENTS

If you operate a(n) . . .	You must . . .	Or you must . . .
(1) Thermal oxidizer	Maintain the 3-hour block average fire-box temperature above the minimum temperature established during the performance test.	Maintain the 3-hour block average THC concentration ^a in the thermal oxidizer exhaust below the maximum concentration established during the performance test.
(2) Catalytic oxidizer	Maintain the 3-hour block average catalytic oxidizer temperature above the minimum temperature established during the performance test; AND check the activity level of a representative sample of the catalyst at least every 12 months.	Maintain the 3-hour block average THC concentration ^a in the catalytic oxidizer exhaust below the maximum concentration established during the performance test.
(3) Biofilter	Maintain the 24-hour block biofilter bed temperature within the range established according to §63.2262(m).	Maintain the 24-hour block average THC concentration ^a in the biofilter exhaust below the maximum concentration established during the performance test.

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If you operate a(n) . . .	You must . . .	Or you must . . .
(4) Control device other than a thermal oxidizer, catalytic oxidizer, or biofilter.	Petition the EPA Administrator for site-specific operating parameter(s) to be established during the performance test and maintain the average operating parameter(s) within the range(s) established during the performance test.	Maintain the 3-hour block average THC concentration ^a in the control device exhaust below the maximum concentration established during the performance test.
(5) Process unit that meets a compliance option in Table 1A of this subpart, or a process unit that generates debits in an emissions average without the use of a control device.	Maintain on a daily basis the process unit controlling operating parameter(s) within the ranges established during the performance test according to §63.2262(n).	Maintain the 3-hour block average THC concentration ^a in the process unit exhaust below the maximum concentration established during the performance test.

^aYou may choose to subtract methane from THC measurements.

TABLE 3 TO SUBPART DDDD OF PART 63—WORK PRACTICE REQUIREMENTS

For the following process units at existing or new affected sources . . .	You must . . .
(1) Dry rotary dryers	Process furnish with a 24-hour block average inlet moisture content of less than or equal to 30 percent (by weight, dry basis); AND operate with a 24-hour block average inlet dryer temperature of less than or equal to 600 °F.
(2) Hardwood veneer dryers	Process less than 30 volume percent softwood species on an annual basis.
(3) Softwood veneer dryers	Minimize fugitive emissions from the dryer doors through (proper maintenance procedures) and the green end of the dryers (through proper balancing of the heated zone exhausts).
(4) Veneer redryers	Process veneer that has been previously dried, such that the 24-hour block average inlet moisture content of the veneer is less than or equal to 25 percent (by weight, dry basis).
(5) Group 1 miscellaneous coating operations	Use non-HAP coatings as defined in § 63.2292.

TABLE 4 TO SUBPART DDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS

For . . .	You must . . .	Using . . .
(1) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c).	select sampling port's location and the number of traverse ports.	Method 1 or 1A of 40 CFR part 60, appendix A (as appropriate).
(2) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c).	determine velocity and volumetric flow rate.	Method 2 in addition to Method 2A, 2C, 2D, 2F, or 2G in appendix A to 40 CFR part 60 (as appropriate).
(3) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c).	conduct gas molecular weight analysis ..	Method 3, 3A, or 3B in appendix A to 40 CFR part 60 (as appropriate).
(4) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c).	measure moisture content of the stack gas.	Method 4 in appendix A to 40 CFR part 60; OR Method 320 in appendix A to 40 CFR part 63; OR ASTM D6348–03 (IBR, see §63.14(b)).
(5) each process unit subject to a compliance option in table 1B to this subpart for which you choose to demonstrate compliance using a total HAP as THC compliance option.	measure emissions of total HAP as THC	Method 25A in appendix A to 40 CFR part 60. You may measure emissions of methane using EPA Method 18 in appendix A to 40 CFR part 60 and subtract the methane emissions from the emissions of total HAP as THC.
(6) each process unit subject to a compliance option in table 1A to this subpart; OR for each process unit used in calculation of an emissions average under §63.2240(c).	measure emissions of total HAP (as defined in §63.2292).	Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method IM/CAN/WP–99.02 (IBR, see §63.14(f)); OR the NCASI Method ISS/FP–A105.01 (IBR, see §63.14(f)); OR ASTM D6348–03 (IBR, see §63.14(b)) provided that percent R as determined in Annex A5 of ASTM D6348–03 is equal or greater than 70 percent and less than or equal to 130 percent.

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For . . .	You must . . .	Using . . .
(7) each process unit subject to a compliance option in table 1B to this subpart for which you choose to demonstrate compliance using a methanol compliance option.	measure emissions of methanol	Method 308 in appendix A to 40 CFR part 63; OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method CI/WP–98.01 (IBR, see § 63.14(f)); OR the NCASI Method IM/CAN/WP–99.02 (IBR, see § 63.14(f)); OR the NCASI Method ISS/FP–A105.01 (IBR, see § 63.14(f)).
(8) each process unit subject to a compliance option in table 1B to this subpart for which you choose to demonstrate compliance using a formaldehyde compliance option.	measure emissions of formaldehyde	Method 316 in appendix A to 40 CFR part 63; OR Method 320 in appendix A to 40 CFR part 63; OR Method 0011 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (EPA Publication No. SW–846) for formaldehyde; OR the NCASI Method CI/WP–98.01 (IBR, see § 63.14(f)); OR the NCASI Method IM/CAN/WP–99.02 (IBR, see § 63.14(f)); OR the NCASI Method ISS/FP–A105.01 (IBR, see § 63.14(f)).
(9) each reconstituted wood product press at a new or existing affected source or reconstituted wood product board cooler at a new affected source subject to a compliance option in table 1B to this subpart or used in calculation of an emissions average under § 63.2240(c).	meet the design specifications included in the definition of wood products enclosure in § 63.2292; or determine the percent capture efficiency of the enclosure directing emissions to an add-on control device.	Methods 204 and 204A through 204F of 40 CFR part 51, appendix M, to determine capture efficiency (except for wood products enclosures as defined in § 63.2292). Enclosures that meet the definition of wood products enclosure or that meet Method 204 requirements for a permanent total enclosure (PTE) are assumed to have a capture efficiency of 100 percent. Enclosures that do not meet either the PTE requirements or design criteria for a wood products enclosure must determine the capture efficiency by constructing a TTE according to the requirements of Method 204 and applying Methods 204A through 204F (as appropriate). As an alternative to Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to this subpart.
(10) each reconstituted wood product press at a new or existing affected source or reconstituted wood product board cooler at a new affected source subject to a compliance option in table 1A to this subpart.	determine the percent capture efficiency	a TTE and Methods 204 and 204A through 204F (as appropriate) of 40 CFR part 51, appendix M. As an alternative to installing a TTE and using Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to this subpart. Enclosures that meet the design criteria (1) through (4) in the definition of wood products enclosure, or that meet Method 204 requirements for a PTE (except for the criteria specified in section 6.2 of Method 204) are assumed to have a capture efficiency of 100 percent. Measured emissions divided by the capture efficiency provides the emission rate.
(11) each process unit subject to a compliance option in tables 1A and 1B to this subpart or used in calculation of an emissions average under § 63.2240(c).	establish the site-specific operating requirements (including the parameter limits or THC concentration limits) in table 2 to this subpart.	data from the parameter monitoring system or THC CEMS and the applicable performance test method(s).

[71 FR 8373, Feb. 16, 2006]

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Pt. 63, Subpt. DDDD, Table 5

TABLE 5 TO SUBPART DDDD OF PART 63—PERFORMANCE TESTING AND INITIAL COMPLIANCE DEMONSTRATIONS FOR THE COMPLIANCE OPTIONS AND OPERATING REQUIREMENTS

For each . . .	For the following compliance options and operating requirements . . .	You have demonstrated initial compliance if . . .
(1) Process unit listed in Table 1A to this subpart.	Meet the production-based compliance options listed in Table 1A to this subpart.	The average total HAP emissions measured using the methods in Table 4 to this subpart over the 3-hour performance test are no greater than the compliance option in Table 1A to this subpart; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions did not exceed the compliance option value.
(2) Process unit listed in Table 1B to this subpart.	Reduce emissions of total HAP, measured as THC, by 90 percent.	Total HAP emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, are reduced by at least 90 percent, as calculated using the procedures in §63.2262; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions were reduced by at least 90 percent.
(3) Process unit listed in Table 1B to this subpart.	Limit emissions of total HAP, measured as THC, to 20 ppmvd.	The average total HAP emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, do not exceed 20 ppmvd; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions did not exceed 20 ppmvd.
(4) Process unit listed in Table 1B to this subpart.	Reduce methanol or formaldehyde emissions by 90 percent.	The methanol or formaldehyde emissions measured using the methods in Table 4 to this subpart over the 3-hour performance test, are reduced by at least 90 percent, as calculated using the procedures in §63.2262; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions were reduced by at least 90 percent.
(5) Process unit listed in Table 1B to this subpart.	Limit methanol or formaldehyde emissions to less than or equal to 1 ppmvd (if uncontrolled emissions are greater than or equal to 10 ppmvd).	The average methanol or formaldehyde emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, do not exceed 1 ppmvd; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions did not exceed 1 ppmvd. If the process unit is a reconstituted wood product press or a reconstituted wood product board cooler, your capture device either meets the EPA Method 204 criteria for a PTE or achieves a capture efficiency of greater than or equal to 95 percent.
(6) Reconstituted wood product press at a new or existing affected source, or reconstituted wood product board cooler at a new affected source.	Compliance options in Tables 1A and 1B to this subpart or the emissions averaging compliance option in §63.2240(c).	You submit the results of capture efficiency verification using the methods in Table 4 to this subpart with your Notification of Compliance Status.
(7) Process unit listed in Table 1B to this subpart controlled by routing exhaust to a combustion unit.	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c).	You submit with your Notification of Compliance Status documentation showing that the process exhausts controlled enter into the flame zone of your combustion unit.

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For each . . .	For the following compliance options and operating requirements . . .	You have demonstrated initial compliance if . . .
(8) Process unit listed in Table 1B to this subpart using a wet control device as the sole means of reducing HAP emissions.	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c).	You submit with your Notification of Compliance Status your plan to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere.

TABLE 6 TO SUBPART DDDD OF PART 63—INITIAL COMPLIANCE DEMONSTRATIONS FOR WORK PRACTICE REQUIREMENTS

For each . . .	For the following work practice requirements . . .	You have demonstrated initial compliance if . . .
(1) Dry rotary dryer	Process furnish with an inlet moisture content less than or equal to 30 percent (by weight, dry basis) AND operate with an inlet dryer temperature of less than or equal to 600 °F.	You meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that the dryer meets the criteria of a "dry rotary dryer" AND you have a record of the inlet moisture content and inlet dryer temperature (as required in §63.2263).
(2) Hardwood veneer dryer	Process less than 30 volume percent softwood species.	You meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that the dryer meets the criteria of a "hardwood veneer dryer" AND you have a record of the percentage of softwoods processed in the dryer (as required in §63.2264).
(3) Softwood veneer dryer	Minimize fugitive emissions from the dryer doors and the green end.	You meet the work practice requirement AND you submit with the Notification of Compliance Status a copy of your plan for minimizing fugitive emissions from the veneer dryer heated zones (as required in §63.2265).
(4) Veneer redryers	Process veneer with an inlet moisture content of less than or equal to 25 percent (by weight, dry basis).	You meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that the dryer operates only as a redryer AND you have a record of the veneer inlet moisture content of the veneer processed in the redryer (as required in §63.2266).
(5) Group 1 miscellaneous coating operations.	Use non-HAP coatings as defined in §63.2292.	You meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that you are using non-HAP coatings AND you have a record showing that you are using non-HAP coatings.

TABLE 7 TO SUBPART DDDD OF PART 63—CONTINUOUS COMPLIANCE WITH THE COMPLIANCE OPTIONS AND OPERATING REQUIREMENTS

For . . .	For the following compliance options and operating requirements . . .	You must demonstrate continuous compliance by . . .
(1) Each process unit listed in Table 1B to this subpart or used in calculation of an emissions average under §63.2240(c).	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c) and the operating requirements in Table 2 to this subpart based on monitoring of operating parameters.	Collecting and recording the operating parameter monitoring system data listed in Table 2 to this subpart for the process unit according to §63.2269(a) through (b) and §63.2270; AND reducing the operating parameter monitoring system data to the specified averages in units of the applicable requirement according to calculations in §63.2270; AND maintaining the average operating parameter at or above the minimum, at or below the maximum, or within the range (whichever applies) established according to §63.2262.

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For . . .	For the following compliance options and operating requirements . . .	You must demonstrate continuous compliance by . . .
(2) Each process unit listed in Tables 1A and 1B to this subpart or used in calculation of an emissions average under § 63.2240(c).	Compliance options in Tables 1A and 1B to this subpart or the emissions averaging compliance option in § 63.2240(c) and the operating requirements in Table 2 of this subpart based on THC CEMS data.	Collecting and recording the THC monitoring data listed in Table 2 to this subpart for the process unit according to § 63.2269(d); AND reducing the CEMS data to 3-hour block averages according to calculations in § 63.2269(d); AND maintaining the 3-hour block average THC concentration in the exhaust gases less than or equal to the THC concentration established according to § 63.2262.
(3) Each process unit using a biofilter	Compliance options in Tables 1B to this subpart or the emissions averaging compliance option in § 63.2240(c).	Conducting a repeat performance test using the applicable method(s) specified in Table 4 to this subpart within 2 years following the previous performance test and within 180 days after each replacement of any portion of the biofilter bed media with a different type of media or each replacement of more than 50 percent (by volume) of the biofilter bed media with the same type of media.
(4) Each process unit using a catalytic oxidizer.	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in § 63.2240(c).	Checking the activity level of a representative sample of the catalyst at least every 12 months and taking any necessary corrective action to ensure that the catalyst is performing within its design range.
(5) Each process unit listed in Table 1A to this subpart, or each process unit without a control device used in calculation of an emissions averaging debit under § 63.2240(c).	Compliance options in Table 1A to this subpart or the emissions averaging compliance option in § 63.2240(c) and the operating requirements in Table 2 to this subpart based on monitoring of process unit controlling operating parameters.	Collecting and recording on a daily basis process unit controlling operating parameter data; AND maintaining the operating parameter at or above the minimum, at or below the maximum, or within the range (whichever applies) established according to § 63.2262.
(6) Each Process unit listed in Table 1B to this subpart using a wet control device as the sole means of reducing HAP emissions.	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in § 63.2240(c).	Implementing your plan to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere.

TABLE 8 TO SUBPART DDDD OF PART 63—CONTINUOUS COMPLIANCE WITH THE WORK PRACTICE REQUIREMENTS

For . . .	For the following work practice requirements . . .	You must demonstrate continuous compliance by . . .
(1) Dry rotary dryer	Process furnish with an inlet moisture content less than or equal to 30 percent (by weight, dry basis) AND operate with an inlet dryer temperature of less than or equal to 600 °F.	Maintaining the 24-hour block average inlet furnish moisture content at less than or equal to 30 percent (by weight, dry basis) AND maintaining the 24-hour block average inlet dryer temperature at less than or equal to 600 °F; AND keeping records of the inlet temperature of furnish moisture content and inlet dryer temperature.
(2) Hardwood veneer dryer	Process less than 30 volume percent softwood species.	Maintaining the volume percent softwood species processed below 30 percent AND keeping records of the volume percent softwood species processed.
(3) Softwood veneer dryer	Minimize fugitive emissions from the dryer doors and the green end.	Following (and documenting that you are following) your plan for minimizing fugitive emissions.
(4) Veneer redryers	Process veneer with an inlet moisture content of less than or equal to 25 percent (by weight, dry basis).	Maintaining the 24-hour block average inlet moisture content of the veneer processed at or below of less than or 25 percent AND keeping records of the inlet moisture content of the veneer processed.

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For . . .	For the following work practice requirements . . .	You must demonstrate continuous compliance by . . .
(5) Group 1 miscellaneous coating operations.	Use non-HAP coatings as defined in § 63.2292.	Continuing to use non-HAP coatings AND keeping records showing that you are using non-HAP coatings.

TABLE 9 TO SUBPART DDDD OF PART 63—REQUIREMENTS FOR REPORTS

You must submit a(n) . . .	The report must contain . . .	You must submit the report . . .
(1) Compliance report	The information in § 63.2281(c) through (g).	Semiannually according to the requirements in § 63.2281(b).
(2) immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your SSMP.	(i) Actions taken for the event	By fax or telephone within 2 working days after starting actions inconsistent with the plan.
	(ii) The information in § 63.10(d)(5)(ii)	By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority.

TABLE 10 TO SUBPART DDDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDD

Citation	Subject	Brief description	Applies to subpart DDDD
§ 63.1	Applicability	Initial applicability determination; applicability after standard established; permit requirements; extensions, notifications.	Yes.
§ 63.2	Definitions	Definitions for part 63 standards	Yes.
§ 63.3	Units and Abbreviations	Units and abbreviations for part 63 standards.	Yes.
§ 63.4	Prohibited Activities	Prohibited activities; compliance date; circumvention, fragmentation.	Yes.
§ 63.5	Construction/Reconstruction	Applicability; applications; approvals.	Yes.
§ 63.6(a)	Applicability	GP apply unless compliance extension; GP apply to area sources that become major.	Yes.
§ 63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed Sources.	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for section 112(f).	Yes.
§ 63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal.	Yes.
§ 63.6(b)(6)	[Reserved].		
§ 63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources that Become Major.	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source.	Yes.
§ 63.6(c)(1)–(2)	Compliance Dates for Existing Sources.	Comply according to date in subpart, which must be no later than 3 years after effective date; for section 112(f) standards, comply within 90 days of effective date unless compliance extension.	Yes.
§ 63.6(c)(3)–(4)	[Reserved].		
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources that Become Major.	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (e.g., 3 years).	Yes.
§ 63.6(d)	[Reserved].		

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Citation	Subject	Brief description	Applies to subpart DDDD
§ 63.6(e)(1)–(2)	Operation & Maintenance	Operate to minimize emissions at all times; correct malfunctions as soon as practicable; operation and maintenance requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met.	Yes.
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP).	Requirement for SSM and SSMP; content of SSMP.	Yes.
§ 63.6(f)(1)	Compliance Except During SSM	You must comply with emission standards at all times except during SSM.	Yes.
§ 63.6(f)(2)–(3)	Methods for Determining Compliance.	Compliance based on performance test, operation and maintenance plans, records, inspection.	Yes.
§ 63.6(g)(1)–(3)	Alternative Standard	Procedures for getting an alternative standard.	Yes.
§ 63.6(h)(1)–(9)	Opacity/Visible Emission (VE) Standards.	Requirements for opacity and visible emission standards.	NA.
§ 63.6(i)(1)–(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension.	Yes.
§ 63.6(i)(15)	[Reserved].		
§ 63.6(i)(16)	Compliance Extension	Compliance extension and Administrator's authority.	Yes.
§ 63.6(j)	Presidential Compliance Exemption.	President may exempt source category from requirement to comply with rule.	Yes.
§ 63.7(a)(1)–(2)	Performance Test Dates	Dates for conducting initial performance testing and other compliance demonstrations; must conduct 180 days after first subject to rule.	Yes.
§ 63.7(a)(3)	Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time.	Yes.
§ 63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test.	Yes.
§ 63.7(b)(2)	Notification of Rescheduling	If have to reschedule performance test, must notify Administrator as soon as practicable.	Yes.
§ 63.7(c)	Quality Assurance/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing.	Yes.
§ 63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§ 63.7(e)(1)	Conditions for Conducting Performance Tests.	Performance tests must be conducted under representative conditions; cannot conduct performance tests during SSM; not a violation to exceed standard during SSM.	Yes.
§ 63.7(e)(2)	Conditions for Conducting Performance Tests.	Must conduct according to rule and EPA test methods unless Administrator approves alternative.	Yes.
§ 63.7(e)(3)	Test Run Duration	Must have three test runs for at least the time specified in the relevant standard; compliance is based on arithmetic mean of three runs; specifies conditions when data from an additional test run can be used.	Yes.
§ 63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method.	Yes.

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Citation	Subject	Brief description	Applies to subpart DDDD
§ 63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the notification of compliance status; keep data for 5 years.	Yes.
§ 63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test.	Yes.
§ 63.8(a)(1)	Applicability of Monitoring Requirements.	Subject to all monitoring requirements in standard.	Yes.
§ 63.8(a)(2)	Performance Specifications	Performance specifications in appendix B of part 60 apply.	Yes.
§ 63.8(a)(3)	[Reserved].		
§ 63.8(a)(4)	Monitoring with Flares	Requirements for flares in §63.11 apply.	NA.
§ 63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative.	Yes.
§ 63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems.	Specific requirements for installing monitoring systems; must install on each effluent before it is combined and before it is released to the atmosphere unless Administrator approves otherwise; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup.	Yes.
§ 63.8(c)(1)	Monitoring System Operation and Maintenance.	Maintain monitoring system in a manner consistent with and good air pollution control practices.	Yes.
§ 63.8(c)(1)(i)	Operation and Maintenance of CMS.	Must maintain and operate CMS in accordance with §63.6(e)(1).	Yes.
§ 63.8(c)(1)(ii)	Spare Parts for CMS	Must maintain spare parts for routine CMS repairs.	Yes.
§ 63.8(c)(1)(iii)	SSMP for CMS	Must develop and implement SSMP for CMS.	Yes.
§ 63.8(c)(2)–(3)	Monitoring System Installation	Must install to get representative emission of parameter measurements; must verify operational status before or at performance test.	Yes.
§ 63.8(c)(4)	Continuous Monitoring System (CMS) Requirements.	CMS must be operating except during breakdown, out-of-control, repair, maintenance, and high-level calibration drifts; COMS must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period; CEMS must have a minimum of one cycle of operation for each successive 15-minute period.	Yes.
§ 63.8(c)(5)	Continuous Opacity Monitoring System (COMS) Minimum Procedures.	COMS minimum procedures	NA.
§ 63.8(c)(6)–(8)	CMS Requirements	Zero and high-level calibration check requirements; out-of-control periods.	Yes.
§ 63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc.; must keep quality control plan on record for 5 years. Keep old versions for 5 years after revisions.	Yes.
§ 63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports.	Yes.

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Citation	Subject	Brief description	Applies to subpart DDDD
§ 63.8(f)(1)–(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring.	Yes.
§ 63.8(f)(6)	Alternative to Relative Accuracy Test.	Procedures for Administrator to approve alternative relative accuracy tests for CEMS.	Yes.
§ 63.8(g)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that can't be used in average; rounding of data.	Yes.
§ 63.9(a)	Notification Requirements	Applicability and State delegation	Yes.
§ 63.9(b)(1)–(2)	Initial Notifications	Submit notification 120 days after effective date; contents of notification.	Yes.
§ 63.9(b)(3)	[Reserved].		
§ 63.9(b)(4)–(5)	Initial Notifications	Submit notification 120 days after effective date; notification of intent to construct/reconstruct; notification of commencement of construct/reconstruct; notification of startup; contents of each.	Yes.
§ 63.9(c)	Request for Compliance Extension.	Can request if cannot comply by date or if installed best available control technology/lowest achievable emission rate.	Yes.
§ 63.9(d)	Notification of Special Compliance Requirements for New Source.	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date.	Yes.
§ 63.9(e)	Notification of Performance Test	Notify EPA Administrator 60 days prior.	Yes.
§ 63.9(f)	Notification of Visible Emissions/Opacity Test.	Notify EPA Administrator 30 days prior.	No.
§ 63.9(g)	Additional Notifications When Using CMS.	Notification of performance evaluation; notification using COMS data; notification that exceeded criterion for relative accuracy.	Yes.
§ 63.9(h)(1)–(6)	Notification of Compliance Status	Contents; due 60 days after end of performance test or other compliance demonstration, except for opacity/VE, which are due 30 days after; when to submit to Federal vs. State authority.	Yes.
§ 63.9(i)	Adjustment of Submittal Deadlines.	Procedures for Administrator to approve change in when notifications must be submitted.	Yes.
§ 63.9(j)	Change in Previous Information	Must submit within 15 days after the change.	Yes.
§ 63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension; when to submit to Federal vs. State authority; procedures for owners of more than one source.	Yes.
§ 63.10(b)(1)	Recordkeeping/Reporting	General Requirements; keep all records readily available; keep for 5 years.	Yes.
§ 63.10(b)(2)(i)–(iv)	Records Related to Startup, Shutdown, and Malfunction.	Occurrence of each of operation (process equipment); occurrence of each malfunction of air pollution equipment; maintenance on air pollution control equipment; actions during startup, shutdown, and malfunction.	Yes.
§ 63.10(b)(2)(vi) and (x)–(xi)	CMS Records	Malfunctions, inoperative, out-of-control.	Yes.

Citation	Subject	Brief description	Applies to subpart DDDD
§ 63.10(b)(2)(vii)–(ix)	Records	Measurements to demonstrate compliance with compliance options and operating requirements; performance test, performance evaluation, and visible emission observation results; measurements to determine conditions of performance tests and performance evaluations.	Yes.
§ 63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§ 63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test.	Yes.
§ 63.10(b)(2)(xiv)	Records	All documentation supporting initial notification and notification of compliance status.	Yes.
§ 63.10(b)(3)	Records	Applicability determinations	Yes.
§ 63.10(c)(1)–(6), (9)–(15)	Records	Additional records for CMS	Yes.
§ 63.10(c)(7)–(8)	Records	Records of excess emissions and parameter monitoring exceedances for CMS.	No.
§ 63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.
§ 63.10(d)(2)	Report of Performance Test Results.	When to submit to Federal or State authority.	Yes.
§ 63.10(d)(3)	Reporting Opacity or VE Observations.	What to report and when	NA.
§ 63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension.	Yes.
§ 63.10(d)(5)	Startup, Shutdown, and Malfunction Reports.	Contents and submission	Yes.
§ 63.10(e)(1)–(2)	Additional CMS Reports	Must report results for each CEM on a unit; written copy of performance evaluation; 3 copies of COMS performance evaluation.	Yes.
§ 63.10(e)(3)	Reports	Excess emission reports	No.
§ 63.10(e)(4)	Reporting COMS data	Must submit COMS data with performance test data.	NA.
§ 63.10(f)	Waiver for Recordkeeping/Reporting.	Procedures for EPA Administrator to waive.	Yes.
§ 63.11	Flares	Requirements for flares	NA.
§ 63.12	Delegation	State authority to enforce standards.	Yes.
§ 63.13	Addresses	Addresses where reports, notifications, and requests are sent.	Yes.
§ 63.14	Incorporation by Reference	Test methods incorporated by reference.	Yes.
§ 63.15	Availability of Information	Public and confidential information.	Yes.

APPENDIX A TO SUBPART DDDD OF PART 63—ALTERNATIVE PROCEDURE TO DETERMINE CAPTURE EFFICIENCY FROM ENCLOSURES AROUND HOT PRESSES IN THE PLYWOOD AND COMPOSITE WOOD PRODUCTS INDUSTRY USING SULFUR HEXAFLUORIDE TRACER GAS

1.0 SCOPE AND APPLICATION

This procedure has been developed specifically for the plywood and composite wood products (PCWP) industry and is used to determine the capture efficiency of a partial hot press enclosure in that industry. This procedure is applicable for the deter-

mination of capture efficiency for enclosures around hot presses and is an alternative to the construction of temporary total enclosures (TTE). Sulfur hexafluoride (SF₆) is used as a tracer gas (other tracer gases may be used if approved by the EPA Administrator). This gas is not indigenous to the ambient atmosphere and is nonreactive.

This procedure uses infrared spectrometry (IR) as the analytical technique. When the infrared spectrometer used is a Fourier-Transform Infrared spectrometer (FTIR), an alternate instrument calibration procedure may be used; the alternate calibration procedure is the calibration transfer standard (CTS) procedure of EPA Method 320 (appendix A to 40 CFR part 63). Other analytical

techniques which are capable of equivalent Method Performance (Section 13.0) also may be used. Specifically, gas chromatography with electron capture detection (GC/ECD) is an applicable technique for analysis of SF₆.

2.0 SUMMARY OF METHOD

A constant mass flow rate of SF₆ tracer gas is released through manifolds at multiple locations within the enclosure to mimic the release of hazardous air pollutants during the press process. This test method requires a minimum of three SF₆ injection points (two at the press unloader and one at the press) and provides details about considerations for locating the injection points. A GC/ECD is used to measure the concentration of SF₆ at the inlet duct to the control device (outlet duct from enclosure). Simultaneously, EPA Method 2 (appendix A to 40 CFR part 60) is used to measure the flow rate at the inlet duct to the control device. The concentration and flow rate measurements are used to calculate the mass emission rate of SF₆ at the control device inlet. Through calculation of the mass of SF₆ released through the manifolds and the mass of SF₆ measured at the inlet to the control device, the capture efficiency of the enclosure is calculated.

In addition, optional samples of the ambient air may be taken at locations around the perimeter of the enclosure to quantify the ambient concentration of SF₆ and to identify those areas of the enclosure that may be performing less efficiently; these samples would be taken using disposable syringes and would be analyzed using a GC/ECD.

Finally, in addition to the requirements specified in this procedure, the data quality objectives (DQO) or lower confidence limit (LCL) criteria specified in appendix A to 40 CFR part 63, subpart KK, Data Quality Objective and Lower Confidence Limit Approaches for Alternative Capture Efficiency Protocols and Test Methods, must also be satisfied. A minimum of three test runs are required for this procedure; however, additional test runs may be required based on the results of the DQO or LCL analysis.

3.0 DEFINITIONS

3.1 Capture efficiency (CE). The weight per unit time of SF₆ entering the control device divided by the weight per unit time of SF₆ released through manifolds at multiple locations within the enclosure.

3.2 Control device (CD). The equipment used to reduce, by destruction or removal, press exhaust air pollutants prior to discharge to the ambient air.

3.3 Control/destruction efficiency (DE). The volatile organic compound or HAP removal efficiency of the control device.

3.4 Data Quality Objective (DQO) Approach. A statistical procedure to determine

the precision of the data from a test series and to qualify the data in the determination of capture efficiency for compliance purposes. If the results of the DQO analysis of the initial three test runs do not satisfy the DQO criterion, the LCL approach can be used or additional test runs must be conducted. If additional test runs are conducted, then the DQO or LCL analysis is conducted using the data from both the initial test runs and all additional test runs.

3.5 Lower Confidence Limit (LCL) Approach. An alternative statistical procedure that can be used to qualify data in the determination of capture efficiency for compliance purposes. If the results of the LCL approach produce a CE that is too low for demonstrating compliance, then additional test runs must be conducted until the LCL or DQO is met. As with the DQO, data from all valid test runs must be used in the calculation.

3.6 Minimum Measurement Level (MML). The minimum tracer gas concentration expected to be measured during the test series. This value is selected by the tester based on the capabilities of the IR spectrometer (or GC/ECD) and the other known or measured parameters of the hot press enclosure to be tested. The selected MML must be above the low-level calibration standard and preferably below the mid-level calibration standard.

3.7 Method 204. The U.S. EPA Method 204, "Criteria For and Verification of a Permanent or Temporary Total Enclosure" (40 CFR part 51, appendix M).

3.8 Method 205. The U.S. EPA Method 205, "Verification of Gas Dilution Systems for Field Instrument Calibrations" (40 CFR part 51, appendix M).

3.9 Method 320. The U.S. EPA Method 320, "Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy" (40 CFR part 63, appendix A).

3.10 Overall capture and control efficiency (CCE). The collection and control/destruction efficiency of both the PPE and CD combined. The CCE is calculated as the product of the CE and DE.

3.11 Partial press enclosure (PPE). The physical barrier that "partially" encloses the press equipment, captures a significant amount of the associated emissions, and transports those emissions to the CD.

3.12 Test series. A minimum of three test runs or, when more than three runs are conducted, all of the test runs conducted.

4.0 INTERFERENCES

There are no known interferences.

5.0 SAFETY

Sulfur hexafluoride is a colorless, odorless, nonflammable liquefied gas. It is stable and nonreactive and, because it is noncorrosive,

most structural materials are compatible with it. The Occupational Safety and Health Administration Permissible Emission Limit-Time Weighted Average (PEL-TWA) and Threshold Limit Value-Time Weighted Average (TLV-TWA) concentrations are 1,000 parts per million. Sulfur hexafluoride is an asphyxiant. Exposure to an oxygen-deficient atmosphere (less than 19.5 percent oxygen) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness, and death. Exposure to atmospheres containing less than 12 percent oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help themselves. Contact with liquid or cold vapor may cause frostbite. Avoid breathing sulfur hexafluoride gas. Self-contained breathing apparatus may be required by rescue workers. Sulfur hexafluoride is not listed as a carcinogen or a potential carcinogen.

6.0 EQUIPMENT AND SUPPLIES

This method requires equipment and supplies for: (a) the injection of tracer gas into the enclosure, (b) the measurement of the tracer gas concentration in the exhaust gas entering the control device, and (c) the measurement of the volumetric flow rate of the exhaust gas entering the control device. In addition, the requisite equipment needed for EPA Methods 1-4 in appendix A to 40 CFR part 60 will be required. Equipment and supplies for optional ambient air sampling are discussed in Section 8.6.

6.1 Tracer Gas Injection.

6.1.1 Manifolds. This method requires the use of tracer gas supply cylinder(s) along with the appropriate flow control elements. Figure 1 shows a schematic drawing of the injection system showing potential locations for the tracer gas manifolds. Figure 2 shows a schematic drawing of the recommended configuration of the injection manifold. Three tracer gas discharge manifolds are required at a minimum.

6.1.2 Flow Control Meter. Flow control and measurement meter for measuring the quantity of tracer gas injected. A mass flow, volumetric flow, or critical orifice control meter can be used for this method. The meter must be accurate to within ± 5 percent at the flow rate used. This means that the flow meter must be calibrated against a primary standard for flow measurement at the appropriate flow rate.

6.2 Measurement of Tracer Gas Concentration.

6.2.1 Sampling Probes. Use Pyrex or stainless steel sampling probes of sufficient length to reach the traverse points calculated according to EPA Method 1 (appendix A to 40 CFR part 60).

6.2.2 Sampling Line. Use a heated Teflon sampling line to transport the sample to the analytical instrument.

6.2.3 Sampling Pump. Use a sampling pump capable of extracting sufficient sample from the duct and transporting to the analytical instrument.

6.2.4 Sample Conditioning System. Use a particulate filter sufficient to protect the sampling pump and analytical instrument. At the discretion of the tester and depending on the equipment used and the moisture content of the exhaust gas, it may be necessary to further condition the sample by removing moisture using a condenser.

6.2.5 Analytical Instrument. Use one of the following analytical instruments.

6.2.5.1 Spectrometer. Use an infrared spectrometer designed to measuring SF₆ tracer gas and capable of meeting or exceeding the specifications of this procedure. An FTIR meeting the specifications of Method 320 in appendix A to 40 CFR part 63 may be used.

6.2.5.2 GC/ECD. Use a GC/ECD designed to measure SF₆ tracer gas and capable of meeting or exceeding the specifications of this procedure.

6.2.6 Recorder. At a minimum, use a recorder with linear strip chart. An automated data acquisition system (DAS) is recommended.

6.3 Exhaust Gas Flow Rate Measurement. Use equipment specified for EPA Methods 2, 3, and 4 in appendix A to 40 CFR part 60 for measuring flow rate of exhaust gas at the inlet to the control device.

7.0 REAGENTS AND STANDARDS

7.1 Tracer Gas. Use SF₆ as the tracer gas. The manufacturer of the SF₆ tracer gas should provide a recommended shelf life for the tracer gas cylinder over which the concentration does not change more than ± 2 percent from the certified value. A gas mixture of SF₆ diluted with nitrogen should be used; based on experience and calculations, pure SF₆ gas is not necessary to conduct tracer gas testing. Select a concentration and flow rate that is appropriate for the analytical instrument's detection limit, the MML, and the exhaust gas flow rate from the enclosure (see section 8.1.1). You may use a tracer gas other than SF₆ with the prior approval of the EPA Administrator. If you use an approved tracer gas other than SF₆, all references to SF₆ in this protocol instead refer to the approved tracer gas.

7.2 Calibration Gases. The SF₆ calibration gases required will be dependent on the selected MML and the appropriate span selected for the test. Commercial cylinder gases certified by the manufacturer to be accurate to within 1 percent of the certified label value are preferable, although cylinder gases certified by the manufacturer to 2 percent accuracy are allowed. Additionally, the manufacturer of the SF₆ calibration gases should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ± 2

percent from the certified value. Another option allowed by this method is for the tester to obtain high concentration certified cylinder gases and then use a dilution system meeting the requirements of EPA Method 205, 40 CFR part 51, appendix M, to make multi-level calibration gas standards. Low-level, mid-level, and high-level calibration gases will be required. The MML must be above the low-level standard, the high-level standard must be no more than four times the low-level standard, and the mid-level standard must be approximately halfway between the high- and low-level standards. See section 12.1 for an example calculation of this procedure.

NOTE: If using an FTIR as the analytical instrument, the tester has the option of following the CTS procedures of Method 320 in appendix A to 40 CFR part 63; the calibration standards (and procedures) specified in Method 320 may be used in lieu of the calibration standards and procedures in this protocol.

7.2.1 Zero Gas. High purity nitrogen.

7.2.2 Low-Level Calibration Gas. An SF₆ calibration gas in nitrogen with a concentration equivalent to 20 to 30 percent of the applicable span value.

7.2.3 Mid-Level Calibration Gas. An SF₆ calibration gas in nitrogen with a concentration equivalent to 45 to 55 percent of the applicable span value.

7.2.4 High-Level Calibration Gas. An SF₆ calibration gas in nitrogen with a concentration equivalent to 80 to 90 percent of the applicable span value.

8.0 SAMPLE COLLECTION, PRESERVATION, STORAGE, AND TRANSPORT

8.1 Test Design.

8.1.1 Determination of Minimum Tracer Gas Flow Rate.

8.1.1.1 Determine (via design calculations or measurements) the approximate flow rate of the exhaust gas through the enclosure, actual cubic feet per minute (acfm).

8.1.1.2 Calculate the minimum tracer gas injection rate necessary to assure a detectable SF₆ concentration at the exhaust gas measurement point (see section 12.1 for calculation).

8.1.1.3 Select a flow meter for the injection system with an operating range appropriate for the injection rate selected.

8.1.2 Determination of the Approximate Time to Reach Equilibrium.

8.1.2.1 Determine the volume of the enclosure.

8.1.2.2 Calculate the air changes per minute of the enclosure by dividing the approximate exhaust flow rate (8.1.1.1 above) by the enclosed volume (8.1.2.1 above).

8.1.2.3 Calculate the time at which the tracer concentration in the enclosure will achieve approximate equilibrium. Divide 3 by the air changes per minute (8.1.2.2 above) to establish this time. This is the approxi-

mate length of time for the system to come to equilibrium. Concentration equilibrium occurs when the tracer concentration in the enclosure stops changing as a function of time for a constant tracer release rate. Because the press is continuously cycling, equilibrium may be exhibited by a repeating, but stable, cyclic pattern rather than a single constant concentration value. Assure sufficient tracer gas is available to allow the system to come to equilibrium, and to sample for a minimum of 20 minutes and repeat the procedure for a minimum of three test runs. Additional test runs may be required based on the results of the DQO and LCL analyses described in 40 CFR part 63, subpart KK, appendix A.

8.1.3 Location of Injection Points. This method requires a minimum of three tracer gas injection points. The injection points should be located within leak prone, volatile organic compound/hazardous air pollutant (VOC/HAP) producing areas around the press, or horizontally within 12 inches of the defined equipment. One potential configuration of the injection points is depicted in Figure 1. The effect of wind, exfiltration through the building envelope, and air flowing through open building doors should be considered when locating tracer gas injection points within the enclosure. The injection points should also be located at a vertical elevation equal to the VOC/HAP generating zones. The injection points should not be located beneath obstructions that would prevent a natural dispersion of the gas. Document the selected injection points in a drawing(s).

8.1.4 Location of Flow Measurement and Tracer Sampling. Accurate CD inlet gas flow rate measurements are critical to the success of this procedure. Select a measurement location meeting the criteria of EPA Method 1 (40 CFR part 60, appendix A), Sampling and Velocity Traverses for Stationary Sources. Also, when selecting the measurement location, consider whether stratification of the tracer gas is likely at the location (*e.g.*, do not select a location immediately after a point of air in-leakage to the duct).

8.2 Tracer Gas Release. Release the tracer gas at a calculated flow rate (see section 12.1 for calculation) through a minimum of three injection manifolds located as described above in 8.1.3. The tracer gas delivery lines must be routed into the enclosure and attached to the manifolds without violating the integrity of the enclosure.

8.3 Pretest Measurements.

8.3.1 Location of Sampling Point(s). If stratification is not suspected at the measurement location, select a single sample point located at the centroid of the CD inlet duct or at a point no closer to the CD inlet duct walls than 1 meter. If stratification is suspected, establish a "measurement line" that passes through the centroidal area and

in the direction of any expected stratification. Locate three traverse points at 16.7, 50.0 and 83.3 percent of the measurement line and sample from each of these three points during each run, or follow the procedure in section 8.3.2 to verify whether stratification does or does not exist.

8.3.2 Stratification Verification. The presence or absence of stratification can be verified by using the following procedure. While the facility is operating normally, initiate tracer gas release into the enclosure. For rectangular ducts, locate at least nine sample points in the cross section such that the sample points are the centroids of similarly-shaped, equal area divisions of the cross section. Measure the tracer gas concentration at each point. Calculate the mean value for all sample points. For circular ducts, conduct a 12-point traverse (*i.e.*, six points on each of the two perpendicular diameters) locating the sample points as described in 40 CFR part 60, appendix A, Method 1. Perform the measurements and calculations as described above. Determine if the mean pollutant concentration is more than 10 percent different from any single point. If so, the cross section is considered to be stratified, and the tester may not use a single sample point location, but must use the three traverse points at 16.7, 50.0, and 83.3 percent of the entire measurement line. Other traverse points may be selected, provided that they can be shown to the satisfaction of the Administrator to provide a representative sample over the stack or duct cross section.

8.4 CD Inlet Gas Flow Rate Measurements. The procedures of EPA Methods 1-4 (40 CFR part 60, appendix A) are used to determine the CD inlet gas flow rate. Molecular weight (Method 3) and moisture (Method 4) determinations are only required once for each test series. However, if the test series is not completed within 24 hours, then the molecular weight and moisture measurements should be repeated daily. As a minimum, velocity measurements are conducted according to the procedures of Methods 1 and 2 before and after each test run, as close to the start and end of the run as practicable. A velocity measurement between two runs satisfies both the criterion of "after" the run just completed and "before" the run to be initiated. Accurate exhaust gas flow rate measurements are critical to the success of this procedure. If significant temporal variations of flow rate are anticipated during the test run under normal process operating conditions, take appropriate steps to accurately measure the flow rate during the test. Examples of steps that might be taken include: (1) conducting additional velocity traverses during the test run; or (2) continuously monitoring a single point of average velocity during the run and using these data, in conjunction with the pre- and post-test traverses, to

calculate an average velocity for the test run.

8.5 Tracer Gas Measurement Procedure.

8.5.1 Calibration Error Test. Immediately prior to the emission test (within 2 hours of the start of the test), introduce zero gas and high-level calibration gas at the calibration valve assembly. Zero and calibrate the analyzer according to the manufacturer's procedures using, respectively, nitrogen and the calibration gases. Calculate the predicted response for the low-level and mid-level gases based on a linear response line between the zero and high-level response. Then introduce the low-level and mid-level calibration gases successively to the measurement system. Record the analyzer responses for the low-level and mid-level calibration gases and determine the differences between the measurement system responses and the predicted responses using the equation in section 12.3. These differences must be less than 5 percent of the respective calibration gas value. If not, the measurement system must be replaced or repaired prior to testing. No adjustments to the measurement system shall be conducted after the calibration and before the drift determination (section 8.5.4). If adjustments are necessary before the completion of the test series, perform the drift checks prior to the required adjustments and repeat the calibration following the adjustments. If multiple electronic ranges are to be used, each additional range must be checked with a mid-level calibration gas to verify the multiplication factor.

NOTE: If using an FTIR for the analytical instrument, you may choose to follow the pretest preparation, evaluation, and calibration procedures of Method 320 (section 8.0) (40 CFR part 63, appendix A) in lieu of the above procedure.

8.5.2 Response Time Test. Conduct this test once prior to each test series. Introduce zero gas into the measurement system at the calibration valve assembly. When the system output has stabilized, switch quickly to the high-level calibration gas. Record the time from the concentration change to the measurement system response equivalent to 95 percent of the step change. Repeat the test three times and average the results.

8.5.3 SF₆ Measurement. Sampling of the enclosure exhaust gas at the inlet to the CD should begin at the onset of tracer gas release. If necessary, adjust the tracer gas injection rate such that the measured tracer gas concentration at the CD inlet is within the spectrometer's calibration range (*i.e.*, between the MML and the span value). Once the tracer gas concentration reaches equilibrium, the SF₆ concentration should be measured using the infrared spectrometer continuously for at least 20 minutes per run. Continuously record (*i.e.*, record at least once per minute) the concentration. Conduct at least three test runs. On the recording

chart, in the data acquisition system, or in a log book, make a note of periods of process interruption or cyclic operation such as the cycles of the hot press operation. Table 1 to this appendix summarizes the physical measurements required for the enclosure testing.

NOTE: If a GC/ECD is used as the analytical instrument, a continuous record (at least once per minute) likely will not be possible; make a minimum of five injections during each test run. Also, the minimum test run duration criterion of 20 minutes applies.

8.5.4 Drift Determination. Immediately following the completion of the test run, reintroduce the zero and mid-level calibration gases, one at a time, to the measurement system at the calibration valve assembly. (Make no adjustments to the measurement system until both the zero and calibration drift checks are made.) Record the analyzer responses for the zero and mid-level calibration gases and determine the difference between the instrument responses for each gas prior to and after the emission test run using the equation in section 12.4. If the drift values exceed the specified limits (section 13), invalidate the test results preceding the check and repeat the test following corrections to the measurement system. Alternatively, recalibrate the test measurement system as in section 8.5.1 and report the results using both sets of calibration data (*i.e.*, data determined prior to the test period and data determined following the test period). Note: If using an FTIR for the analytical instrument, you may choose to follow the post-test calibration procedures of Method 320 in appendix A to 40 CFR part 63 (section 8.11.2) in lieu of the above procedures.

8.6 Ambient Air Sampling (Optional). Sampling the ambient air surrounding the enclosure is optional. However, taking these samples during the capture efficiency testing will identify those areas of the enclosure that may be performing less efficiently.

8.6.1 Location of Ambient Samples Outside the Enclosure (Optional). In selecting the sampling locations for collecting sam-

ples of the ambient air surrounding the enclosure, consider potential leak points, the direction of the release, and laminar flow characteristics in the area surrounding the enclosure. Samples should be collected from all sides of the enclosure, downstream in the prevailing room air flow, and in the operating personnel occupancy areas.

8.6.2 Collection of Ambient Samples (Optional). During the tracer gas release, collect ambient samples from the area surrounding the enclosure perimeter at predetermined location using disposable syringes or some other type of containers that are non-absorbent, inert, and that have low permeability (*i.e.*, polyvinyl fluoride film or polyester film sample bags or polyethylene, polypropylene, nylon or glass bottles). The use of disposable syringes allows samples to be injected directly into a gas chromatograph. Concentration measurements taken around the perimeter of the enclosure provide evidence of capture performance and will assist in the identification of those areas of the enclosure that are performing less efficiently.

8.6.3 Analysis and Storage of Ambient Samples (Optional). Analyze the ambient samples using an analytical instrument calibrated and operated according to the procedures in this appendix or ASTM E 260 and ASTM E 697. Samples may be analyzed immediately after a sample is taken, or they may be stored for future analysis. Experience has shown no degradation of concentration in polypropylene syringes when stored for several months as long as the needle or syringe is plugged. Polypropylene syringes should be discarded after one use to eliminate the possibility of cross contamination of samples.

9.0 QUALITY CONTROL

9.1 Sampling, System Leak Check. A sampling system leak check should be conducted prior to and after each test run to ensure the integrity of the sampling system.

9.2 Zero and Calibration Drift Tests.

Section	Quality control measure	Effect
8.5.4	Zero and calibration drift tests	Ensures that bias introduced by drift in the measurement system output during the run is no greater than 3 percent of span.

10.0 CALIBRATION AND STANDARDIZATION

10.1 Control Device Inlet Air Flow Rate Measurement Equipment. Follow the equipment calibration requirements specified in Methods 2, 3, and 4 (appendix A to 40 CFR part 60) for measuring the velocity, molecular weight, and moisture of the control device inlet air.

10.2 Tracer Gas Injection Rate. A dry gas volume flow meter, mass flow meter, or ori-

fice can be used to measure the tracer gas injection flow rate. The selected flow measurement device must have an accuracy of greater than ±5 percent at the field operating range. Prior to the test, verify the calibration of the selected flow measurement device using either a wet test meter, spirometer, or liquid displacement meter as the calibration device. Select a minimum of two flow rates to bracket the expected field operating range of the flow meter. Conduct three calibration

runs at each of the two selected flow rates. For each run, note the exact quantity of gas as determined by the calibration standard and the gas volume indicated by the flow meter. For each flow rate, calculate the average percent difference of the indicated flow compared to the calibration standard.

10.3 Spectrometer. Follow the calibration requirements specified by the equipment manufacturer for infrared spectrometer measurements and conduct the pretest calibration error test specified in section 8.5.1. Note: if using an FTIR analytical instrument see Method 320, section 10 (appendix A to 40 CFR part 63).

10.4 Gas Chromatograph. Follow the pretest calibration requirements specified in section 8.5.1.

10.5 Gas Chromatograph for Ambient Sampling (Optional). For the optional ambient sampling, follow the calibration requirements specified in section 8.5.1 or ASTM E 260 and E 697 and by the equipment manufacturer for gas chromatograph measurements.

11.0 ANALYTICAL PROCEDURES

The sample collection and analysis are concurrent for this method (see section 8.0).

12.0 CALCULATIONS AND DATA ANALYSIS

12.1 Estimate MML and Span. The MML is the minimum measurement level. The selection of this level is at the discretion of the tester. However, the MML must be higher than the low-level calibration standard, and the tester must be able to measure at this level with a precision of ≤ 10 percent. As an example, select the MML as 10 times the instrument's published detection limit. The detection limit of one instrument is 0.01 parts per million by volume (ppmv). Therefore, the MML would be 0.10 ppmv. Select the low-level calibration standard as 0.08 ppmv. The high-level standard would be four times the low-level standard or 0.32 ppmv. A reasonable mid-level standard would then be 0.20 ppmv (halfway between the low-level standard and the high-level standard). Finally, the span value would be approximately 0.40 ppmv (the high-level value is 80 percent of the span). In this example, the following MML, calibration standards, and span values would apply:

MML = 0.10 ppmv
 Low-level standard = 0.08 ppmv
 Mid-level standard = 0.20 ppmv
 High-level standard = 0.32 ppmv
 Span value = 0.40 ppmv

12.2 Estimate Tracer Gas Injection Rate for the Given Span. To estimate the minimum and maximum tracer gas injection rate, assume a worst case capture efficiency of 80 percent, and calculate the tracer gas flow rate based on known or measured parameters. To estimate the minimum tracer gas injection rate, assume that the MML

concentration (10 times the IR detection limit in this example) is desired at the measurement location. The following equation can be used to estimate the minimum tracer gas injection rate:

$$((Q_{T-MIN} \times 0.8)/Q_E) \times (C_T + 100) \times 10^6 = \text{MML}$$

$$Q_{T-MIN} = 1.25 \times \text{MML} \times (Q_E/C_T) \times 10^{-4}$$

Where:

Q_{T-MIN} = minimum volumetric flow rate of tracer gas injected, standard cubic feet per minute (scfm);

Q_E = volumetric flow rate of exhaust gas, scfm;

C_T = Tracer gas (SF_6) concentration in gas blend, percent by volume;

MML = minimum measured level, ppmv = $10 \times \text{IR}_{DL}$ (for this example);

IR_{DL} = IR detection limit, ppmv.

Standard conditions: 20 °C, 760 millimeters of mercury (mm Hg).

To estimate the maximum tracer gas injection rate, assume that the span value is desired at the measurement location. The following equation can be used to estimate the maximum tracer gas injection rate:

$$((Q_{T-MAX} \times 0.8)/Q_E) \times (C_T + 100) \times 10^6 = \text{span value}$$

$$Q_{T-MAX} = 1.25 \times \text{span value} \times (Q_E/C_T) \times 10^{-4}$$

Where:

Q_{T-MAX} = maximum volumetric flow rate of tracer gas injected, scfm;

Span value = instrument span value, ppmv.

The following example illustrates this calculation procedure:

Find the range of volumetric flow rate of tracer gas to be injected when the following parameters are known:

Q_E = 60,000 scfm (typical exhaust gas flow rate from an enclosure);

C_T = 2 percent SF_6 in nitrogen;

IR_{DL} = 0.01 ppmv (per manufacturer's specifications);

MML = $10 \times \text{IR}_{DL}$ = 0.10 ppmv;

Span value = 0.40 ppmv;

Q_T = ?

Minimum tracer gas volumetric flow rate:

$$Q_{T-MIN} = 1.25 \times \text{MML} \times (Q_E/C_T) \times 10^{-4}$$

$$Q_{T-MIN} = 1.25 \times 0.10 \times (60,000/2) \times 10^{-4} = 0.375 \text{ scfm}$$

Maximum tracer gas volumetric flow rate:

$$Q_{T-MAX} = 1.25 \times \text{span value} \times (Q_E/C_T) \times 10^{-4}$$

$$Q_{T-MAX} = 1.25 \times 0.40 \times (60,000/2) \times 10^{-4} = 1.5 \text{ scfm}$$

In this example, the estimated total volumetric flow rate of the two percent SF_6 tracer gas injected through the manifolds in the enclosure lies between 0.375 and 1.5 scfm.

12.3 Calibration Error. Calculate the calibration error for the low-level and mid-level calibration gases using the following equation:

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$$\text{Err} = |C_{\text{std}} - C_{\text{meas}}| \text{verbar}; + C_{\text{std}} \times 100$$

Where:

Err = calibration error, percent;

C_{std} = low-level or mid-level calibration gas value, ppmv;

C_{meas} = measured response to low-level or mid-level concentration gas, ppmv.

12.4 Calibration Drift. Calculate the calibration drift for the zero and low-level calibration gases using the following equation:

$$D = |C_{\text{initial}} - C_{\text{final}}| \text{verbar}; + C_{\text{span}} \times 100$$

Where:

D = calibration drift, percent;

C_{initial} = low-level or mid-level calibration gas value measured before test run, ppmv;

C_{final} = low-level or mid-level calibration gas value measured after test run, ppmv;

C_{span} = span value, ppmv.

12.5 Calculate Capture Efficiency. The equation to calculate enclosure capture efficiency is provided below:

$$\text{CE} = (\text{SF}_{6\text{-CD}} \div \text{SF}_{6\text{-INJ}}) \times 100$$

Where:

CE = capture efficiency;

$\text{SF}_{6\text{-CD}}$ = mass of SF_6 measured at the inlet to the CD;

$\text{SF}_{6\text{-INJ}}$ = mass of SF_6 injected from the tracer source into the enclosure.

Calculate the CE for each of the initial three test runs. Then follow the procedures outlined in section 12.6 to calculate the overall capture efficiency.

12.6 Calculate Overall Capture Efficiency. After calculating the capture efficiency for each of the initial three test runs, follow the procedures in 40 CFR part 63, subpart KK, appendix A, to determine if the results of the testing can be used in determining compliance with the requirements of the rule. There are two methods that can be used: the DQO and LCL methods. The DQO method is described in section 3 of 40 CFR part 63, subpart KK, appendix A, and provides a measure of the precision of the capture efficiency testing conducted. Section 3 of 40 CFR part 63, subpart KK, appendix A, provides an example calculation using results from a facility. If the DQO criteria are met using the first set of three test runs, then the facility can use the average capture efficiency of these test results to determine the capture efficiency of the enclosure. If the DQO criteria are not met, then the facility can conduct another set of three runs and run the DQO analysis again using the results from the six runs *OR* the facility can elect to use the LCL approach.

The LCL method is described in section 4 of 40 CFR part 63, subpart KK, appendix A, and provides sources that may be performing much better than their regulatory requirement, a screening option by which they can demonstrate compliance. The LCL approach compares the 80 percent lower confidence

limit for the mean measured CE value to the applicable regulatory requirement. If the LCL capture efficiency is higher than the applicable limit, then the facility is in initial compliance and would use the LCL capture efficiency as the capture efficiency to determine compliance. If the LCL capture efficiency is lower than the applicable limit, then the facility must perform additional test runs and re-run the DQO or LCL analysis.

13.0 METHOD PERFORMANCE

13.1 Measurement System Performance Specifications.

13.1.1 Zero Drift. Less than ± 3 percent of the span value.

13.1.2 Calibration Drift. Less than ± 3 percent of the span value.

13.1.3 Calibration Error. Less than ± 5 percent of the calibration gas value.

13.2 Flow Measurement Specifications. The mass flow, volumetric flow, or critical orifice control meter used should have an accuracy of greater than ± 5 percent at the flow rate used.

13.3 Calibration and Tracer Gas Specifications. The manufacturer of the calibration and tracer gases should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ± 2 percent from the certified value.

14.0 POLLUTION PREVENTION [RESERVED]

15.0 Waste Management [Reserved]

16.0 References

1. 40 CFR part 60, appendix A, EPA Method 1—Sample and velocity traverses for stationary sources.

2. 40 CFR part 60, appendix A, EPA Method 2—Determination of stack gas velocity and volumetric flow rate.

3. 40 CFR part 60, appendix A, EPA Method 3—Gas analysis for the determination of dry molecular weight.

4. 40 CFR part 60, appendix A, EPA Method 4—Determination of moisture content in stack gases.

5. SEMI F15-93 Test Method for Enclosures Using Sulfur Hexafluoride Tracer Gas and Gas Chromatography.

6. Memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, to EPA Regional Directors, Revised Capture Efficiency Guidance for Control of Volatile Organic Compound Emissions, February 7, 1995. (That memorandum contains an attached technical document from Candace Sorrell, Emission Monitoring and Analysis Division, "Guidelines for Determining Capture Efficiency," January 9, 1994).

7. Technical Systems Audit of Testing at Plant "C," EPA-454/R-00-26, May 2000.

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8. Material Safety Data Sheet for SF₆ Air Products and Chemicals, Inc. Website: www3.airproducts.com. October 2001.

17.0 TABLES, DIAGRAMS, FLOWCHARTS, AND VALIDATION DATA

TABLE 1 TO APPENDIX A TO SUBPART DDDD OF 40 CFR PART 63—SUMMARY OF CRITICAL PHYSICAL MEASUREMENTS FOR ENCLOSURE TESTING

Measurement	Measurement instrumentation	Measurement frequency	Measurement site
Tracer gas injection rate	Mass flow meter, volumetric flow meter or critical orifice.	Continuous	Injection manifolds (cylinder gas).
Tracer gas concentration at control device inlet.	Infrared Spectrometer or GC/ECD.	Continuous (at least one reading per minute) for a minimum of 20 minutes.	Inlet duct to the control device (outlet duct of enclosure).
Volumetric air flow rate	EPA Methods 1, 2, 3, 4 (40 CFR part 60, appendix A). <ul style="list-style-type: none"> • Velocity sensor (Manometer/Pitot tube). • Thermocouple • Midget Impinger sampler • Orsat or Fyrite 	Each test run for velocity (minimum); Daily for moisture and molecular weight.	Inlet duct to the control device (outlet duct of enclosure).

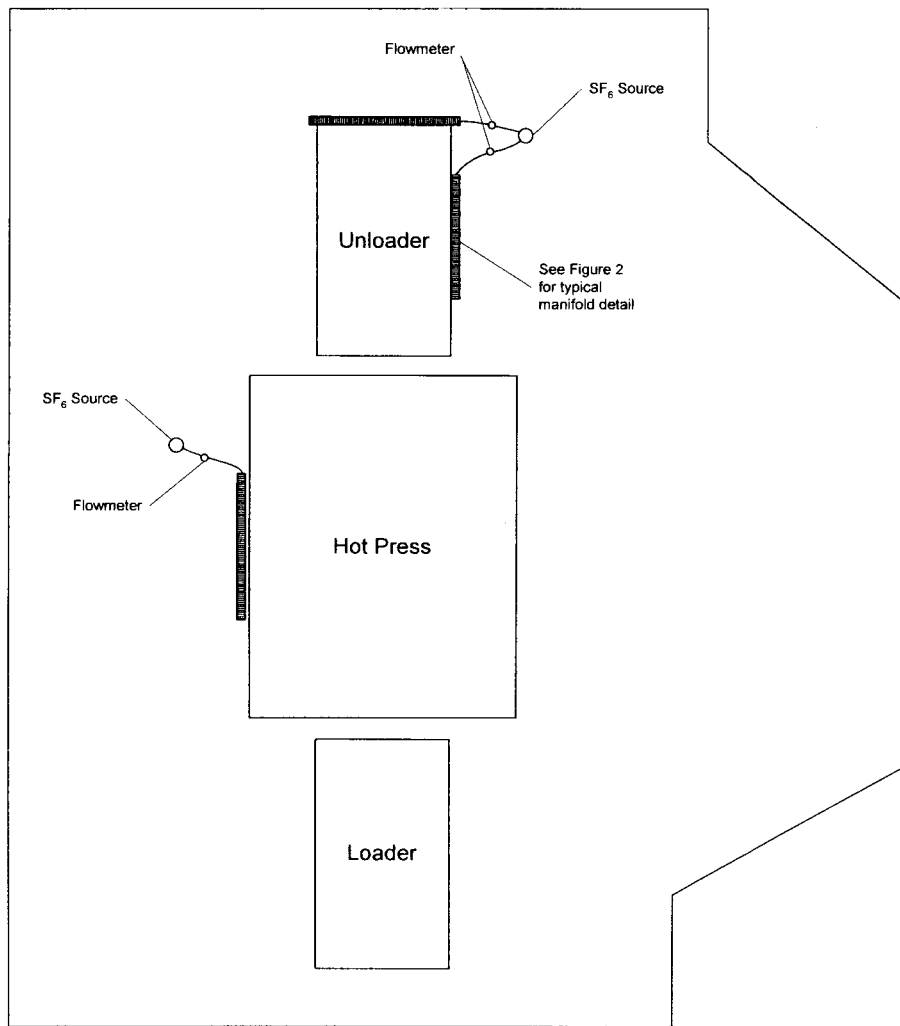


Figure 1. Plan view schematic of hot press and enclosure showing SF₆ manifold locations.

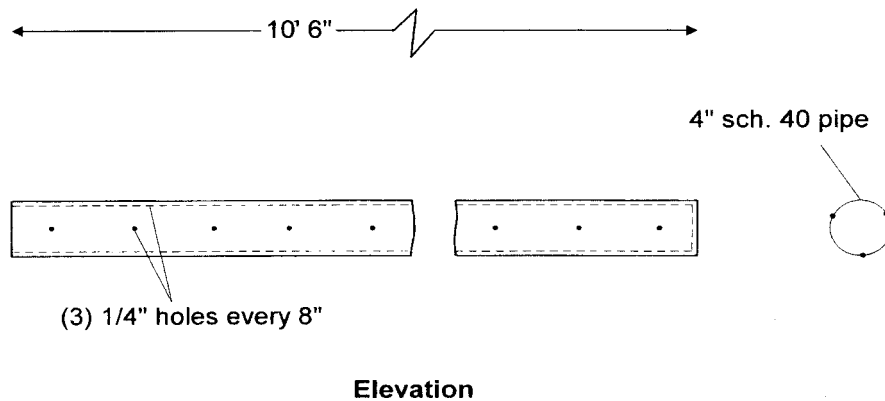


Figure 2. Schematic detail for manifold system for SF₆ injection.

[69 FR 46011, July 30, 2004, as amended at 71 FR 8375, Feb. 16, 2006]

APPENDIX B TO SUBPART DDDD OF PART 63—METHODOLOGY AND CRITERIA FOR DEMONSTRATING THAT AN AFFECTED SOURCE IS PART OF THE LOW-RISK SUBCATEGORY OF PLYWOOD AND COMPOSITE WOOD PRODUCTS MANUFACTURING AFFECTED SOURCES

1. PURPOSE

This appendix provides the methodology and criteria for demonstrating that your affected source is part of the low-risk subcategory of plywood and composite wood products (PCWP) manufacturing facilities. You must demonstrate that your affected source is part of the low-risk subcategory using either a look-up table analysis (based on the look-up tables included in this appendix) or using a site-specific risk assessment performed according to the criteria specified in this appendix. This appendix also specifies how and when you must obtain approval of the low-risk demonstrations for your affected source and how to ensure that your affected source remains in the low-risk subcategory of PCWP facilities.

2. WHO IS ELIGIBLE TO DEMONSTRATE THAT THEY ARE PART OF THE LOW-RISK SUBCATEGORY OF PCWP AFFECTED SOURCES?

Each new, reconstructed, or existing affected source at a PCWP manufacturing facility may demonstrate that they are part of the low-risk subcategory of PCWP affected sources. Section 63.2232 of 40 CFR part 63,

subpart DDDD, defines the affected source and explains which affected sources are new, existing, or reconstructed.

3. WHAT PARTS OF MY AFFECTED SOURCE HAVE TO BE INCLUDED IN THE LOW-RISK DEMONSTRATION?

Every process unit that is part of the PCWP affected source (as defined in §63.2292 of 40 CFR part 63, subpart DDDD) and that emits one or more hazardous air pollutant (HAP) listed in table 1 to this appendix must be included in the low-risk demonstration. You are not required to include process units outside of the affected source in the low-risk demonstration.

4. WHAT ARE THE CRITERIA FOR DETERMINING IF MY AFFECTED SOURCE IS LOW RISK?

(a) Determine the individual HAP emission rates from each process unit emission point within the affected source using the procedures specified in section 5 of this appendix.

(b) Perform chronic and acute risk assessments using the dose-response values, as specified in paragraphs (b)(1) through (3) of this section.

(1) For a look-up table analysis or site-specific chronic inhalation risk assessment, you should use the cancer and noncancer dose-response values listed on the Environmental Protection Agency (EPA) Air Toxics Web site (<http://www.epa.gov/ttn/atw/toxsource/summary.html>) to estimate carcinogenic and non-carcinogenic chronic inhalation risk, respectively.

(2) For site-specific acute inhalation risk assessment, you should use the acute exposure guidance level (AEGL-1) value for acrolein and the acute reference exposure level

(REL) value for formaldehyde for estimating acute inhalation risk found at <http://www.epa.gov/ttn/atw/toxsource/summary.html>.

(3) You may use dose-response values more health-protective than those posted on the EPA Air Toxics Web site (<http://www.epa.gov/ttn/atw/toxsource/summary.html>) to facilitate ongoing certification (as required in section 13 of this appendix) that your affected source remains in the low-risk subcategory.

(c) Demonstrate that your affected source is part of the low-risk subcategory by estimating the maximum impacts of your affected source using the methods described in either section 6 of this appendix (look-up table analysis) or section 7 of this appendix (site-specific risk assessment) and comparing the results to the low-risk criteria presented in the applicable section.

5. HOW DO I DETERMINE HAP EMISSIONS FROM MY AFFECTED SOURCE?

(a) You must determine HAP emissions for every process unit emission point within the affected source that emits one or more of the HAP listed in table 1 to this appendix as specified in table 2A to this appendix. For each process unit type, table 2A to this appendix specifies whether emissions testing is required or if emissions estimation is allowed as an alternative to emissions testing. If emissions estimation is allowed according to table 2A, you must develop your emission estimates according to the requirements in paragraph (k) of this section. You may choose to perform emissions testing instead of emissions estimation. You must conduct HAP emissions tests according to the requirements in paragraphs (b) through (j) of this section and the methods specified in table 2B to this appendix. If you conduct fuel analyses, you must follow the requirements of paragraph (m) of this section. For each of the emission points at your affected source, you must obtain the emission rates in pounds per hour (lb/hr) for each of the pollutants listed in table 1 to this appendix.

(b) *Periods when emissions tests must be conducted.*

(1) You must not conduct emissions tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR 63.7(e)(1).

(2) You must test under worst-case operating conditions as defined in this appendix. You must describe your worst-case operating conditions in your performance test report for the process and control systems (if applicable) and explain why the conditions are worst-case.

(c) *Number of test runs.* You must conduct three separate test runs for each test required in this section, as specified in 40 CFR 63.7(e)(3). Each test run must last at least 1 hour except for: testing of a temporary total enclosure (TTE) conducted using Methods 204A through 204F in 40 CFR part 51, appendix M, which require three separate test runs

of at least 3 hours each; and testing of an enclosure conducted using the alternative tracer gas method in appendix A to 40 CFR part 63, subpart DDDD, which requires a minimum of three separate runs of at least 20 minutes each.

(d) *Sampling locations.* Sampling sites must be located at the emission point and prior to any releases to the atmosphere. For example, at the outlet of the control device, including wet control devices, and prior to any releases to the atmosphere.

(e) *Collection of monitoring data for HAP control devices.* During the emissions test, you must collect operating parameter monitoring system or continuous emissions monitoring system (CEMS) data at least every 15 minutes during the entire emissions test and establish the site-specific operating requirements (including the parameter limits or total hydrocarbon (THC) concentration limit) in table 2 to 40 CFR part 63, subpart DDDD, using data from the monitoring system and the procedures specified in paragraphs (k) through (o) of §63.2262 of subpart DDDD of 40 CFR part 63.

(f) *Nondetect data.* You may treat emissions of an individual HAP as zero if all of the test runs result in a nondetect measurement and the conditions in paragraphs (l) and (2) of this section are met for the relevant test method. Otherwise, nondetect data (as defined in §63.2292 of 40 CFR part 63, subpart DDDD) for individual HAP must be treated as one-half of the method detection limit.

(1) The method detection limit is less than or equal to 1 part per million by volume, dry (ppmvd) for pollutant emissions measured using Method 320 in appendix A to 40 CFR part 63; or Method 18 in appendix A to 40 CFR part 60; or the NCASI Method IM/CAN/WP-99.02 (incorporated by reference (IBR), see 40 CFR 63.14(f)); or NCASI Method ISS/FP-A105.01 (IBR, see 40 CFR 63.14(f)); or ASTM D6348-03 (IBR, see 40 CFR 63.14(b)).

(2) For pollutants measured using Method 29 in appendix A to 40 CFR part 60, you analyze samples using atomic absorption spectroscopy (AAS) or another laboratory method specified in Method 29 in appendix A to 40 CFR part 60 with detection limits lower than or equal to AAS.

(g) For purposes of your low-risk demonstration, you must assume that 17 percent of your total chromium measured using EPA Method 29 in appendix A to 40 CFR part 60 is chromium VI. You must assume that 65 percent of your total nickel measured using EPA Method 29 in appendix A to 40 CFR part 60 is nickel subsulfide.

(h) You may use emission rates higher than your measured emission rates (e.g., emissions rates 10 times your measured emission rate) to facilitate ongoing certification (as required in section 13 of this appendix) that your affected source remains in the low-risk subcategory.

(i) *Use of previous emissions tests.* You may use the results of previous emissions tests provided that the following conditions are met:

(1) The previous emissions tests must have been conducted using the methods specified in table 2B to this appendix. Previous emission test results obtained using NCASI Method IM/CAN/WP-99.01 are acceptable.

(2) The previous emissions tests must meet the requirements in paragraphs (b) through (j) of this section.

(3) The subject process unit(s) must be operated in a manner (e.g., with raw material type, operating temperature, etc.) that would be expected to result in the same or lower emissions than observed during the previous emissions test(s) and the process unit(s) may not have been modified such that emissions would be expected to exceed (notwithstanding normal test-to-test variability) the results from previous emissions test(s).

(4) The previous emissions test(s) must have been conducted in 1997 or later.

(j) *Use of test data for similar process units.* If you have multiple similar process units at the same plant site, you may apply the test results from one of these process units to the other similar process units for purposes of your low-risk demonstration provided that the following conditions are met:

(1) You must explain how the process units are similar in terms of design, function, heating method, raw materials processed, residence time, change in material moisture content, operating temperature, resin type processed, age, and any other parameters that may affect emissions.

(2) If the process units have different throughput rates, then you must convert the emission test results to terms of pounds of HAP per unit throughput prior to applying the emissions test data to other similar process units.

(3) If one of the process units would be expected to exhibit higher emissions due to minor differences in process parameters, then you must explain and test the process unit that would be expected to exhibit greater emissions (for example, the unit with a slightly higher temperature set point, dryer processing furnish with slightly higher inlet moisture content, press processing thicker panels, unit with the greater throughput, considerably older unit, etc.).

(k) If emissions estimation is allowed, you must follow the procedures in (1) through (3) of this paragraph.

(1) You must use the emission factors or other emission estimation techniques specified in table 2A to this appendix when developing emission estimates.

(2) You must base your emission estimates on the maximum process unit throughput you will incorporate into your permit according to section 11(b) of this appendix.

(3) For process units with multiple emission points, you must apportion the estimate emissions evenly across each emission point. For example, if you have a process unit with two emission points, and the process unit is estimated to emit 6 lb/hr, you would assign 3 lb/hr to each emission point.

(l) *Testing of multiple stacks.* You may test one of multiple stacks for a process unit provided that the following conditions are met:

(1) The emissions are produced by the same process unit.

(2) The emissions originate from the same duct.

(3) The emissions are sufficiently mixed so that the gaseous pollutant concentrations from one stack are not expected to differ from concentrations from another stack.

(m) *Conducting a fuel analysis.* For process units that require testing of metals according to table 2A to this appendix, you may conduct a fuel analysis in lieu of emissions tests. You must follow the procedures described in §63.7521 (a) and (c) through (e) of subpart DDDDD; §63.7530(d)(1), (2), and (4) of subpart DDDDD, and line 2 of table 6 to subpart DDDDD. For purposes of this appendix, the total selected metals analyzed by fuel analysis are the metals included in table 1 to this appendix.

6. HOW DO I CONDUCT A LOOK-UP TABLE ANALYSIS?

Use the look-up tables (tables 3 and 4 to this appendix) to demonstrate that your affected source is part of the low-risk subcategory, following the procedures in paragraphs (a) through (d) of this section.

(a) Using the emission rate of each HAP required to be included in your low-risk demonstration (determined according to section 5 of this appendix), calculate your total toxicity-weighted carcinogen and noncarcinogen emission rates for each of your emission points using Equations 1 and 2 of this appendix, respectively. Calculate your carcinogen and non-carcinogen weighted stack height using Equations 3 and 4 of this appendix, respectively.

$$TWCER = \sum (ER_i \times URE_i) \quad \text{Eqn. 1}$$

TWCER = Toxicity-weighted carcinogenic emission rate for each emission point (lb/hr)/(µg/m³)

ER_i = Emission rate of pollutant i (lb/hr)

URE_i = Unit risk estimate for pollutant i, 1 per microgram per cubic meter (µg/m³)⁻¹

$$TWNER = \sum (ER_i / RfC_i) \quad \text{Eqn. 2}$$

TWNER = Toxicity-weighted noncarcinogenic emission rate for each emission point (lb/hr)/(µg/m³)

ER_i = Emission rate of pollutant i (lb/hr)

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RfC_i = Reference concentration for pollutant i, micrograms per cubic meter (µgm/m³)

WHC = Carcinogen weighted stack height for use in the carcinogen look-up table (table 3 to this appendix)

$$WHC = \sum_{ep=1}^{ep=n} \frac{TW CER_{ep}}{\sum_{ep=1}^{ep=n} TW CER_{ep}} \times H_{ep} \quad \text{Eqn. 3}$$

H = Height of each individual stack or emission point (m)

ep = Individual stacks or emission points

n = Total number of stacks and emission points

$$WHN = \sum_{ep=1}^{ep=n} \left[\frac{TWNER_{ep}}{\sum_{ep=1}^{ep=n} TWNER_{EP}} \right] \times H_{ep} \quad \text{Eqn. 4}$$

WHN = Non-carcinogen weighted stack height for use in the non-carcinogen look-up table (table 4 to this appendix)

H = Height of each individual stack or emission point (m)

ep = Individual stacks or emission points

n = Total number of stacks and emission points

(b) *Cancer risk.* Calculate the total toxicity-weighted carcinogen emission rate for your affected source by summing the toxicity-weighted carcinogen emission rates for each of your emission points. Identify the appropriate maximum allowable toxicity-weighted carcinogen emission rate from table 3 to this appendix for your affected source using the carcinogen weighted stack height of your emission points and the minimum distance between any emission point at the affected source and the property boundary. If one or both of these values do not match the exact values in the look-up table, then use the next lowest table value. (Note: If your weighted stack height is less than 5 meters (m), you must use the 5 m row.) Your affected source is considered low risk for carcinogenic effects if your toxicity-weighted carcinogen emission rate, determined using the methods specified in this appendix, does not exceed the values specified in table 3 to this appendix.

(c) *Noncancer risk.* Calculate the total central nervous system (CNS) and respiratory target organ specific toxicity-weighted non-carcinogen emission rate for your affected source by summing the toxicity-weighted emission rates for each of your emission points. Identify the appropriate maximum allowable toxicity-weighted noncarcinogen emission rate from table 4 to this appendix for your affected source using the non-carcinogen weighted stack height of your emission points and the minimum distance between any emission point at the affected source and the property boundary. If one or

both of these values do not match the exact values in the look-up table, then use the next lowest table value. (Note: If your weighted stack height is less than 5 m, you must use the 5 m row.) Your affected source is considered low risk for noncarcinogenic effects if your toxicity-weighted noncarcinogen emission rate, determined using the methods specified in this appendix, does not exceed the values specified in table 4 to this appendix.

(d) *Low-risk demonstration.* The EPA will approve your affected source as eligible for membership in the low-risk subcategory of PCWP affected sources if it determines that: (1) Your affected source is low risk for both carcinogenic and noncarcinogenic effects using the look-up table analysis described in this section and (2) you meet the criteria specified in section 11 of this appendix.

7. HOW DO I CONDUCT A SITE-SPECIFIC RISK ASSESSMENT?

(a) Perform a site-specific risk assessment following the procedures specified in this section. You may use any scientifically-accepted peer-reviewed assessment methodology for your site-specific risk assessment. An example of one approach to performing a site-specific risk assessment for air toxics that may be appropriate for your affected source can be found in the "Air Toxics Risk Assessment Guidance Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document." You may obtain a copy of the "Air Toxics Risk Assessment Reference Library" through EPA's air toxics Web site at http://www.epa.gov/ttn/fera/risk_atra_main.html.

(b) At a minimum, your site-specific risk assessment must:

(1) Estimate the long-term inhalation exposures through the estimation of annual or multi-year average ambient concentrations for the chronic portion of the assessment.

(2) Estimate the acute exposures for formaldehyde and acrolein through the estimation of maximum 1-hour average ambient concentrations for the acute portion of the assessment.

(3) Estimate the inhalation exposure of the individual most exposed to the affected source's emissions.

(4) Estimate the individual risks over a 70-year lifetime for the chronic cancer risk assessment.

(5) Use site-specific, quality-assured data wherever possible.

(6) Use health-protective default assumptions wherever site-specific data are not available.

(7) Contain adequate documentation of the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emission measurement expert.

(c) Your site-specific risk assessment need not:

(1) Assume any attenuation of exposure concentrations due to the penetration of outdoor pollutants into indoor exposure areas.

(2) Assume any reaction or deposition of the emitted pollutants during transport from the emission point to the point of exposure.

(d) Your affected source is considered low risk for carcinogenic chronic inhalation effects if your site-specific risk assessment demonstrates that maximum off-site individual lifetime cancer risk at a location where people live or congregate (e.g., school or day care center) is less than 1 in 1 million.

(e) Your affected source is considered low risk for noncarcinogenic chronic inhalation effects if your site-specific risk assessment demonstrates that every maximum off-site target-organ specific hazard index (TOSHI), or appropriate set of site-specific hazard indices based on similar or complementary mechanisms of action that are reasonably likely to be additive at low dose or dose-response data for mixtures, at a location where people live is less than or equal to 1.0.

(f) Your affected source is considered low risk for noncarcinogenic acute inhalation effects if your site-specific risk assessment demonstrates that the maximum off-site acute hazard quotients for both acrolein and formaldehyde are less than or equal to 1.0.

(g) The EPA will approve your affected source as eligible for membership in the low-risk subcategory of PCWP affected sources if it determines that: (1) your affected source is low risk for all of the applicable effects listed in paragraphs (d) through (f) of this section and (2) you meet the criteria specified in section 11 of this appendix.

8. WHAT INFORMATION MUST I SUBMIT FOR THE LOW-RISK DEMONSTRATION?

(a) Your low-risk demonstration must include at a minimum the information specified in paragraphs (a)(1) through (5) of this

section and the information specified in either paragraph (b) or (c) of this section.

(1) Identification of each process unit at the affected source.

(2) Stack parameters for each emission point including, but not limited to, the parameters listed in paragraphs (a)(2)(i) through (iv) below:

(i) Emission release type.

(ii) Stack height, stack area, stack gas temperature, and stack gas exit velocity.

(iii) Plot plan showing all emission points, nearby residences, and fenceline.

(iv) Identification of any HAP control devices used to reduce emissions from each process unit.

(3) Emission test reports for each pollutant and process unit based on the testing requirements and methods specified in tables 2A and 2B to this appendix, including a description of the process parameters identified as being worst case. You must submit your emissions calculations for each pollutant and process unit for which emissions estimates are developed. You must submit fuel analyses for each fuel and emission point which has been conducted, including collection and analytical methods used.

(4) Identification of the dose-response values used in your risk analysis (look-up table analysis or site-specific risk assessment), according to section 4(b) of this appendix.

(5) Identification of the controlling process factors (including, but not limited to, production rate, emission rate, type of control devices, process parameters documented as worst-case conditions during the emissions testing used for your low-risk demonstration) that will become Federally enforceable permit conditions used to show that your affected source remains in the low-risk subcategory.

(b) If you use the look-up table analysis in section 6 of this appendix to demonstrate that your affected source is low risk, your low-risk demonstration must contain at a minimum the information in paragraphs (a) and (b)(1) through (4) of this section.

(1) Identification of the stack heights for each emission point included in the calculations of weighted stack height.

(2) Identification of the emission point with the minimum distance to the property boundary.

(3) Calculations used to determine the toxicity-weighted carcinogen and noncarcinogen emission rates and weighted stack heights according to section 6(a) of this appendix.

(4) Comparison of the values in the look-up tables (tables 3 and 4 to this appendix) to your toxicity-weighted emission rates for carcinogenic and noncarcinogenic HAP.

(c) If you use a site-specific risk assessment as described in section 7 of this appendix to demonstrate that your affected source

is low risk (for carcinogenic and noncarcinogenic chronic inhalation and acute inhalation risks), your low-risk demonstration must contain at a minimum the information in paragraphs (a) and (c)(1) through (8) of this section.

(1) Identification of the risk assessment methodology used.

(2) Documentation of the fate and transport model used.

(3) Documentation of the fate and transport model inputs, including the information described in paragraphs (a)(1) through (4) of this section converted to the dimensions required for the model and all of the following that apply: meteorological data; building, land use, and terrain data; receptor locations and population data; and other facility-specific parameters input into the model.

(4) Documentation of the fate and transport model outputs.

(5) Documentation of exposure assessment and risk characterization calculations.

(6) Comparison of the maximum off-site individual lifetime cancer risk at a location where people live to 1 in 1 million, as required in section 7(d) of this appendix for carcinogenic chronic inhalation risk.

(7) Comparison of the maximum off-site TOSHI for respiratory effects and CNS effects at a location where people live to the limit of 1.0, as required in section 7(e) of this appendix for noncarcinogenic chronic inhalation risk.

(8) Comparison of the maximum off-site acute inhalation hazard quotient (HQ) for both acrolein and formaldehyde to the limit of 1.0, as required in section 7(f) of this appendix for noncarcinogenic acute inhalation effects.

(d) The EPA may request any additional information it determines is necessary or appropriate to evaluate an affected source's low-risk demonstration.

9. WHERE DO I SEND MY LOW-RISK DEMONSTRATION?

You must submit your low-risk demonstration to the EPA for review and approval. Send your low-risk demonstration either by e-mail to REAG@EPA.GOV or by U.S. mail or other mail delivery service to U.S. EPA, Risk and Exposure Assessment Group, Emission Standards Division (C404-01), Attn: Group Leader, Research Triangle Park, NC 27711, and send a copy to your permitting authority. Your affected source is not part of the low-risk subcategory of PCWP facilities unless and until EPA notifies you that it has determined that you meet the requirements of section 11 of this appendix.

10. WHEN DO I SUBMIT MY LOW-RISK DEMONSTRATION?

(a) *Existing affected sources.* If you have an existing affected source, you may complete

and submit for approval your low-risk demonstration (including the emission test results, fuel analyses, and emission estimates required in this appendix) any time. Existing affected sources that are not approved by EPA as being part of the low-risk subcategory by October 1, 2008, must comply with the requirements of 40 CFR part 63, subpart DDDD from October 1, 2008, unless and until EPA approves them as part of the low-risk subcategory.

(b) *Sources in compliance with 40 CFR part 63, subpart DDDD.* If you operate an affected source that is already in compliance with 40 CFR part 63, subpart DDDD (including, but not limited to, an existing source, a new or reconstructed affected source starting up before September 28, 2004, or a new source starting up after September 28, 2004, but before February 16, 2006) and wish to become part of the low-risk subcategory, then you may complete and submit for approval your low-risk demonstration (including the emission test results, fuel analyses, and emission estimates required in this appendix) any time. Your affected source will become part of the low-risk subcategory when EPA determines that the requirements in section 11 of this appendix are met.

(c) New or reconstructed affected sources wanting to be part of the low-risk subcategory at startup must comply with the requirements of paragraphs (c)(1) through (c)(3) of this section.

(1)(i) You must complete and submit for review and approval a pre-startup low-risk demonstration no later than nine months prior to initial startup. The pre-startup low-risk demonstration must be based on the information (e.g., equipment types, estimated emission rates, etc.) that you will likely use to obtain your title V permit. You must base your pre-startup low-risk demonstration on the maximum emissions that will likely be allowed when you obtain your title V permit.

(ii) You must request that your affected source become part of the low-risk subcategory based on your pre-startup low-risk demonstration.

(iii) If EPA approves your pre-startup low-risk demonstration, then your affected source will be part of the low-risk subcategory upon approval of the pre-startup low-risk demonstration and you may start up your affected source without complying with the compliance options, operating requirements, and work practice requirements in 40 CFR part 63, subpart DDDD, provided that you operate your affected source consistently with the pre-startup low-risk demonstration until you meet the criteria in section 11 of this appendix based on your verification low-risk demonstration developed according to paragraph (c)(2) of this

section. Failure to so operate will render approval of your pre-startup low-risk demonstration null and void from the date you startup your affected source.

(2)(i) You must complete and submit your verification low-risk demonstration, including the results from emission tests (or fuel analyses) required in this appendix, within 240 days following initial startup. The verification low-risk demonstration must demonstrate to EPA's satisfaction that the affected source is low risk. The verification low-risk demonstration may be used to change operating parameters ensuring low-risk status.

(ii) If you do not submit the verification low-risk demonstration as required, or the verification low-risk demonstration does not verify that the affected source is low risk, then approval of your pre-startup low-risk demonstration is null and void from the date you startup your affected source and you must comply immediately with subpart DDDD of 40 CFR part 63.

(3) To incorporate the low-risk parameters from your verification low-risk demonstration into your title V permit, you must submit your application for a significant modification to your title V permit within 1 year following initial startup, or earlier if so required under your State's permit program approved under 40 CFR part 70. The parameters that defined your affected source as part of the low-risk subcategory (including, but not limited to, production rate, emission rate, type of control devices, process parameters reflecting the emissions rates used for your low-risk demonstration, and stack height) must be submitted for incorporation as federally enforceable terms and conditions into your title V permit. You must provide written certification to the permitting authority that your affected source is operating consistently with its EPA-approved pre-startup low-risk demonstration and verification low-risk demonstration, as applicable, from startup until your title V permit revision is issued.

(d) New or reconstructed affected sources that want to operate consistently with a pre-startup low-risk demonstration at startup and become part of the low-risk subcategory based on EPA approval of their verification low-risk demonstration (rather than based on their pre-startup low-risk demonstration), must comply with the requirements in paragraphs (d)(1) through (d)(3) of this section.

(1)(i) You must complete and submit for review a pre-startup low-risk demonstration no later than nine months prior to initial startup. The pre-startup low-risk demonstration must be based on the information (e.g., equipment types, estimated emission rates, etc.) that you will likely use to obtain your title V permit. You must base your pre-startup low-risk demonstration on the maximum

emissions that will likely be allowed when you obtain your title V permit.

(ii) If EPA concludes that your pre-startup low-risk demonstration is complete and sufficiently shows that your affected source appears to be eligible for inclusion in the low-risk subcategory, then you must operate your affected source consistently with the pre-startup low-risk demonstration until EPA determines that you meet the criteria in section 11 of this appendix based on your verification low-risk demonstration developed according to paragraph (d)(2) of this section.

(2)(i) You must complete and submit for EPA review and approval your verification low-risk demonstration, including the results from emission tests (or fuel analyses) required in this appendix, within 240 days following initial startup. The verification low-risk demonstration must demonstrate to EPA's satisfaction that the affected source is low risk.

(ii) You will become part of the low-risk subcategory when EPA determines that you meet the criteria in section 11 of this appendix based upon your verification low-risk demonstration. If you do not submit the verification low-risk demonstration as required, or the verification low-risk demonstration does not verify that the affected source is low risk, then EPA will not approve your low-risk demonstration and you will remain subject to subpart DDDD of 40 CFR part 63.

(3) To incorporate the low-risk parameters from your verification low-risk demonstration into your title V permit, you must submit your application for a significant modification to your title V permit within 1 year following initial startup, or earlier if so required by your State's permit program approved by EPA under 40 CFR part 70. The parameters that defined your affected source as part of the low-risk subcategory (including, but not limited to, production rate, emission rate, type of control devices, process parameters reflecting the emissions rates used for your low-risk demonstration, and stack height) must be submitted for incorporation as federally enforceable terms and conditions into your title V permit. You must provide written certification to the permitting authority that your affected source is operating consistently with its pre-startup LRD and your verification LRD, as applicable, from startup until your title V permit revision is issued.

(e) *Area sources that become affected sources.* If you have an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before September 28, 2004, then you must complete and submit for approval your low-risk demonstration as specified in paragraph (a) of this section. If you have an affected source that is an area

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source that increases its emissions or its potential to emit such that it becomes a major source of HAP after September 28, 2004, then you must complete and submit for approval your low-risk demonstration as specified in paragraphs (b), (c) or (d) of this section, whichever applies.

11. HOW DOES MY AFFECTED SOURCE BECOME PART OF THE LOW-RISK SUBCATEGORY OF PCWP FACILITIES?

For existing sources to be included in the low-risk subcategory, EPA must find that you meet the criteria in paragraphs (a) and (b) of this section. For new sources to be included in the low-risk subcategory, EPA must find that you meet the criteria in paragraph (a) of this section. Unless and until EPA finds that you meet these criteria, your affected source is subject to the applicable compliance options, operating requirements, and work practice requirements in 40 CFR part 63, subpart DDDD.

(a) Your demonstration of low risk must be approved by EPA.

(b) Following EPA approval, the parameters that defined your affected source as part of the low-risk subcategory (including, but not limited to, production rate, emission rate, type of control devices, process parameters reflecting the emissions rates used for your low-risk demonstration, and stack height) must be submitted for incorporation as federally enforceable terms and conditions into your title V permit. You must submit an application for a significant permit modification to reopen your title V permit to incorporate such terms and conditions according to the procedures and schedules of 40 CFR part 71 or the EPA-approved program in effect under 40 CFR part 70, as applicable.

12. WHAT MUST I DO TO ENSURE MY AFFECTED SOURCE REMAINS IN THE LOW-RISK SUBCATEGORY OF PCWP FACILITIES?

You must meet the requirements in table 2 to 40 CFR part 63, subpart DDDD, for each HAP control device used at the time when you completed your low-risk demonstration. You must monitor and collect data according to §63.2270 of subpart DDDD to show continuous compliance with your control device operating requirements. You must demonstrate continuous compliance with the control device operating requirements that apply to you by collecting and recording the monitoring system data listed in table 2 to 40 CFR part 63, subpart DDDD for the process unit according to §§63.2269(a), (b), and (d) of subpart DDDD; and reducing the monitoring system data to the specified averages in units of the applicable requirement according to calculations in §63.2270 of subpart DDDD; and maintaining the average operating parameter at or above the minimum, at or below the maximum, or within the

range (whichever applies) established according to section 5(e) of this appendix.

13. WHAT HAPPENS IF THE CRITERIA USED IN THE RISK DETERMINATION CHANGE?

(a) You must certify with each annual title V permit compliance certification that the basis for your affected source's low-risk determination has not changed. You must submit this certification to the permitting authority. You must consider the changes in paragraphs (a)(1) through (5) of this section.

(1) Process changes that increase HAP emissions, including, but not limited to, a production rate increase, an emission rate increase, a change in type of control device, changes in process parameters reflecting emissions rates used for your approved low-risk demonstration.

(2) Population shifts, such as if people move to a different location such that their risks from the affected source increase.

(3) Unit risk estimate increases posted on the EPA Web site (<http://www.epa.gov/ttn/atw/toxsource/summary.html>) for the pollutants included in table 1 to this appendix.

(4) Reference concentration changes posted on the EPA Web site (<http://www.epa.gov/ttn/atw/toxsource/summary.html>) for the pollutants included in table 1 to this appendix.

(5) Acute dose-response value for formaldehyde or acrolein changes.

(b) If your affected source commences operating outside of the low-risk subcategory, it is no longer part of the low-risk subcategory. You must be in compliance with 40 CFR part 63, subpart DDDD as specified in paragraphs (b)(1) through (3) of this section. Operating outside of the low-risk subcategory means that one of the changes listed in paragraphs (a)(1) through (5) of this section has occurred and that the change is inconsistent with your affected source's title V permit terms and conditions reflecting EPA's approval of the parameters used in your low-risk demonstration.

(1) You must notify the permitting authority as soon as you know, or could have reasonably known, that your affected source is or will be operating outside of the low-risk subcategory.

(2) You must be in compliance with the requirements of 40 CFR part 63, subpart DDDD as specified in paragraph (b)(2)(i) or (ii) of this section, whichever applies.

(i) If you are operating outside of the low-risk subcategory due to a change described in paragraph (a)(1) of this section, then you must comply with 40 CFR part 63, subpart DDDD beginning on the date when your affected source commences operating outside the low-risk subcategory.

(ii) If you are operating outside of the low-risk subcategory due to a change described in paragraphs (a)(2) through (5) of this section, then you must comply with 40 CFR part 63, subpart DDDD no later than 3 years from

the date your affected source commences operating outside the low-risk subcategory.

(3)(i) You must conduct performance tests no later than 180 calendar days after the applicable date specified in paragraph (b)(2) of this section.

(ii) You must conduct initial compliance demonstrations that do not require performance tests 30 calendar days after the applicable date specified in paragraph (b)(2) of this section.

(iii) For the purposes of affected sources affected by this section, you must refer to the requirements in paragraph (b) of this section instead of the requirements of §63.2233 when complying with 40 CFR part 63, subpart DDDD.

14. WHAT RECORDS MUST I KEEP?

(a) You must keep records of the information used in developing the low-risk demonstration for your affected source, including all of the information specified in section 8 of this appendix.

(b) You must keep records demonstrating continuous compliance with the operating requirements for control devices.

(c) For each THC CEMS, you must keep the records specified in §63.2282(c) of 40 CFR part 63, subpart DDDD.

15. DEFINITIONS

The definitions in §63.2292 of 40 CFR part 63, subpart DDDD, apply to this appendix. Additional definitions applicable for this appendix are as follows:

Agricultural fiber board press means a press used in the production of an agricultural fiber based composite wood product. An *agricultural fiber board press* is a process unit.

Agricultural fiberboard mat dryer means a dryer used to reduce the moisture of wet-formed agricultural fiber mats by applying heat. An *agricultural fiberboard mat dryer* is a process unit.

Ancillary processes mean equipment and process units that are part of the PCWP affected source that are not defined elsewhere in this section or in section 63.2292 of subpart DDDD. Ancillary processes at a specific facility do not include the equipment and process units identified as insignificant sources of HAP emissions by that facility, and they do not include equipment and process units subject to another standard under 40 CFR part 63. Ancillary processes may be or may not be HAP emissions sources.

Ancillary processes are process units.

Atmospheric refiner means a piece of equipment operated under atmospheric pressure for refining (rubbing or grinding) the wood material into fibers or particles. Atmospheric refiners are operated with continuous infeed and outfeed of wood material and atmospheric pressures throughout the refining

process. An *atmospheric refiner* is a process unit.

Blending and forming operations means the process of mixing adhesive and other additives with the (wood) furnish of the composite panel and making a mat of resinated fiber, particles, or strands to be compressed into a reconstituted wood product such as particleboard, oriented strandboard, or medium density fiberboard. *Blending and forming operations* are process units.

Emission point means an individual stack or vent from a process unit that emits HAP required for inclusion in the low-risk demonstration specified in this appendix. Process units may have multiple emission points.

Fiber washer means a unit in which water-soluble components of wood (hemicellulose and sugars) that have been produced during digesting and refining are removed from the wood fiber. Typically wet fiber leaving a refiner is further diluted with water and then passed over a filter, leaving the cleaned fiber on the surface. A *fiber washer* is a process unit.

Finishing sander means a piece of equipment that uses an abrasive drum, belt, or pad to impart smoothness to the surface of a plywood or composite wood product panel and to reduce the panel to the prescribed thickness. A *finishing sander* is a process unit.

Finishing saw means a piece of equipment used to trim or cut finished plywood and composite wood products panels to a certain size. A *finishing saw* is a process unit.

Hardwood plywood press means a hot press which, through heat and pressure, bonds assembled hardwood veneers (including multiple plies of veneer and/or a substrate) and resin into a hardwood plywood panel. A *hardwood plywood press* is a process unit.

Hardwood veneer kiln means an enclosed dryer operated in batch cycles by applying heat to reduce the moisture content from stacked hardwood veneer. A *hardwood veneer kiln* is a process unit.

Hazard Index (HI) means the sum of more than one hazard quotient for multiple substances and/or multiple exposure pathways.

Hazard Quotient (HQ) means the ratio of the predicted media concentration of a pollutant to the media concentration at which no adverse effects are expected. For inhalation exposures, the HQ is calculated as the air concentration divided by the reference concentration (RfC).

Humidifier means a process unit used to increase the moisture content of hardboard following pressing or after post-baking. Typically, water vapor saturated air is blown over the hardboard surfaces in a closed cabinet. A *humidifier* is a process unit.

I-joist curing chamber means an oven or a room surrounded by a solid wall or heavy plastic flaps that uses heat, infrared, or

radio-frequency techniques to cure the adhesive. An *I-joist curing chamber* is a process unit.

Log chipping means the production of wood chips from logs.

Log vat means a process unit that raises the temperature of the logs inside by applying a heated substance, usually hot water and steam, to the outside of the logs by spraying or soaking. A *log vat* is a process unit.

Look-up table analysis means a risk screening analysis based on comparing the toxicity-weighted HAP emission rate from the affected source to the maximum allowable toxicity-weighted HAP emission rates specified in tables 3 and 4 to this appendix.

LSL press means a composite wood product press that presses a loose mat of resinated strands into a billet by simultaneous application of heat and pressure. The billet is cut into laminated strand lumber after exiting the press. An *LSL press* is a process unit.

LVL or PSL press means a composite wood product press that presses resinated stacks of veneers into a solid billet by application of heat and/or pressure. The billet is cut into laminated veneer lumber or parallel strand lumber after exiting the press. An *LVL or PSL press* is a process unit.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the earth's surface. The principal hydrocarbon constituent is methane.

Paddle-type particleboard dryer means a dryer to which heat is applied to remove moisture from particles and paddles to advance materials through the dryer. This type of dryer removes moisture absorbed by particles due to high ambient temperature. A *paddle-type particleboard dryer* is a process unit.

Panel-trim chipper means a piece of equipment that accepts the discarded pieces of veneer or pressed plywood and composite wood products panels that are removed by finishing saws and reduces these pieces to small elements. A *panel-trim chipper* is a process unit.

Particleboard extruder means a heated die oriented either horizontally or vertically through which resinated particles are continuously forced to form extruded particleboard products. A *particleboard extruder* is a process unit.

Particleboard press mold means a press that consists of molds that apply heat and pressure to form molded or shaped particleboard products. A *particleboard press mold* is a process unit.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C₃H₈.

Radio-frequency veneer redryer means a dryer heated by radio-frequency waves that is used to redry veneer that has been pre-

viously dried. A *radio-frequency veneer redryer* is a process unit.

Reference Concentration (RFC) means an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

Resin storage tank means any storage tank, container, or vessel connected to plywood and composite wood product production that holds resin additives (in liquid form) containing any of the HAP listed in table 2A to this appendix. A *resin storage tank* is a process unit.

Rotary agricultural fiber dryer means a rotary dryer operated by applying heat to reduce the moisture of agricultural fiber. A *rotary agricultural fiber dryer* is a process unit.

Softwood plywood press means a hot press which, through heat and pressure, bonds assembled softwood veneer plies and resin into a softwood plywood panel. A *softwood plywood press* is a process unit.

Softwood veneer kiln means an enclosed dryer operated in batch cycles by applying heat to reduce the moisture content from stacked softwood veneer. A *softwood veneer kiln* is a process unit.

Stand-alone digester means a pressure vessel used to heat and soften wood chips (usually by steaming) before the chips are sent to a separate process unit for refining into fiber. A *stand-alone digester* is a process unit.

Target organ specific hazard index (TOSHI) means the sum of hazard quotients for individual chemicals that affect the same organ or organ system (e.g., respiratory system, central nervous system).

Unit Risk Estimate (URE) means the upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 microgram per cubic meter (µg/m³) in air.

Wastewater/process water operation means equipment that processes water in plywood or composite wood product facilities for reuse or disposal. Wastewater/process water operations includes but is not limited to pumps, holding ponds and tanks, cooling and heating operations, settling systems, filtration systems, aeration systems, clarifiers, pH adjustment systems, log storage ponds, pollution control device water (including wash water), vacuum distillation systems, sludge drying and disposal systems, spray irrigation fields, and connections to POTW facilities. *Wastewater/process water operations* are process units.

Worst-case operating conditions means operation of a process unit during emissions testing under the conditions that result in the highest HAP emissions or that result in the

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emissions stream composition (including HAP and non-HAP) that is most challenging for the control device if a control device is used. For example, worst case conditions could include operation of the process unit

at maximum throughput, at its highest temperature, with the wood species mix likely to produce the most HAP, and/or with the resin formulation containing the greatest HAP.

TABLE 1 TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63—HAP THAT MUST BE INCLUDED IN THE DEMONSTRATION OF ELIGIBILITY FOR THE LOW-RISK PCWP SUBCATEGORY

For your analysis of the following effects . . .	You must include the following HAP . . .
(1) Chronic inhalation carcinogenic effects	acetaldehyde, benzene, arsenic, beryllium, cadmium, chromium, lead, nickel, and formaldehyde.
(2) Chronic inhalation noncarcinogenic respiratory effects	acetaldehyde, acrolein, cadmium, formaldehyde, and methylene diphenyl diisocyanate (MDI).
(3) Chronic inhalation noncarcinogenic CNS effects	manganese, lead, and phenol.
(4) Acute inhalation	acrolein and formaldehyde.

TABLE 2A TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63—TESTING AND EMISSIONS ESTIMATION SPECIFICATIONS FOR PROCESS UNITS

Process unit type	Acetaldehyde	Acrolein	Formaldehyde	Phenol	Benzene	MDI	HAP metals from direct-fired process units ^a
Agricultural fiberboard mat dryers, Dry rotary dryers, Fiberboard mat dryer (heated zones), Green rotary dryers, Hardboard ovens, Hardwood veneer dryers (heated zones), Paddle-type particleboard dryers, Press predryers, Rotary agricultural fiber dryers, Rotary strand dryers, Softwood veneer dryers (heated zones), Veneer redryers (heated by conventional means).	Test	Test	Test	Test	Test	NA	Test or fuel analysis.
Atmospheric refiners, Conveyor strand dryers, Pressurized refiners.	Test	Test	Test	Test	Test	NA	NA.
Primary tube dryers, Secondary tube dryers.	Test	Test	Test	Test	Test	Test if processing furnish with MDI resin added prior to drying.	Test or fuel analysis.
Agricultural fiber board presses, Reconstituted wood products presses, Reconstituted wood product board coolers.	Test	Test	Test	Test	Test	Test if board contains MDI resin.	NA
Blending and forming operations—particleboard and MDF.	NA	NA	0.060 lb/ODT ^b	NA	NA	Engineering estimate if MDI resin used.	NA.
Blending and forming operations—OSB ..	NA	NA	0.0036 lb/MSF 3/8" press throughput.	Engineering estimate.	NA	Engineering estimate if MDI resin used.	NA.
Dry forming—hardboard	Engineering estimate.	NA	Engineering estimate.	Engineering estimate.	NA	NA	NA.
Fiber washers	0.015 lb/ODT	NA	0.0026 lb/ODT	NA	NA	NA	NA.
Fiberboard mat dryer (fugitive emissions)	0.0055 lb/MSF 1/2"	NA	0.031 lb/MSF 1/2"	NA	NA	NA	NA.
Finishing sanders	0.0031 lb/MSF	NA	0.0042 lb/MSF	0.015 lb/MSF	NA	Engineering estimate if MDI resin used.	NA.
Finishing saws	0.00092 lb/MSF 3/8"	NA	0.00034 lb/MSF 3/8"	0.0057 lb/MSF	NA	Engineering estimate if MDI resin used.	NA.
Hardwood plywood presses	NA	NA	0.0088 lb/MSF 3/8"	0.016 lb/MSF 3/8"	NA	NA	NA.
Hardwood veneer dryer (cooling zones) ..	0.058 lb/MSF 3/8"	NA	0.013 lb/MSF 3/8"	NA	NA	NA	NA.
Hardwood veneer kilns	0.067 lb/MSF 3/8"	NA	0.016 lb/MSF 3/8"	0.0053 lb/MSF 3/8"	NA	NA	NA.
Humidifiers	0.0018 lb/MSF 1/8"	0.0087 lb/MSF 1/8"	0.0010 lb/MSF 1/8"	0.00057 lb/MSF 1/8"	0.0000062 lb/MSF 1/8"	NA	NA.
I-joint curing chambers	NA	NA	0.00018 lb/MLF ...	NA	NA	Engineering estimate if MDI resin used.	NA.

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TABLE 2A TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63—TESTING AND EMISSIONS ESTIMATION SPECIFICATIONS FOR PROCESS UNITS—
Continued

Process unit type	Acetaldehyde	Acrolein	Formaldehyde	Phenol	Benzene	MDI	HAP metals from direct-fired process units ^a
Log vats	0.0047 lb/MSF 3/8" removed from vat per hour.	NA	NA	NA	NA	NA	NA.
LSL presses	Engineering estimate.	NA	0.029 lb/1000 ft ³ ..	Engineering estimate.	NA	0.18 lb/1000 ft ³	NA.
LVL presses	0.29 lb/1000 ft ³	NA	0.79 lb/1000 ft ³	NA	NA	NA	NA.
Lumber kilns	0.065 lb/MBF or conduct small-scale kiln testing according to appendix C to subpart DDDD.	0.009 lb/MBF or conduct small-scale kiln testing according to appendix C to subpart DDDD.	0.034 lb/MBF or conduct small-scale kiln testing according to appendix C to subpart DDDD.	0.010 lb/MBF or conduct small-scale kiln testing according to appendix C to subpart DDDD.	NA	NA	Engineering estimate.
Panel-trim chippers	0.00081 lb/MSF 3/8" finished board production.	NA	0.00034 lb/MSF 3/8" finished board production.	0.0019 lb/MSF 3/8" finished board production.	NA	NA	NA.
Particleboard press molds, Particleboard extruders.	0.034 lb/MSF 3/4"	0.0087 lb/MSF 3/4"	0.64 lb/MSF 3/4" ...	0.024 lb/MSF 3/4"	0.0073 lb/MSF 3/4"	NA	NA.
Radio-frequency veneer redryers	0.0029 lb/MSF 3/8"	NA	0.00065 lb/MSF 3/8".	NA	NA	NA	NA.
Resin storage tanks—closed roof	NA	NA	For tanks with resin containing formaldehyde, 0.001 lb/hr per tank OR model using TANKS software ^c .	For tanks with resin containing phenol, 0.0002 lb/hr per tank OR model using TANKS software ^c .	NA	For tanks with MDI resin, 0.0013 lb/hr per tank OR model using TANKS software ^c .	NA.
Resin storage tanks—open roof	NA	NA	Engineering estimate if resin contains formaldehyde.	Engineering estimate if resin contains phenol.	NA	Engineering estimate if resin contains MDI.	NA.
Softwood plywood presses	0.012 lb/MSF 3/8"	NA	0.0054 lb/MSF 3/8"	0.0022 lb/MSF 3/8"	NA	NA	NA.
Softwood veneer dryers (cooling zones)	0.012 lb/MSF 3/8"	NA	0.0028 lb/MSF 3/8"	0.011 lb/MSF 3/8"	NA	NA	NA.
Softwood veneer kilns	0.097 lb/MSF 3/8"	0.012 lb/MSF 3/8"	0.10 lb/MSF 3/8" ...	0.020 lb/MSF 3/8"	0.0078 lb/MSF 3/8"	NA	NA.
Stand-alone digesters	0.030 lb/ODT	0.0024 lb/ODT	0.0045 lb/ODT	0.0012 lb/ODT	NA	NA	NA.
Wastewater/process water operations	Engineering estimate (such as WATER9 ^c or other method).	Engineering estimate (such as WATER9 ^c or other method).	Engineering estimate (such as WATER9 ^c or other method).	Engineering estimate (such as WATER9 ^c or other method).	Engineering estimate (such as WATER9 ^c or other method).	NA	NA.
Wet forming—fiberboard and hardboard (without PF resin).	0.0075 lb/MSF 1/2"	NA	0.0036 lb/MSF 1/2"	NA	NA	NA	NA.
Wet forming—hardboard (PF resin)	0.0067 lb/ODT	NA	0.00039 lb/ODT ...	0.00075 lb/ODT ...	NA	NA	NA.

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Miscellaneous coating operations, Log chipping, Softwood veneer dryer fugitive emissions.	NA	NA	NA	NA	NA	NA	NA.
Other ancillary processes (not listed elsewhere in this table) that may emit HAP listed in this table.	Engineering estimate.	Engineering estimate.	Engineering estimate.	Engineering estimate.	Engineering estimate.	Engineering estimate.	Engineering estimate.

Test: Emissions testing must be conducted for the process unit and pollutant according to the test methods specified in table 2B to appendix B to subpart DDDD.
 NA: Not applicable. No emission estimates or emissions tests are required for purposes of the low-risk demonstration.
 lb/MSF: Pounds of HAP per thousand square feet of board of the inches thickness specified (e.g., lb/MSF ¾ = pounds of HAP per thousand square feet of ¾-inch board). See equation in §63.2262(j) of subpart DDDD to convert from one thickness basis to another.
 lb/ODT: Pounds of HAP per oven dried ton of wood material.
 lb/MBF: Pounds of HAP per thousand board feet.
 lb/MLF: Pounds of HAP per thousand linear feet
^a Direct-fired process units firing natural gas or propane are NA; thus, no emissions estimates, emissions tests, or fuel analyses are required for the purposes of the low-risk demonstration.
^b Estimation of formaldehyde emissions is only necessary for facilities that use resin containing formaldehyde.
^c TANKS and WATER9 software is available at <http://www.epa.gov/ttn/chief/software/index.html>.

TABLE 2B TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63—EMISSION TEST METHODS

For . . .	You must . . .	Using . . .
(1) each process unit required to be tested according to table 2A to this appendix.	select sampling ports' location and the number of traverse points.	Method 1 or 1A of 40 CFR part 60, appendix A (as appropriate).
(2) each process unit required to be tested according to table 2A to this appendix.	determine velocity and volumetric flow rate;.	Method 2 in addition to Method 2A, 2C, 2D, 2F, or 2G in appendix A to 40 CFR part 60 (as appropriate).
(3) each process unit required to be tested according to table 2A to this appendix.	conduct gas molecular weight analysis ..	Method 3, 3A, or 3B in appendix A to 40 CFR part 60 (as appropriate).
(4) each process unit required to be tested according to table 2A to this appendix.	measure moisture content of the stack gas.	Method 4 in appendix A to 40 CFR part 60.
(5) each process unit required to be tested according to table 2A to this appendix.	measure emissions of acetaldehyde	NCASI Method IM/CAN/WP–99.02 (IBR, see 40 CFR 63.14(f)); OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method ISS/FP–A105.01 (IBR, see § 63.14(f)); OR Method 0011 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA Publication No. SW–846); OR ASTM D6348–03 ^b (IBR, see 40 CFR 63.14(b)).
(6) each process unit required to be tested according to table 2A to this appendix.	measure emissions of acrolein	NCASI Method IM/CAN/WP–99.02 (IBR, see 40 CFR 63.14(f)); OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method ISS/FP–A105.01 (IBR, see § 63.14(f)); OR ASTM D6348–03 ^b (IBR, see 40 CFR 63.14(b)).
(7) each process unit required to be tested according to table 2A to this appendix.	measure emissions of formaldehyde	NCASI Method IM/CAN/WP–99.02 (IBR, see 40 CFR 63.14(f)); OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method ISS/FP–A105.01 (IBR, see § 63.14(f)); OR the NCASI Method CI/WP–98.01; OR Method 316 in appendix A to 40 CFR part 63; OR Method 0011 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA Publication No. SW–846); OR ASTM D6348–03 ^b (IBR, see 40 CFR 63.14(b)).
(8) each process unit required to be tested according to table 2A to this appendix.	measure emissions of phenol	NCASI Method IM/CAN/WP–99.02 (IBR, see 40 CFR 63.14(f)); OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method ISS/FP–A105.01 (IBR, see § 63.14(f)); OR the NCASI Method CI/WP–98.01; OR ASTM D6348–03 ^b (IBR, see 40 CFR 63.14(b)).
(9) each process unit required to be tested according to table 2A to this appendix.	measure emissions of benzene	Method 18 in appendix A to 40 CFR part 60; OR NCASI Method IM/CAN/WP–99.02 (IBR, see 40 CFR 63.14(f)); OR Method 320 in appendix A to 40 CFR part 63; OR ASTM D6348–03 ^b (IBR, see 40 CFR 63.14(b)).
(10) each process unit that processes material containing MDI resin required to be tested according to table 2A to this appendix.	measure emissions of MDI	Method 320 in appendix A to 40 CFR part 63; OR Method 207 in appendix M to 40 CFR part 51; OR Conditional Test Method (CTM) 031 which is posted on http://www.epa.gov/ttn/emc/ctm.html
(11) each direct-fired process unit ^a required to be tested according to table 2A to this appendix.	measure emissions of the following HAP metals: Arsenic, beryllium, cadmium, chromium, lead, manganese, and nickel..	Method 29 in appendix A to 40 CFR part 60 OR fuel analysis (see section 5(m) of this appendix).

TABLE 2B TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63—EMISSION TEST METHODS—
Continued

For . . .	You must . . .	Using . . .
(12) each reconstituted wood product press or reconstituted wood product board cooler with a HAP control device.	meet the design specifications included in the definition of wood products enclosure in § 63.2292 of subpart DDDD of 40 CFR part 63; or determine the percent capture efficiency of the enclosure directing emissions to an add-on control device.	Methods 204 and 204A through 204F of 40 CFR part 51, appendix M to determine capture efficiency (except for wood products enclosures as defined in § 63.2292). Enclosures that meet the definition of wood products enclosure or that meet Method 204 requirements for a PTE are assumed to have a capture efficiency of 100 percent. Enclosures that do not meet either the PTE requirements or design criteria for a wood products enclosure must determine the capture efficiency by constructing a TTE according to the requirements of Method 204 and applying Methods 204A through 204F (as appropriate). As an alternative to Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to subpart DDDD.
(13) each reconstituted wood product press or reconstituted wood product board cooler required to be tested according to table 2A to this appendix.	determine the percent capture efficiency	a TTE and Methods 204 and 204A through 204F (as appropriate) of 40 CFR part 51, appendix M. As an alternative to installing a TTE and using Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to subpart DDDD. Enclosures that meet the design criteria (1) through (4) in the definition of wood products enclosure, or that meet Method 204 requirements for a PTE (except for the criteria specified in section 6.2 of Method 204) are assumed to have a capture efficiency of 100 percent. Measured emissions divided by the capture efficiency provides the emission rate. Fugitive emissions are equal to the difference in the emission rate and measured emissions.
(14) each process unit with a HAP control device required to be tested according to table 2A to this appendix.	establish the site-specific operating requirements (including the parameter limits or THC concentration limits) in table 2 to subpart DDDD.	data from the parameter monitoring system or THC CEMS and the applicable performance test method(s).

^a Excludes direct-fired process units fired with only natural gas or propane.
^b Provided that percent R as determined in Annex A5 of ASTM D6348–03 is equal or greater than 70 percent and less than or equal to 130 percent.

TABLE 3 TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63—MAXIMUM ALLOWABLE TOXICITY-WEIGHTED CARCINOGEN EMISSION RATE
[(lb/hr)/(µgm/m³)]

Stack height (m)	Distance to property boundary (m)											
	0	50	100	150	200	250	500	1000	1500	2000	3000	5000
5	8.72E-07	8.72E-07	8.72E-07	9.63E-07	1.25E-06	1.51E-06	2.66E-06	4.25E-06	4.39E-06	4.39E-06	4.39E-06	5.00E-06
10	2.47E-06	2.47E-06	2.47E-06	2.47E-06	2.47E-06	2.61E-06	3.58E-06	5.03E-06	5.89E-06	5.89E-06	5.89E-06	6.16E-06
20	5.81E-06	5.81E-06	5.81E-06	5.81E-06	5.81E-06	5.81E-06	5.90E-06	7.39E-06	8.90E-06	9.97E-06	9.97E-06	1.12E-05
30	7.74E-06	7.74E-06	7.74E-06	7.74E-06	7.74E-06	7.74E-06	8.28E-06	9.49E-06	1.17E-05	1.35E-05	1.55E-05	1.61E-05
40	9.20E-06	9.20E-06	9.20E-06	9.20E-06	9.20E-06	9.20E-06	9.24E-06	1.17E-05	1.34E-05	1.51E-05	1.98E-05	2.22E-05
50	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.36E-05	1.53E-05	1.66E-05	2.37E-05	2.95E-05
60	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.53E-05	1.76E-05	1.85E-05	2.51E-05	3.45E-05
70	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.72E-05	2.04E-05	2.06E-05	2.66E-05	4.07E-05
80	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.92E-05	2.15E-05	2.31E-05	2.82E-05	4.34E-05
100	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.97E-05	2.40E-05	2.79E-05	3.17E-05	4.49E-05
200	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	2.06E-05	2.94E-05	3.24E-05	4.03E-05	5.04E-05

MIR=1E-06.

TABLE 4 TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63—MAXIMUM ALLOWABLE TOXICITY-WEIGHTED NONCARCINOGEN EMISSION RATE
[(lb/hr)/(µgm/m³)]

Stack height (m)	Distance to property boundary (m)											
	0	50	100	150	200	250	500	1000	1500	2000	3000	5000
5	2.51E-01	2.51E-01	3.16E-01	3.16E-01	3.16E-01	3.16E-01	3.16E-01	3.46E-01	4.66E-01	6.21E-01	9.82E-01	1.80E+00
10	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.70E-01	6.33E-01	7.71E-01	1.13E+00	1.97E+00
20	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.68E+00	1.83E+00	2.26E+00	3.51E+00
30	2.36E+00	2.36E+00	2.36E+00	2.36E+00	2.36E+00	2.36E+00	2.53E+00	3.04E+00	3.04E+00	3.33E+00	4.45E+00	5.81E+00
40	3.11E+00	3.11E+00	3.11E+00	3.11E+00	3.11E+00	3.11E+00	3.42E+00	4.04E+00	5.07E+00	5.51E+00	6.39E+00	9.63E+00
50	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	4.49E+00	4.92E+00	6.95E+00	7.35E+00	8.99E+00	1.25E+01
60	4.83E+00	4.83E+00	4.83E+00	4.83E+00	4.83E+00	4.83E+00	5.56E+00	6.13E+00	7.80E+00	1.01E+01	1.10E+01	1.63E+01
70	5.77E+00	5.77E+00	5.77E+00	5.77E+00	5.77E+00	5.77E+00	6.45E+00	7.71E+00	8.83E+00	1.18E+01	1.36E+01	1.86E+01
80	6.74E+00	6.74E+00	6.74E+00	6.74E+00	6.74E+00	6.74E+00	7.12E+00	9.50E+00	1.01E+01	1.29E+01	1.72E+01	2.13E+01
100	8.87E+00	8.87E+00	8.87E+00	8.87E+00	8.87E+00	8.87E+00	8.88E+00	1.19E+01	1.37E+01	1.55E+01	2.38E+01	2.89E+01
200	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	2.05E+01	2.93E+01	3.06E+01	4.02E+01	4.93E+01

HI=1.

Environmental Protection Agency

Pt. 63, Subpt. DDDD, App. C

[71 FR 8375, Feb. 16, 2006]

APPENDIX C TO SUBPART DDDD OF PART 63—CONSIDERATIONS FOR A SMALL-SCALE KILN EMISSION TESTING PROGRAM

1.0 PURPOSE

Emissions test data from small-scale lumber kilns can be used to reasonably approximate emissions from full-scale lumber kilns if representative lumber samples are dried and the venting characteristics of the small-scale kiln mimic those of the full-scale kiln. This appendix provides a list of considerations that must be taken into account by facilities conducting small-scale lumber kiln emissions testing to approximate emissions from their full-scale lumber kilns for purposes of the low-risk demonstration described under appendix B to subpart DDDD of part 63.

The considerations described in this appendix apply only for small-scale lumber kiln emissions testing conducted to provide data for the low-risk demonstration described under appendix B to subpart DDDD of part 63. Permitting authorities may require different procedures for testing or estimating lumber kiln emissions for purposes other than the low-risk demonstration described under appendix B to subpart DDDD of part 63.

2.0 CONSIDERATIONS FOR LUMBER SAMPLES

2.1 A written plan must be developed for obtaining representative lumber samples to use as charges at the small-scale kilns. The plan must discuss how the samples are selected and handled and the basis upon which they are considered to be representative. If possible, information on the harvest site, date harvested, segregation from other lumber (if segregated), and processing at the sawmill must be included. If this information is unavailable, a general description of the sawmill's wood procurement and processing practices must be provided. The affected source and testing laboratory must approve the written test plan before beginning the small-scale kiln testing.

2.2 Samples must not be subject to significant air drying during processing, shipping, or storage prior to charging into the small-scale kiln.

2.3 Enough lumber must be collected to provide for extra lumber charges in case of testing failures.

2.4 Information on the lumber used for each small-scale kiln charge must be reported including the items in paragraphs 2.4.1 through 2.4.4 of this section:

2.4.1 Total kiln charge, board feet,

2.4.2 Nominal dimensions of lumber dried (for example, 2x4s),

2.4.3 Moisture content (dry basis) of the green lumber, and

2.4.4 Moisture content (dry basis) of the kiln dried lumber.

3.0 CONSIDERATIONS FOR KILN OPERATING PARAMETERS

The small-scale kiln must operate in a similar manner to the full-scale kilns for items 3.1 through 3.3 of this section. The small-scale kiln must operate in a reasonably consistent manner from charge-to-charge for all items (3.1 through 3.5) listed in this section.

3.1 Air velocity through the kiln charge.

3.2 Temperature profiles or kiln schedules (wet-bulb/dry-bulb temperatures throughout the kiln cycle).

3.3 Ending moisture content (dry basis) of the lumber (may need to be mathematically adjusted for small-scale kilns).

3.4 Kiln venting profile (trend) for the sample event/kiln cycle (normalized to a board foot or thousand board feet).

3.5 Mass emission rate profile (trend) for the sample event/kiln cycle.

4.0 CONSIDERATIONS FOR EMISSION SAMPLING

4.1 Sample equipment must be able to sample gases with high moisture content.

4.2 You must accurately measure/calculate total kiln exhaust and exhaust moisture content. If direct measurements are impractical other methods used must be explicitly discussed in the report.

4.3 You must accurately measure the concentration of the compounds of concern either in the kiln exhaust or at a proper location within the kiln.

5.0 CONSIDERATIONS FOR SAMPLE INTERVALS AND SAMPLING RUNS

5.1 A minimum of two full kiln cycles or batches must be tested to determine the emissions for a particular wood species or for a facility utilizing only one wood species.

5.2 You may use a single kiln cycle for emission values for wood species that require more than 3 days to dry.

5.3 Since kiln drying cycles typically exceed 20 hours, it is suggested that sampling be conducted in intervals throughout the drying cycle. Three hours provide a reasonable sample interval (sample run), but sampling equipment or manpower may dictate other schedules. Sampling equipment "turn-around" will result in gaps in the kiln emission data. The gaps must not exceed 45% of the kiln cycle. Data for the gaps occurring at certain periods of time in the drying cycle can be calculated by linear interpolation from the sampling values on either side of the gap. Other techniques may be required if the data gap occurs when the measured data

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exhibit high levels of variability. As a minimum, sampling intervals must include initial hours of the kiln operating cycle once the kiln has warmed to target wet bulb and/or dry bulb temperatures and begins venting, hours of kiln operation during the middle of the kiln drying cycle, and hours of kiln operation towards the end of the kiln drying cycle.

5.4 The final production-based mass emission rate for the small-scale kiln sample event is determined by integrating the area under the mass emission rate profile curve.

6.0 CONSIDERATIONS FOR REPORTING

The emissions report must contain the information in paragraphs 6.1 through 6.9 of this section.

6.1 Graphical, charge-by-charge results for items 3.2, 3.4, and 3.5 above and numerical data for items 3.1 and 3.3. Describe how the full-scale kiln operates in comparison to the small-scale kiln in order to show that the full-scale kiln drying cycle was reasonably reproduced in the small-scale kiln.

6.2 A moisture balance by comparing the water loss (from the green versus dry lumber charge weight difference) to the water exhausted from the kiln (using the exhaust flow rate and moisture content of the exhaust).

6.3 A description of the sampling system and sampling methodology.

6.4 A summary and background data for all quality assurance measures required by the sampling methods.

6.5 Discussion of method detection limits and treatment of values below the detection limit.

6.6 An example of emission rate calculations.

6.7 Explanation or reference to the methodology used to calculate emissions to the target or desired ending lumber moisture content.

6.8 Information outlined in section 2.0 of this appendix, including a discussion of collection and handling of lumber samples.

6.9 Data and show calculations for developed emission factors.

7.0 GUIDANCE

7.1 NCASI Technical Bulletin 845 provides a large amount of detail that can be of assistance in many phases of a small-scale kiln testing program. This report should be viewed as "one way," not "the only way" to conduct testing.

7.2 Oregon State University, Mississippi State University, the University of Idaho, and others have published information regarding operation and testing of small-scale kilns. These publications are a very good source of information on small-scale kilns.

[71 FR 8387, Feb. 16, 2006]

40 CFR Ch. I (7–1–07 Edition)

Subpart EEEE—National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)

SOURCE: 69 FR 5063, Feb. 3, 2004, unless otherwise noted.

WHAT THIS SUBPART COVERS

§ 63.2330 What is the purpose of this subpart?

This subpart establishes national emission limitations, operating limits, and work practice standards for organic hazardous air pollutants (HAP) emitted from organic liquids distribution (OLD) (non-gasoline) operations at major sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations, operating limits, and work practice standards.

§ 63.2334 Am I subject to this subpart?

(a) Except as provided for in paragraphs (b) and (c) of this section, you are subject to this subpart if you own or operate an OLD operation that is located at, or is part of, a major source of HAP emissions. An OLD operation may occupy an entire plant site or be collocated with other industrial (*e.g.*, manufacturing) operations at the same plant site.

(b) Organic liquid distribution operations located at research and development facilities, consistent with section 112(c)(7) of the Clean Air Act (CAA), are not subject to this subpart.

(c) Organic liquid distribution operations do not include the activities and equipment, including product loading racks, used to process, store, or transfer organic liquids at facilities listed in paragraph (c) (1) and (2) of this section.

(1) Oil and natural gas production field facilities, as the term "facility" is defined in § 63.761 of subpart HH.

(2) Natural gas transmission and storage facilities, as the term "facility" is defined in § 63.1271 of subpart HHH.