STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

Irving Forest Products, Inc. **Aroostook County** **Nashville Plantation, Maine** **A-314-77-5-A**	**Departmental** **Findings of Fact and Order** **New Source Review** **NSR #5**

FINDINGS OF FACT

After review of the air emission license application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Irving Forest Products, Inc. (Irving) – Ashland Sawmill
LICENSE TYPE	06-096 C.M.R. ch. 115, Minor Modification
NAICS CODES	321912 (Cut Stock, Resawing Lumber, and Planing), 321113 (Sawmills), and 321999 (All Other Miscellaneous Wood Product Manufacturing)
NATURE OF BUSINESS	Wood Products
FACILITY LOCATION	1218 Portage Road, Nashville Plantation, ME 04732

B. NSR License Description

Irving Forest Products, Inc. (Irving) has requested a New Source Review (NSR) license to install a temporary, seasonal, distillate fuel-fired boiler and address an existing engine that is not currently on the facility's Part 70 Air Emission License.

C. Emission Equipment

The following equipment is addressed in this NSR license:

Fuel Burning Equipment

Equipment	Max. Capacity (MMBtu/hr)	Max. Firing Rate (gal/hr)	Fuel Type, % sulfur	Mfr. Date	Install. Date	Stack #
Boiler #7	13.5	96.5	Distillate fuel, 0.0015%	1982	2018	7

Engine

Equipment	Max. Heat Input Capacity (MMBtu/hr)	Max. Firing Rate (gal/hr)	Output (kW)	Fuel Type, % sulfur	Mfr. Date	Install. Date
CEC Screen Engine	0.63	4.6	72.4	Distillate fuel, 0.0015%	2013	2013

The following unit is a general process source and is thus subject to the general process source visible emissions limit in Condition (19) of Air Emission License A-314-70-F-R/A (August 21, 2018); however, the unit is considered comparable to the exempted equipment listed in *Minor and Major Source Air Emission License Regulations*, 06-096 Code of Maine Rules (C.M.R.) ch. 115 Appendix B, §§ A.107. and A.112. and is therefore not subject to any additional licensing requirements beyond the visible emissions limit. The engine powering this unit, listed above, is still subject to licensing requirements.

Process Equipment

Equipment	Production Rate	Install. Date	Stack #
CEC Screen	Variable	2010	Fugitive

D. Definitions

Distillate Fuel. For the purposes of this license, *distillate fuel* means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

End of Tuning and Adjustment Period. For the purposes of this license, *end of tuning and adjustment period* means the first time fuel is fired in a unit for the purpose of supplying useful thermal energy (such as steam or hot water) after a period during which the facility may tune and adjust the boiler to ensure proper operation of the unit. This period shall not exceed one month from the first time fuel is fired in the unit.

Seasonal Boiler. For the purposes of this license and as defined in *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 Code of Federal Regulations (C.F.R.) Part 63, Subpart JJJJJJ, *seasonal boiler* means a boiler that undergoes a shutdown for a period of at least seven consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the seven-month shutdown. This definition only applies

to boilers that would otherwise be included in the biomass or oil subcategories of 40 C.F.R. Part 63, Subpart JJJJJJ.

E. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

The application for the addition of Boiler #7 and the existing CEC Screen and associated engine does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing, or recordkeeping requirements.

The modification of a major source is considered a major or minor modification based on whether or not expected emissions increases exceed the "Significant Emission Increase" levels as given in *Definitions Regulation*, 06-096 C.M.R. ch. 100.

The emission increases are determined by subtracting the baseline actual emissions of the 24 months preceding the modification (or representative 24 months) from the proposed actual emissions. The results of this comparison are as follows:

Pollutant	Baseline Actual Emissions *10/14 – 9/16* (ton/year)	Projected Actual Emissions (ton/year)	Net Emissions Increase (ton/year)	Significant Emissions Increase Levels (ton/year)
PM	40.22	51.24	11.02	25
PM_{10}	40.22	51.24	11.02	15
$PM_{2.5}$	28.16	36.77	8.6	10
SO_2	3.35	4.67	1.32	40
NO_x	29.5	53.26	23.76	40
CO	80.45	114.67	34.22	100
VOC	2.3	4.17	1.87	40
CO_2e	<75,000	<75,000	<75,000	75,000

The above values are for Boilers #4, #5, the worst-case emissions of Boilers #6 and #7, and the CEC Screen Engine only. None of the other equipment at the facility is affected by this NSR license. The worst-case emissions for Boilers #6 and #7 is Boiler #6 for all pollutants. Boiler #7 is being added as an alternative operating scenario to operate temporarily in place of the yet-to-be constructed Boiler #6.

This NSR license is determined to be a minor modification under 06-096 C.M.R. ch. 115 since the changes being made are not addressed or prohibited in the Part 70 air emission license. An application to incorporate the requirements of this NSR license into the Part 70 air emission license shall be submitted no later than 12 months from commencement of the requested operation.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

Before proceeding with the control requirements for each unit, a project description is provided to identify where the equipment fits into the process.

Project Background and Description

Since 2014, Irving has been operating Boilers #4 and #5 to provide heat for the mill facility and steam for the two existing lumber kilns. In late 2016, Irving proposed to install a new lumber drying kiln in order to increase lumber production capacity and a new biomass-fired boiler, Boiler #6, to provide the additional steam necessary to operate all three kilns and still provide sufficient heat to the mill buildings during colder months. This proposal was approved in an NSR license, A-314-77-3-A (NSR #3), on November 6, 2016. Irving has since installed the third lumber drying kiln but has not yet installed Boiler #6. Irving subsequently applied for and received an additional NSR license, A-314-77-4-M (NSR #4), on December 5, 2017, which allowed the facility to begin construction on Boiler #6 no later than November 6, 2019.

As part of this licensing action Irving has proposed the installation of a distillate fuel-fired boiler, Boiler #7, to be used during the winter of 2018-2019 to provide the additional steam necessary to heat the log pond and the sawmill and to provide other supplemental steam as needed to maintain full facility operation. Although intended to be a temporary unit, Irving has proposed to license Boiler #7 as a seasonal boiler to provide operational flexibility in the event that the installation of Boiler #6 is further postponed, as well as to operate as a stopgap measure while Boiler #6 is being installed and commissioned. Irving intends to install Boiler #7 in late fall of 2018.

In addition to the installation of Boiler #7, Irving has applied to add an existing engine to the facility's license. The engine is a portable unit associated with a screen separator unit used to separate wood chips for various markets.

B. Boiler #7

1. Project Description

Irving proposes to install a 13.52 MMBtu/hr distillate fuel-fired boiler, to be known as Boiler #7, during the fall of 2018. Irving anticipates using Boiler #7 as a seasonal boiler during the colder months to heat the log pond and sawmill, and to provide other supplemental steam as needed to maintain full facility operation. This will allow the steam from Boilers #4 and #5 to be dedicated to the drying of lumber.

Boiler #7 will fire ultra-low sulfur distillate fuel (ULSD), with a maximum sulfur content not to exceed 0.0015% by weight (15 ppm). Irving has proposed an annual fuel limit of 250,000 gallons/year of distillate fuel on a 12-month rolling total basis to be fired in Boiler #7. Boiler #7 will exhaust through its own 65-foot above ground level (AGL) stack, Stack #7, and will be located in the boiler building along with Boilers #4 and #5.

2. Best Available Control Technology (BACT) Findings

a. Particulate Matter (PM and PM_{10})

PM emissions include a complex mixture of fine liquid and solid particles, such as dust, dirt, soot, and smoke, found in ambient air and in emissions from many different natural and industrial processes, including combustion units. PM emissions from fuel combustion are attributable to the incomplete combustion of fuel and the presence of non-combustible material in the fuel. Potential PM controls for distillate fuel boilers include add-on controls such as fabric filters (baghouses), wet scrubbers, electrostatic precipitators (ESPs), and mechanical dust collectors (cyclones and multi-clones), good combustion practices, or a combination of options.

Baghouses collect PM on the surface of filter bags typically hung from a support at the top of the baghouse. The bags have a closed top and an open cylindrical bottom into which exhaust gases flow upward and outward, leaving the particulates collected on the inner surface. The bags are periodically cleaned and replaced as necessary. Baghouses can achieve control efficiencies of up to 99.9%.

Wet scrubbers remove PM by using particle inertia and pressure to transfer particles from the gas stream to a liquid stream using water. The liquid is then purged from the solids, and the solids are removed in sludge form. Wet scrubbers used to control PM are most often of the Venturi type. Efficiency of wet scrubbers typically increase as the particle size increases and can vary from 40-60% for simple spray towers to upwards of 99% for Venturi type scrubbers.

ESPs remove filterable PM from a gas stream through the use of electric fields. Particles in exhaust gas entering the ESP are ionized, which negatively charges the filterable PM and causes it to be attracted to and collected on positively charged plates. These plates are then mechanically rapped at preset intervals to dislodge the PM at preset intervals into a hopper for appropriate collection and disposal. Collection efficiency is affected by several factors including particle resistivity, gas temperature, chemical composition (of both the particles and the gas), and particle size distribution. Removal efficiencies for ESPs are upwards of 99% of total filterable PM and up to 98% for PM in the range of 0-5 microns.

A review of similar projects from the US EPA's RACT-BACT-LAER Clearinghouse (RBLC) did not indicate that BACT for any boilers of similar size was determined to be fabric filters, wet scrubbers, or ESPs. Additionally, fabric filters, wet scrubbers, and ESPs are considered economically infeasible for a boiler of this size, fuel type, and usage because of the high cost of adding such controls and the relatively low emissions reductions that would result from the addition of such controls.

Mechanical collectors such as cyclones and multi-clones control PM emissions through the use of centrifugal force. Exhaust gases enter the cyclone near the top where they first spiral down around the outer part of the cyclone, then spiral up the center of the cyclone toward the top outlet. During this process, particulates are forced against the outer walls where they hit the wall, conglomerate, and drop down for collection in a hopper. Mechanical collectors have collection efficiencies of 65-75% for PM and PM_{10} and 45-50% for $PM_{2.5}$. For a boiler firing ULSD, 65% of total PM would be $PM_{2.5}$. Based on the low $PM_{2.5}$ collection efficiency of mechanical collectors, the cost of purchasing a mechanical collector, the amount of fuel fired in the unit (250,000 gal/yr) and the minimal potential emissions reduction, mechanical collectors are considered economically infeasible for use on Boiler #7.

Using good combustion practices to minimize PM emissions is accomplished by keeping the air-to-fuel ratio at the manufacturer's specified setting, having proper air-to-fuel pressures at the burner, and properly operating and maintaining the unit. The facility has proposed to use good combustion practices to minimize PM emissions from Boiler #7.

The Department finds good combustion practices and emission limits of 0.08 lb/MMBtu and 1.08 lb/hr for both PM and PM_{10} constitute BACT for PM and PM_{10} emissions from Boiler #7.

b. Sulfur Dioxide (SO_2)

Formation of SO_2 during combustion occurs as the result of oxidation of sulfur compounds contained in the fuel. Potential control option for reducing SO_2 emissions include SO_2 scrubbing technologies such as flue gas desulfurization with wet scrubber or dry sorbent injection, and the firing of low or ultra-low sulfur fuel.

Flue gas desulfurization by means of wet scrubbing works by injecting a caustic solution such as limestone or lime into a scrubber unit to react with SO_2 in the flue gas to form a precipitate and either carbon dioxide or water. This method can have a control efficiency upwards of 90%. For a low sulfur fuel such as ULSD, the installation costs, annual operation and maintenance costs, costs for the caustic solution used in the scrubber, and increased energy use make this option economically infeasible.

Dry sorbent injection works by introducing powdered hydrated lime (or other absorbent material) into exhaust ducts to react with SO_2 in the exhaust to produce calcium sulfite, which is then removed by a PM control device. For a low sulfur fuel such as ULSD, the costs of the powdered hydrated lime and additional PM control equipment necessary for this option combined with the minimal emissions reduction make this option economically infeasible.

The Department finds the firing of ULSD, good combustion practices, and an emission limit of 0.02 lb/hr to constitute BACT for SO_2 emissions from Boiler #7.

c. Nitrogen Oxides (NO_x)

Nitrogen oxides consist mainly of nitric oxide (NO) and nitrogen dioxide (NO_2). Emissions of NO_x from distillate fuel-fired boilers are attributable to the combustion of distillate fuel in the unit and are generated through one of three mechanisms: fuel NO_x, thermal NO_x, and prompt NO_x. Fuel NO_x is produced by the oxidation of nitrogen in the fuel source. Thermal NO_x is formed in the high temperature area of the boiler and increases exponentially with increases in flame temperature, which is dependent upon the ratio of fuel burned in a flame to the amount of fuel needed to consume all the available oxygen (the equivalence ratio), and increases linearly with residence time. The lower the equivalence ratio, the lower the flame temperature; thus, by maintaining a low fuel ratio (lean combustion), the potential for NO_x formation can be reduced. Prompt NO_x is formed from the oxidation of hydrocarbon radicals near the combustion flame; this produces an insignificant amount of NO_x.

Control of NO_x emissions from distillate fuel boilers can be accomplished through one of three methods: the use of add-on controls, such as selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR), the use of combustion control techniques, such as advanced over-fire air (staged combustion), low excess air firing, burner modifications (low NO_x and ultra-low NO_x burners), water/steam injection, and flue gas recirculation (FGR), the combustion of fuel with a low nitrogen content, such as distillate fuel, and good combustion practices.

In SCR, aqueous or anhydrous ammonia or urea is used as a reducing agent in the presence of oxygen over a catalyst to reduce NO_x to elemental nitrogen and water. NO_x reductions using SCR can be variable and depend on the type of fuel combusted, the nitrogen content of the fuel, the combustion temperature, and boiler operation. Depending on the type of catalyst employed, SCR can be effective at reducing NO_x with minimal ammonia slip. NO_x reduction potential for SCR can be upwards of 90%.

In SNCR, ammonia or urea is injected directly into the flue gas when it is in a temperature range of 1,400° F to 2,000° F without a catalyst present. Urea is converted to ammonia under favorable temperature conditions and reacts with NO_x in the flue gas to produce elemental nitrogen and water. The reduction of NO_x using SNCR is dependent on the reaction of ammonia with NO_x. NO_x reduction using SNCR can be variable and depends on the type of fuel combusted, the nitrogen content of the fuel, the combustion temperature, and boiler operation. Typical NO_x reduction potential with SNCR can vary from 40-70%.

Both SCR and SNCR have several environmental disadvantages associated with their use, including ammonia slip and storage of ammonia or urea. Ammonia slip occurs when some of the ammonia injected into the flue gas doesn't react with NO_x and makes it into the atmosphere as a by-product. SCR typically produces less ammonia slip (10-20 ppmdv) than SNCR (30-40 ppmdv). Storage of ammonia and urea can be problematic. Anhydrous ammonia is a hazardous substance and requires special training and personal protective equipment, with the potential for releases, which can be deadly. Urea is much safer to handle, but requires storage in heated tanks, as urea begins to crystallize at 62° F.

SCR and SNCR have been successfully employed to control NO_x on combustion units firing distillate fuel; however, these units are typically much larger in size than Boiler #7 and as a result provide a better opportunity for control. A review of the RBLC did not find SCR or SNCR to constitute BACT for any small, distillate fuel-fired, fire-tube boilers. Given the high costs associated with initial purchase, installation, operation and maintenance, and reagent purchases associated with both SCR and SNCR and the small potential emissions reduction, both SCR and SNCR are considered economically infeasible for use on Boiler #7.

Potential combustion control techniques for the control of NO_x emissions from external combustion units include advanced over-fire air (staged combustion), burner modifications (low NO_x and ultra-low NO_x burners), flue gas recirculation (FGR), good combustion practices, and the firing of low nitrogen content fuel.

Advanced over-fire air systems are used in some combustion units to control multiple pollutants, including NO_x. These systems initially inject oxygen at the furnace grate level at sub-stoichiometric levels to limit NO_x formation, and then again further upwards in the furnace, which results in staged combustion of volatile organic compounds (VOC). The introduction of oxygen later on in the combustion process allows for a more complete burn of the volatile organic compounds as well as a more limited time for NO_x formation. Disadvantages associated with advanced over-fire air systems include the need to add ports later on in the furnace which, with a small fire-tube package boiler, is challenging without jeopardizing the integrity of the unit itself, and the high cost of designing a package boiler for staged combustion. Given these disadvantages, the use of advanced over-fire air is found to be technologically and economically infeasible.

Burner modifications include the use of low NO_x burners (LNB) and ultra-low NO_x burners (ULNB). Similar to advanced over-fire air systems, LNBs reduce NO_x by causing combustion to occur in stages, which delays the combustion process and results in a cooler flame that suppresses thermal NO_x formation. This method is referred to as induced flue gas recirculation because the burner is designed such that a draft is induced to return combustion gases back towards the burner head, which helps to ensure more complete combustion. LNBs have been observed to reduce NO_x emissions by 40-85% relative to uncontrolled emission levels. Similar to LNBs, ULNBs employ staged combustion while also allowing for the direct injection of flue gas at the burner, which allows the flue gas and fuel to mix prior to combustion. This process reduces flame temperature substantially and greatly suppresses the formation of thermal NO_x. ULNBs are capable of reducing NO_x emissions by 60-90% relative to uncontrolled emission levels. Although both LNBs and ULNBs are considered technically feasible, the high cost of purchase and installation and minimal potential emissions reductions from the limited, seasonal use of the boiler makes their use economically infeasible.

FGR is a system where a portion of the flue gas is recirculated back into the main combustion chamber to help decrease the formation of thermal NO_x by lowering the peak flame temperature and reducing the oxygen concentration surrounding the flame zone. A review of the RBLC did not identify any distillate fuel-fired boilers using FGR. Additionally, the moderately high capital costs associated with installation and the minimal potential emissions reductions from the limited, seasonal use of the boiler makes the use of FGR economically infeasible for use on Boiler #7.

Good combustion practices optimize the combustion temperature and fuel efficiency of the unit to reduce NO_x formation while limiting emissions of other pollutants through complete combustion. The final method for controlling NO_x from an external combustion unit is the combustion of fuel with less fuel bound nitrogen. Irving proposes to burn distillate fuel in Boiler #7, which inherently has a low nitrogen content.

The Department finds the firing of ULSD, good combustion practices, and an emission limit of 1.93 lb/hr to constitute BACT for NO_x emissions from Boiler #7.

d. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)

CO and VOC are both formed as the result of incomplete combustion, which is caused by conditions such as insufficient residence time, limited oxygen availability, low combustion temperature, and excessive fuel moisture. Potential control options for CO and VOC include add-on controls such as catalytic oxidation and combustion control techniques such as advanced over-fire air (staged combustion) and good combustion practices.

Add-on pollution control technology for the reduction of CO and VOC from combustion sources primarily includes catalytic oxidation. In catalytic oxidation, the combustion gases pass through a passive radiator consisting of a series of narrow honeycomb passages coated with a precious metal, such as palladium. The palladium-coated passages, under favorable temperature conditions (360° F - 390° F) aid in oxidizing CO and VOC. Emissions of CO and VOC can be reduced by up to 90% with the use of catalytic oxidation. A review of the RBLC did not indicate that any small, distillate fuel-fired fire-tube boilers use oxidation catalysts to reduce CO or VOC emissions. This fact, in addition to the challenge of meeting operational temperature requirements, the cost of installation, associated annual operation and maintenance costs, and increased energy consumption from use of an oxidation catalyst make this option technologically and economically infeasible.

Potential combustion control techniques for the control of CO emissions from fuel combustion include the use of advanced over-fire air and good combustion practices. Advanced over-fire air systems are used in some combustion units to control multiple pollutants, including CO. These systems initially inject oxygen at the furnace grate level and then again further upwards in the furnace resulting in staged combustion of VOCs, which provides a more complete burn and thus reduces CO formation. A review of the RBLC did not identify advanced over-fire air as BACT for any units similar to Boiler #7. This fact, in addition to the difficulty of fitting a small, fire-tube package boiler with such a system, make this option technically infeasible.

The Department finds good combustion practices and emission limits of 0.54 lb/hr for CO and 0.02 lb/hr for VOC to constitute BACT for CO and VOC emissions from Boiler #7.

e. Visible Emissions

BACT for visible emissions from Boiler #7 shall be the following: Visible emissions not exceed 20% opacity on a six-minute block average basis.

f. Fuel Use

Irving shall be limited to a total of 250,000 gallons/year of distillate fuel for Boiler #7 on a 12-month rolling total basis. The distillate fuel fired in Boiler #7 shall not exceed a sulfur content of 0.0015% by weight (15 ppm).

3. Emission Limits

The BACT emission limits for Boiler #7 are based on the following:

PM/PM_{10}	–	0.08 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT
SO_2	–	based on firing distillate fuel with a maximum sulfur content of 0.0015% by weight
NO_x	–	20 lb/1,000 gal based on AP-42, Table 1.3-1, dated 5/10
CO	–	0.04 lb/MMBtu based on the Manufacturer's Expected Emissions
VOC	–	0.2 lb/1,000 gal based on AP-42, Table 1.3-3, dated 5/10
Visible Emissions	–	06-096 C.M.R. ch. 115, BACT

The BACT emission limits for Boiler #7 are the following:

Unit	Pollutant	lb/MMBtu
Boiler #7	PM	0.08

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #7	1.08	1.08	0.02	1.93	0.54	0.02

Visible emissions from Boiler #7 shall not exceed 20% opacity on a six-minute block average basis.

4. Periodic Monitoring

Periodic monitoring for Boiler #7 shall include recordkeeping to document fuel use and fuel sulfur content, both on a monthly and 12-month rolling total basis. Documentation shall include the type, amount, and sulfur content of the fuel used.

5. Regulatory Requirements

a. New Source Performance Standards (NSPS): 40 C.F.R. Part 60, Subpart Dc

Due to its year of manufacture, Boiler #7 is not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, 40 C.F.R. Part 60, Subpart Dc, for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

b. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart JJJJJJ

Boiler #7 is subject to *NESHAP for Industrial, Commercial, and Institutional Boilers Area Source*, 40 C.F.R. Part 63, Subpart JJJJJJ. The unit is considered an existing, seasonal, oil-fired boiler rated greater than 10 MMBtu/hr. [40 C.F.R. §§ 63.11193, 63.11194(a)(1), and 63.11237]

A summary of the currently applicable federal 40 C.F.R. Part 63, Subpart JJJJJJ requirements is listed below. Notification forms and additional rule information can be found on the following website: http://www.epa.gov/ttn/atw/boiler/boilerpg.html. The requirements of 40 C.F.R. Part 63, Subpart JJJJJJ applicable to Boiler #7 are the following:

(1) Compliance Dates, Notifications, and Work Practice Requirements

(i) Initial Notification of Compliance

An Initial Notification submittal to EPA is due within 120 days after startup of Boiler #7. [40 C.F.R. §§ 63.11196(c) and 63.11225(a)(2)]

(ii) Startup and Shutdown

Irving shall minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If the manufacturer's recommended procedures are not available, Irving shall follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. [40 C.F.R. § 63.11201(b)]

(iii)Boiler Tune-Up Program

1. A boiler tune-up program shall be implemented. [40 C.F.R. § 63.11223]

2. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. As a seasonal boiler, Boiler #7 shall be subject to a tune-up frequency of every five years, with the first tune-up to take place no later than 30 days after startup of the unit. [40 C.F.R. §§ 63.11210(k)(2) and 63.11223(a) and 40 C.F.R. Part 63, Subpart JJJJJJ, Table 2]

3. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

   a. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted, not to exceed 72 months from the previous inspection for seasonal boilers. [40 C.F.R. § 63.11223(b)(1)]
   b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame patter, consistent with the manufacturer's specifications. [40 C.F.R. § 63.11223(b)(2)]
   c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted, not to exceed 72 months from the previous inspection for seasonal boilers. [40 C.F.R. § 63.11223(b)(3)]
   d. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 63.11223(b)(4)]
   e. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after adjustments are made). Measurements may be taken using a portable CO analyzer. [40 C.F.R. § 63.11223(b)(5)]
   f. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup. [40 C.F.R. § 63.11223(b)(7)]

4. Tune-Up Report: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information [40 C.F.R. § 63.11223(b)(6)]:

    a. The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before** and **after** the boiler tune-up;
    b. A description of any corrective actions taken as part of the tune-up of the boiler; and
    c. The types and amounts of fuels used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

5. After conducting the initial tune-up, a Notification of Compliance Status shall be submitted to EPA no later than 120 days after startup of the unit. [40 C.F.R. §§ 63.11214(b) and 63.11225(a)(4)]

(iv) Compliance Report

A compliance report shall be prepared by March 1st every five years which covers the previous five calendar years. The report shall be maintained by the source and submitted to the Department and to the EPA upon request. The report must include the items contained in 40 C.F.R. §§ 63.11225(b)(1) and (2), including the following [40 C.F.R. § 63.11225(b)]:

1. Company name and address;
2. A statement of whether the source has complied with all the relevant requirements of this Subpart;
3. A statement certifying truth, accuracy, and completeness of the notification and signed by a responsible official and containing the official's name, title, phone number, email address, and signature; and
4. The following certifications, as applicable:

    a. "This facility complies with the requirements in 40 C.F.R. § 63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
    b. "No secondary materials that are solid waste were combusted in any affected unit."

c. "This facility complies with the requirement in 40 C.F.R. §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

(v) Energy Assessment

Boiler #7 is not subject to the energy assessment requirement. Irving previously completed a one-time energy assessment at the facility on June 6, 2016, had a comprehensive report generated on June 22, 2016, and submitted a Notification of Compliance Status to EPA on August 8, 2017. The energy use systems at the facility have not substantially changed since the one-time energy assessment was previously completed; therefore, Irving is not required to complete an energy assessment on Boiler #7. [40 C.F.R. § 63.11214(c)]

(2) Recordkeeping

Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart JJJJJJ including the following [40 C.F.R. § 63.11225(c)]:

(i) Copies of notifications and reports with supporting compliance documentation;
(ii) Identification of each boiler, date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned;
(iii) Records of the occurrence and duration of each malfunction of each applicable boiler; and
(iv) Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.

Records shall be in a form suitable and readily available for expeditious review. EPA requires submission of Notification of Compliance Status reports for tune-ups and energy assessments through their electronic reporting system. [40 C.F.R. § 63.11225(a)(4)(vi)]

C. CEC Screen Engine

1. Unit Description

The CEC Screen Engine is a portable, non-road engine used to power the CEC Screen. The CEC Screen is a screen separator unit used to separate wood chips into different sizes for various markets. The CEC Screen Engine has a maximum heat input capacity of 0.63 MMBtu/hr (72.4 kW output) and fires distillate fuel with a maximum sulfur content of 0.0015% by weight (15 ppm). The unit is a Deutz Model BF4L914 engine manufactured and installed in 2013 and meets all emission compliance requirements for the 2013 model year.

Irving collects operational data for the CEC Screen Engine on a weekly basis, including operating hours, fluid volumes, and belt and hose conditions, and performs maintenance on the unit at 250-hour intervals. All maintenance and equipment checks are performed by qualified personnel under issued work orders and, once completed, are filed electronically and becomes part of the equipment's history.

2. BACT Findings

a. Particulate Matter (PM & PM_{10})

PM emissions include a complex mixture of fine liquid and solid particles, such as dust, dirt, soot, and smoke, found in ambient air and in emissions from many different natural and industrial processes, including combustion units. PM emissions from fuel combustion are attributable to the incomplete combustion of fuel and the presence of non-combustible material in the fuel.

PM emissions from distillate fuel-fired engines are generally controlled through proper operation and maintenance of the unit according to the manufacturer's emission-related instructions. Add-on control options such as fabric filters (baghouses), wet scrubbers, electrostatic precipitators (ESP), and mechanical dust collectors (cyclones and multi-clones) are available, but are generally not used on internal combustion engines. Given the size of the unit, the minimal potential emissions reductions, and the high cost of installation and maintenance, add-on controls are considered economically infeasible for use on the CEC Screen Engine.

The Department finds the firing of ULSD, proper operation and maintenance of the unit according to the manufacturer's emission-related instructions, and an emission limit of 0.08 lb/hr for both PM and PM_{10} to constitute BACT for emissions of PM and PM_{10} from the CEC Screen Engine.

b. Sulfur Dioxide (SO_2)

SO_2 emissions from engines typically occur as the result of oxidation of sulfur compounds contained in the fuel during the combustion process. Potential control option for reducing SO_2 emissions include SO_2 scrubbing technologies such as flue gas desulfurization with wet scrubber or dry sorbent injection, and the firing of low sulfur fuel, such as ULSD.

The most practical method for limiting SO_2 emissions of small engines is the firing of low sulfur fuel, such as distillate fuel with a maximum sulfur content not to exceed 0.0015% by weight (15 ppm). Given the small size of the engine and the already minimal emissions generated by firing ULSD, the use of add-on controls such as flue gas desulfurization with wet scrubber or dry sorbent injection is not considered economically feasible for use on the CEC Screen Engine.

The Department finds the firing of ULSD, proper operation and maintenance of the unit according to the manufacturer's emission-related instructions, and an emission limit of 0.01 lb/hr to constitute BACT for SO_2 emissions from the CEC Screen Engine.

c. Nitrogen Oxides (NO_x)

NO_x emissions from internal combustion engines are attributable to the combustion of fuel in the unit and are formed by one of three mechanisms: fuel NO_x, thermal NO_x, and prompt NO_x. Fuel NO_x is produced by the oxidation of nitrogen in the fuel source. Thermal NO_x is formed by oxidation of diatomic nitrogen from air in a high temperature environment and increases exponentially with increases in flame temperature and linearly with increases in residence time. Prompt NO_x is formed from the oxidation of hydrocarbon radicals near the combustion flame and is considered to produce an insignificant amount of NO_x.

Emissions of NO_x from internal combustion engines are generally controlled through proper operation and maintenance of the engine according to the manufacturer's emission-related instructions. Add-on control technologies such as selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR) are available, but are generally not used on engines of this size (0.63 MMBtu/hr). Given the size of the engine, the cost of installation, operation, and maintenance of an SCR or SNCR system, and the minimum potential emissions reductions, both SCR and SNCR are considered economically infeasible for use on the CEC Screen Engine.

The Department finds the firing of ULSD, proper operation and maintenance of the engine according to the manufacturer's emission-related instructions, and an emission limit of 2.78 lb/hr to constitute BACT for NO_x emissions from the CEC Screen Engine.

d. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)

CO and VOC emissions from internal combustion engines are formed as the result of incomplete combustion, which is caused by conditions such as insufficient residence time, limited oxygen availability, low combustion temperature, and excessive fuel moisture. Potential technologies for the control of CO and VOC emissions from internal combustion engines include add-on controls, such as oxidation catalysts, and good combustion practices.

Emissions of CO and VOC from internal combustion engines are usually controlled through proper operation and maintenance of the unit according to the manufacturer's emission-related instructions. Add-on pollution control technologies such as oxidation catalysts, which oxidize CO and VOC with the aid of a catalyst are available, but are not generally used on a portable engine of this size (0.63 MMBtu/hr). Given the size of the engine, the cost of installation, operation, and maintenance of the oxidation catalyst, and the minimum potential emissions reductions, use of an oxidation catalyst is considered economically infeasible for control of CO or VOC emissions from the CEC Screen Engine.

The Department finds the firing of ULSD, proper operation and maintenance of the unit according to the manufacturer's emission-related instructions, and emission limits of 0.60 lb/hr for CO and 0.22 lb/hr for VOC to constitute BACT for CO and VOC emissions from the CEC Screen Engine.

e. Visible Emissions

BACT for visible emissions from the CEC Screen Engine shall be the following:

Visible emissions from the CEC Screen Engine shall not exceed 20% opacity on a six-minute block average basis except for during periods of startup, at which time the unit operator may elect to comply with the following work practice standards in lieu of this visible emission standard:

(1) Irving shall maintain a log (written or electronic) of the date, time, and duration of all unit startups which result in electing to comply with this section;
(2) The unit shall be operated in accordance with the manufacturer's emission-related operating instructions;

(3) Irving shall minimize the unit's time spent at idle and minimize the unit's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations shall apply; and

(4) The unit, including any associated air pollution control equipment, shall be operated at all times in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the unit.

f. Fuel

There are no fuel use restrictions for the CEC Screen Engine. Distillate fuel fired in the CEC Screen Engine shall not exceed a maximum sulfur content of 0.0015% by weight (15 ppm). Compliance with this limit shall be demonstrated by fuel records from the supplier that includes the type of fuel used and the sulfur content of the fuel delivered.

3. Emission Limits

The BACT emission limits for the CEC Screen Engine were based on the following:

PM/PM_{10}	–	0.12 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT
SO_2	–	based on firing distillate fuel with a maximum sulfur content of 0.0015% by weight
NO_x	–	4.41 lb/MMBtu based on AP-42, Table 3.3-1, dated 10/96
CO	–	0.95 lb/MMBtu based on AP-42, Table 3.3-1, dated 10/96
VOC	–	0.35 lb/MMBtu based on AP-42, Table 3.3-1, dated 10/96
Visible Emissions	–	06-096 C.M.R. ch. 115, BACT

The BACT emission limits for the CEC Screen Engine are the following:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
CEC Screen Engine	0.08	0.08	0.01	2.78	0.60	0.22

Visible emissions from the CEC Screen Engine shall not exceed 20% opacity on a six-minute block average basis except for during periods of startup, at which time the unit operator may elect to comply with the following work practice standards in lieu of this visible emission standard:

a. Irving shall maintain a log (written or electronic) of the date, time, and duration of all unit startups which result in electing to comply with this section;
b. The unit shall be operated in accordance with the manufacturer's emission-related operating instructions;
c. Irving shall minimize the unit's time spent at idle and minimize the unit's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations shall apply; and
d. The unit, including any associated air pollution control equipment, shall be operated at all times in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the unit.

4. Periodic Monitoring

Periodic monitoring for the CEC Screen Engine shall include recordkeeping to document fuel sulfur content as fuel is delivered. This documentation shall include the type of fuel delivered and the sulfur content of the fuel.

5. Regulatory Requirements

a. NSPS: 40 C.F.R. Part 60, Subpart IIII

The CEC Screen Engine is considered a non-road engine, as opposed to a stationary engine, since the CEC Screen Engine is portable and will be moved to various sites with the CEC Screen. Therefore, the CEC Screen Engine is not subject to *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines,* 40 C.F.R. Part 60, Subpart IIII. [40 C.F.R. § 60.4200]

b. NESHAP: 40 C.F.R. Part 63, Subpart ZZZZ

The CEC Screen Engine is considered a non-road engine, as opposed to a stationary engine, since the CEC Screen Engine is portable and will be moved to various sites with the CEC Screen. Therefore, the CEC Screen Engine is not subject to *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* 40 C.F.R. Part 63, Subpart ZZZZ. The definition in 40 C.F.R. § 1068.30 states that a non-road engine is an internal combustion engine that meets certain criteria, including: "Portable or transportable, meaning designed

to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform." 40 C.F.R. § 1068.30 further states that an engine is not a non-road engine if it remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. An engine located at a seasonal source (a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months (or more) each year) is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. [40 C.F.R. § 63.6585]

D. Incorporation Into the Part 70 Air Emission License

The requirements in this 06-096 C.M.R. ch. 115 New Source Review license shall apply to the facility upon issuance. Per *Part 70 Air Emission License Regulations*, 06-096 C.M.R. ch. 140 § 1(C)(8), for a modification at the facility that has undergone NSR requirements or been processed through 06-096 C.M.R. ch. 115, the source must apply for an amendment to their Part 70 license within one year of commencing the proposed operations, as provided in 40 C.F.R. Part 70.5.

E. Annual Emissions

1. Emission Totals

Irving shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on a biomass fuel limit of 35,000 TPY (including sawdust, wood chips, and/or absorbent pads with 5,000 gal/yr of absorbed distillate fuel) for Boilers #4 and #5 combined, 100 hrs/yr of operation for Fire Pump #1, a throughput limit of 145 MMBF/yr for all three Lumber Drying Kilns combined, a use limit of 3,080 gal/yr of SAPTEK 200 for the Sawmill, annual fuel use limits of 6,500 TPY of biomass for Boiler #6 and 250,000 gal/yr of distillate fuel for Boiler #7, and 8,760 hrs/yr of operation for the CEC Screen Engine:

Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC
Boilers #4 and #5 (combined)	47.3	47.3	33.1	3.9	34.7	94.5	2.7
Fire Pump #1	0.1	0.1	---	0.1	0.4	0.1	0.1
Lumber Drying Kilns	---	---	---	---	---	---	93.0
Sawmill	---	---	---	---	---	---	10.2
Boilers #6 and #7*	3.7	3.7	3.7	0.7	6.4	17.6	0.5
CEC Screen Engine	0.3	0.3	---	0.1	12.2	2.6	1.0
Total TPY	**51.4**	**51.4**	**36.8**	**4.8**	**54.7**	**114.8**	**107.5**

*The tons/year totals for Boilers #6 and #7 are based on the worst-case emissions for each pollutant (Boiler #6).

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans,* 40 C.F.R. Part 52, Subpart A, § 52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 C.M.R. ch. 100 are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO_2e).

The quantity of CO_2e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility's fuel use and throughput limits;
- worst case emission factors from the following sources: U.S. EPA's AP-42, the Intergovernmental Panel on Climate Change (IPCC), and *Mandatory Greenhouse Gas Reporting,* 40 C.F.R. Part 98; and
- global warming potentials contained in 40 C.F.R. Part 98.

No additional licensing actions to address GHG emissions are required at this time.

III. AMBIENT AIR QUALITY ANALYSIS

Irving previously submitted an ambient air quality analysis demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards. The ambient air quality analysis was documented in NSR License A-314-77-1-A, dated October 25, 2013. An additional ambient air quality analysis is not required for this NSR license provided that the Boiler #7 stack is no less than 65 feet above ground level (AGL), which is equivalent to 60% of Good Engineering Practice (GEP) stack height, and that

Boiler #7 is removed from the facility's air emission license prior to the end of 18 months after the end of the unit's tuning and adjustment period. Irving shall notify the Department within two weeks of the end of the unit's tuning and adjustment period. [06-096 C.M.R. ch. 115, § 7.A.]

If Boiler #7 is not removed from the facility's air emission license prior to 18 months after the end of the unit's tuning and adjustment period, Irving shall conduct an updated ambient air quality analysis. This analysis shall include all licensed air emission units at the facility, including Boiler #6 if Irving intends to keep the license provision allowing for the installation of Boiler #6 after November 6, 2019. [06-096 C.M.R. ch. 115, § 7.A.]

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants New Source Review License A-314-77-5-A pursuant to the preconstruction licensing requirements of 06-096 C.M.R. ch. 115 and subject to the specific conditions below.

Severability. The invalidity or unenforceability of any provision of this License or part thereof shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

SPECIFIC CONDITIONS

(1) **Boiler #7**

A. Fuel Use and Operation

1. Fuel Use

a. Total fuel use for Boiler #7 shall not exceed 250,000 gal/yr of distillate fuel, based on a 12-month rolling total. [06-096 C.M.R. ch. 115, BACT]
b. The facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 C.M.R. ch. 115, BACT]

c. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and percent sulfur of the fuel delivered. Fuel use records shall be kept on a monthly and 12-month rolling total basis. [06-096 C.M.R. ch. 115, BACT]

2. Boiler #7 shall only be permitted to operate until the end of the Boiler #6 tuning and adjustment period, as defined in this NSR license. [06-096 C.M.R. ch. 115, BPT]

3. The Boiler #7 stack shall be no less than 65 feet AGL, which is equivalent to 60% of GEP stack height. [06-096 C.M.R. ch. 115, § 7.A.]

B. Emissions from Boiler #7 shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #7	PM	0.08	06-096 C.M.R. ch. 115, BACT

C. Emissions from Boiler #7 shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #7	1.08	1.08	0.02	1.93	0.54	0.02

D. Visible emissions from Boiler #7 shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

E. 40 C.F.R. Part 63, Subpart JJJJJJ

Irving shall comply with all requirements of 40 C.F.R. Part 63, Subpart JJJJJJ applicable to Boiler #7 including, but not limited to, the following:

1. Compliance Dates, Notifications, and Work Practice Requirements

a. Initial Notification of Compliance

An Initial Notification submittal to EPA is due within 120 days after startup of Boiler #7. [40 C.F.R. §§ 63.11196(c) and 63.11225(a)(2)]

b. Startup and Shutdown

Irving shall minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If the manufacturer's recommended procedures are not available, Irving shall follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. [40 C.F.R. § 63.11201(b)]

c. Boiler Tune-Up Program

(1) A boiler tune-up program shall be implemented. [40 C.F.R. § 63.11223]

(2) Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. As a seasonal boiler, Boiler #7 shall be subject to a tune-up frequency of every five years, with the first tune-up to take place no later than 30 days after startup of the unit. [40 C.F.R. §§ 63.11210(k)(2) and 63.11223(a) and 40 C.F.R. Part 63, Subpart JJJJJJ, Table 2]

(3) The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

(i) As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted, not to exceed 72 months from the previous inspection for seasonal boilers. [40 C.F.R. § 63.11223(b)(1)]

(ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame patter, consistent with the manufacturer's specifications. [40 C.F.R. § 63.11223(b)(2)]

(iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted, not to exceed 72 months from the previous inspection for seasonal boilers. [40 C.F.R. § 63.11223(b)(3)]

(iv) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 63.11223(b)(4)]

(v) Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after adjustments are made). Measurements may be taken using a portable CO analyzer. [40 C.F.R. § 63.11223(b)(5)]

(vi) If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup. [40 C.F.R. § 63.11223(b)(7)]

(4) Tune-Up Report: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information [40 C.F.R. § 63.11223(b)(6)]:

(i) The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before** and **after** the boiler tune-up;
(ii) A description of any corrective actions taken as part of the tune-up of the boiler; and
(iii) The types and amounts of fuels used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(5) After conducting the initial tune-up, a Notification of Compliance Status shall be submitted to EPA no later than 120 days after startup of the unit. [40 C.F.R. §§ 63.11214(b) and 63.11225(a)(4)]

d. Compliance Report

A compliance report shall be prepared by March 1st every five years which covers the previous five calendar years. The report shall be maintained by the source and submitted to the Department and to the EPA upon request. The report must include the items contained in 40 C.F.R. §§ 63.11225(b)(1) and (2), including the following [40 C.F.R. § 63.11225(b)]:

(1) Company name and address;
(2) A statement of whether the source has complied with all the relevant requirements of this Subpart;
(3) A statement certifying truth, accuracy, and completeness of the notification and signed by a responsible official and containing the official's name, title, phone number, email address, and signature; and
(4) The following certifications, as applicable:

(i) "This facility complies with the requirements in 40 C.F.R. § 63.11223 to conduct tune-ups of each boiler in accordance with the frequency specified in this Subpart."
(ii) "No secondary materials that are solid waste were combusted in any affected unit."

(iii)"This facility complies with the requirement in 40 C.F.R. §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

2. Recordkeeping

Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart JJJJJJ including the following [40 C.F.R. § 63.11225(c)]:

a. Copies of notifications and reports with supporting compliance documentation;
b. Identification of each boiler, date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned;
c. Records of the occurrence and duration of each malfunction of each applicable boiler; and
d. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler.

Records shall be in a form suitable and readily available for expeditious review. EPA requires submission of Notification of Compliance Status reports for tune-ups and energy assessments through their electronic reporting system. [40 C.F.R. § 63.11225(a)(4)(vi)]

(2) **CEC Screen Engine**

A. Irving shall operate and maintain the CEC Screen Engine according to the manufacturer's emission-related written instructions, or Irving shall develop a maintenance plan which provides to the extent practicable for maintenance and operation of the CEC Screen Engine in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115, BACT]

B. The CEC Screen Engine is licensed to fire distillate fuel with a maximum sulfur content not to exceed 0.0015% by weight (15 ppm). Compliance shall be demonstrated by fuel records from the supplier documenting the type and sulfur content of the fuel delivered. [06-096 C.M.R. ch. 115, BACT]

C. Emissions shall not exceed the following limits [06-096 C.M.R. ch. 115, BACT]:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
CEC Screen Engine	0.08	0.08	0.01	2.78	0.60	0.22

D. Visible emissions from the CEC Screen Engine shall not exceed 20% opacity on a six-minute block average basis except for during periods of startup, at which time the unit operator may elect to comply with the following work practice standards in lieu of this visible emission standard:

1. Irving shall maintain a log (written or electronic) of the date, time, and duration of all unit startups which result in electing to comply with this section;
2. The unit shall be operated in accordance with the manufacturer's emission-related operating instructions;
3. Irving shall minimize the unit's time spent at idle and minimize the unit's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations shall apply; and
4. The unit, including any associated air pollution control equipment, shall be operated at all times in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the unit.

[06-096 C.M.R. ch. 115, BACT]

(3) If Boiler #7 is not removed from the facility's license prior to 18 months after the end of the unit's tuning and adjustment period, Irving shall conduct an updated ambient air quality dispersion analysis. This analysis shall address the licensed pieces of equipment at the facility, including Boiler #6 if Irving intends to keep the license provision allowing for the installation of Boiler #6 after November 6, 2019. Irving shall notify the Department within two weeks of the end of the tuning and adjustment period for Boiler #7. [06-096 C.M.R. ch. 115, § 7.A.]

(4) Irving shall submit an application to incorporate this NSR license into the facility's Part 70 air emission license no later than 12 months from commencement of the requested operation. [06-096 C.M.R. ch. 140, § 1.C.(8)]

DONE AND DATED IN AUGUSTA, MAINE THIS 17 DAY OF January , 2019.

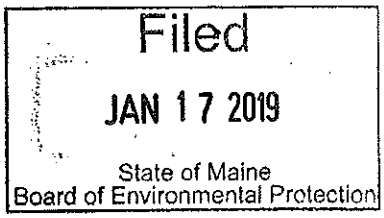
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
MELANIE LOYZIM, ACTING COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: September 19, 2018
Date of application acceptance: September 21, 2018

Date filed with the Board of Environmental Protection:



This Order prepared by Jonathan E. Rice, Bureau of Air Quality.