




SUBJECT: Significant Operating Permit Modification Review Memo
Jeld-Wen, Inc., Fiber Division – PA
Wysox Township, Bradford County
Title V Operating Permit 08-00003

TO: Muhammad Q. Zaman 
Environmental Program Manager
Air Quality Program

FROM: Joseph J. Dwyer 
Project Manager
Air Quality Program

THROUGH: David M. Shimmel, P.E. 
Chief, New Source Review Section
Air Quality Program

On October 25, 2016, Jeld-Wen, Inc. submitted a significant operating permit modification application to establish terms and conditions pursuant to, as well as to incorporate terms and conditions promulgated by, the Department's Reasonably Available Control Technology (RACT) requirements specified in 25 Pa. Code Sections 129.96 through 129.100 for nitrogen oxides (NO_x, expressed as NO) and volatile organic compound sources at their facility located in Wysox Township, Bradford County. The subject facility is a major source of nitrogen oxides with potential emissions in excess of 100 tons per year and a major source of volatile organic compounds with potential emissions in excess of 50 tons per year.

The following narrative identifies each source of NO_x and/or VOCs located at this facility, the RACT II regulatory requirements applicable for each source and any modifications made to the Title V operating permit.

Source 031 is an 82.4 million Btu per hour, natural gas/propane-fired boiler. The Title V operating permit currently limits the emission of nitrogen oxides and volatile organic compounds from the boiler to 0.20 pounds and 0.05 pounds per million Btu, respectively. In addition, the operating permit also incorporates a 10% average annual capacity factor limitation, at the request of the applicant, in order to escape having to comply with various emission and operating limitations, as well as work practice standards, that would have otherwise been required by Subpart DDDDD of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial and Industrial Boilers and Process Heaters. Based on these factors, the boiler's potential emission of nitrogen oxides and volatile organic compounds are 7.22 tons and 1.80 tons per year, respectively. This being the case, the boiler would ordinarily be required to comply with the 0.10 pounds of nitrogen oxides per million Btu of heat input limitation established pursuant 25 Pa. Code Section 129.97(g)(1)(i) for natural gas-fired combustion units with a rated heat input equal to or greater than 50 million Btu per hour. The applicant however, has requested that a 0.135 pounds of nitrogen oxides per million Btu of heat

input limitation be established for the boiler to lower the boiler's potential emission of nitrogen oxides to 4.87 tons per year. Since the potential emission of nitrogen oxides would now be below 5.00 tons per year, the boiler would be subject to the provisions of 25 Pa. Code Section 129.97(c)(1), which requires the applicant to "install, maintain and operate the source(s) in accordance with the manufacturer's specifications and with good operating practices." This requirement, as well as the 0.135 pounds per million Btu of heat input and 4.87 tons per year limitations for nitrogen oxides, have therefore been incorporated into the operating permit for the boiler. In addition, since presumptive RACT requirements are available for the nitrogen oxides emissions from the boiler, a case-by-case RACT evaluation is not necessary. Lastly, although the applicant is no longer required to periodically stack test the boiler in accordance with 25 Pa. Code Section 129.100(a)(4), I recommend the applicant perform at least one test to ensure the emission of nitrogen oxides from the boiler complies with the new 0.135 pounds per million Btu of heat input limitation. As for the emission of volatile organic compounds, pursuant to 25 Pa. Code Section 129.97(c)(2), sources that emit less than 2.7 tons of volatile organic compounds per year shall "install, maintain and operate the source(s) in accordance with the manufacturer's specifications and with good operating practices." Since this requirement has been incorporated into the operating permit for the boiler for nitrogen oxides, it does not need to be incorporated into the Title V operating permit a second time. In addition, since presumptive RACT requirements are available for the volatile organic compound emissions from the boiler, a case-by-case RACT evaluation is not necessary.

Source 032 is a 161 million Btu per hour, natural gas/wood-fired boiler that was shut down on May 24, 2014. Since a deactivation plan was never submitted within the year following shut down, as is required pursuant to 25 Pa. Code Section 127.11a to reactivate the source at a later date, the source has been removed from the operating permit.

Source 033 is a 273.2 million Btu per hour, natural gas/propane-fired boiler, the nitrogen oxides emissions from which are controlled by a selective non-catalytic reduction (SNCR) NOxOUT control system. Based on estimates provided by the applicant, the boiler has the potential to emit 201.70 tons of nitrogen oxides and 35.30 tons of volatile organic compounds per year. Since the subject boiler is capable of firing on a combination of natural gas/propane and wood, the boiler is subject to the nitrogen oxides emission limitation specified in 25 Pa. Code Section 129.97(g)(4), which addresses combustion units firing multiple fuels. Pursuant to 25 Pa. Code Section 129.97(g)(4), the nitrogen oxides emission limitation for combustion units which fire on multiple fuels shall be determined on a total heat input fuel weighted basis using the following equation:

$$E_{HI\text{weighted}} = (E_{ng}HI_{ng} + E_wHI_w) / (HI_{ng} + HI_w)$$

Where:

$E_{HI\text{weighted}}$ = The heat input fuel weighted multiple fuel emission rate or emission limitation for the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

E_{ng} = The emission limit for natural gas during the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation (0.10 pounds NOx per million Btu heat input).

HI_{ng} = The total heat input for natural gas during the compliance period.

E_w = The emission limit for wood during the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation (0.25 pounds NOx per million Btu heat input).

HI_w = The total heat input for wood during the compliance period.

The operating permit has been revised to incorporate this equation. Stack testing was not necessary to determine compliance with these limitations since the boiler is equipped with a continuous emission monitor (CEM) for nitrogen oxides which is operated in accordance with the requirements specified in 25 Pa. Code Chapter 139, Subchapter C. As for the emission of volatile organic compounds, pursuant to 25 Pa. Code Section 129.97(d), combustion sources located at a major volatile organic compound emitting facility shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” This requirement has therefore been incorporated into the operating permit. In addition, since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the boiler, a case-by-case RACT evaluation is not necessary.

Source 099 is comprised of 73 natural gas-fired and #2 fuel oil-fired space heaters rated less than 10 million Btu per hour. Pursuant to 25 Pa. Code Section 129.97(c)(3), boilers or other combustion sources, located at major nitrogen oxides or major volatile organic compounds emitting facilities, with individual rated gross heat inputs of less than 20 million Btu per hour shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” This requirement has therefore been incorporated into the operating permit for the space heaters that comprise Source 099. Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the heaters, a case-by-case RACT evaluation is not necessary.

Source 141P (Line 2 Refiners and First Stage Dryers) is comprised of four refiners and four first stage dryers associated with Line 1 door skin manufacturing operation, the volatile organic compound emissions from which are controlled by a 10.7 million Btu per hour, natural gas-fired regenerative thermal oxidizer. The subject source also incorporates a 12 million Btu per hour, natural gas-fired furnace to provide heat for the first stage dryers when flue gas from the boiler incorporated in Source 033 is not available. Since the dryers do not generate their own heat, they are not subject to any RACT requirements with respect to the emission of nitrogen oxides. However, processing the wood chips does generate a significant amount of volatile organic compounds. Since the potential emission of volatile organic compounds from this source is greater than 2.7 tons per year and no presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c).

In accordance with Subpart DDDD of the National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products, 40 CFR Sections 63.2230 through 63.2292, all dryers, refiners, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products shall control the emission of hazardous air pollutants, including, but not limited to, acetaldehyde, acrolein, formaldehyde,

methanol, phenol, and propionaldehyde, consistent with maximum achievable control technology (MACT) standards. In order to comply with this subpart, the applicant has chosen to “either reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than 20 ppmvd,” which is one of the options for complying with the subpart. For this source, compliance with the above limitations was achieved by installing a regenerative thermal oxidizer.

Although the focus of the regulatory requirement is minimizing the emission of hazardous air pollutants, volatile organic compounds would also be controlled since the technologies used to minimize the hazardous air pollutants being targeted would also minimize other volatile organic compounds. Furthermore, since the standards for conforming with MACT are far more rigorous than the standards for conforming with RACT, compliance with Subpart DDDD would also satisfy the RACT requirements. I therefore recommend that compliance with Subpart DDDD be considered RACT in accordance with 25 Pa. Code Section 129.99(c). In addition, I also recommend that conditions be incorporated into the Title V operating permit which require the source be tested every five years to demonstrate compliance with the recommended emission reductions/limitations in accordance with Section 129.100(a)(4). Stack testing to determine compliance with the above volatile organic compound limitations was not conducted within the prescribed timeframe, as is required pursuant to Section 129.100(a)(4).

The furnace incorporated in the Source 141P is subject to 25 Pa. Code Section 129.97(c)(3), which specifies that boilers or other combustion sources, located at major nitrogen oxides or major volatile organic compounds emitting facilities, with individual rated gross heat inputs of less than 20 million Btu per hour shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the furnace, a case-by-case RACT evaluation is not necessary. As for the regenerative thermal oxidizer, pursuant to 25 Pa. Code Section 129.97(c)(6), thermal oxidizers used primarily for air pollution control shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the regenerative thermal oxidizer, a case-by-case RACT evaluation is not necessary.

Source 142P (Line 2 Refiners and First Stage Dryers) is comprised of four refiners and four first stage dryers associated with Line 2 door skin manufacturing operation, the volatile organic compound emissions from which are controlled by a 12.3 million Btu per hour, natural gas-fired regenerative thermal oxidizer. Heat for the dryers is supplied entirely from the flue gas from the boiler incorporated in Source 033. Since the dryers do not generate their own heat, they are not subject to any RACT requirements with respect to the emission of nitrogen oxides. However, processing the wood chips does generate a significant amount of volatile organic compounds. Since the potential emission of volatile organic compounds from this source is greater than 2.7 tons per year and no presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c).

As was the case for Source 141, this source is also subject to the requirements specified in Subpart DDDD of the National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products. In addition, the applicant has also chosen to “either reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than 20 ppmvd,” which is one of the options for complying with the subpart. For this source, compliance with the above limitations was achieved by installing a regenerative thermal oxidizer.

Since the source is required to comply with the requirements specified in Subpart DDDD, I recommend that compliance with the subpart be considered RACT in accordance with 25 Pa. Code Section 129.99(c) for the reasons provided above for Source 141P. In addition, I also recommend that conditions be incorporated into the Title V operating permit which require the source be tested every five years to demonstrate compliance with the recommended emission reductions/limitations in accordance with Section 129.100(a)(4). Stack testing to determine compliance with the above volatile organic compound limitations was not conducted within the prescribed timeframe, as is required pursuant to Section 129.100(a)(4).

As for the regenerative thermal oxidizer, pursuant to 25 Pa. Code Section 129.97(c)(6), thermal oxidizers used primarily for air pollution control shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the regenerative thermal oxidizer, a case-by-case RACT evaluation is not necessary.

Source 161P (Line 1 Second Stage Dryers and Felter Operation) is comprised of four second stage dryers and five felters associated with Line 1 door skin manufacturing operation, the volatile organic compound emissions from which are controlled by wet scrubbers. The subject source also incorporates four 15 million Btu per hour, natural gas-fired furnaces to provide steam for the second stage dryers. Since the dryers do not generate their own heat, they are not subject to any RACT requirements with respect to the emission of nitrogen oxides. However, processing the wood chips does generate a significant amount of volatile organic compounds. Since the potential emission of volatile organic compounds from this source is greater than 2.7 tons per year and no presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c).

As was the case for the sources described above, this source is also subject to the requirements specified in Subpart DDDD of the National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products. In addition, the applicant has also chosen to “either reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than 20 ppmvd,” which is one of the options for complying with the subpart. For this source, compliance with the above limitations was achieved by existing wet scrubbers.

Since the source is required to comply with the requirements specified in Subpart DDDD, I recommend that compliance with the subpart be considered RACT in accordance with 25 Pa. Code Section 129.99(c) for the reasons provided above for Source 141P. In addition, I also recommend that conditions be incorporated into the Title V operating permit which require the source be tested every five years to demonstrate compliance with the recommended emission reductions/limitations in accordance with Section 129.100(a)(4). Stack testing to determine compliance with the above volatile organic compound limitations was not conducted within the prescribed timeframe, as is required pursuant to Section 129.100(a)(4).

The furnaces incorporated in the Source 161P are subject to 25 Pa. Code Section 129.97(c)(3), which specifies that boilers or other combustion sources, located at major nitrogen oxides or major volatile organic compounds emitting facilities, with individual rated gross heat inputs of less than 20 million Btu per hour shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the furnaces, a case-by-case RACT evaluation is not necessary.

Source 162P (Line 2 Second Stage Dryers and Felter Operation) is comprised of four second stage dryers and five felters associated with Line 2 door skin manufacturing operation, the volatile organic compound emissions from which are controlled by wet scrubbers. The subject source also incorporates four 18 million Btu per hour, natural gas-fired furnaces to provide steam for the second stage dryers. Since the dryers do not generate their own heat, they are not subject to any RACT requirements with respect to the emission of nitrogen oxides. However, processing the wood chips does generate a significant amount of volatile organic compounds. Since the potential emission of volatile organic compounds from this source is greater than 2.7 tons per year and no presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c).

As was the case for the sources described above, this source is also subject to the requirements specified in Subpart DDDD of the National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products. In addition, the applicant has also chosen to “either reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than 20 ppmvd,” which is one of the options for complying with the subpart. For this source, compliance with the above limitations was achieved by existing wet scrubbers.

Since the source is required to comply with the requirements specified in Subpart DDDD, I recommend that compliance with the subpart be considered RACT in accordance with 25 Pa. Code Section 129.99(c) for the reasons provided above for Source 141P. In addition, I also recommend that conditions be incorporated into the Title V operating permit which require the source be tested every five years to demonstrate compliance with the recommended emission reductions/limitations in accordance with Section 129.100(a)(4). Stack testing to determine compliance with the above volatile organic compound limitations was not conducted within the prescribed timeframe, as is required pursuant to Section 129.100(a)(4).

The furnaces incorporated in the Source 162P are subject to 25 Pa. Code Section 129.97(c)(3), which specifies that boilers or other combustion sources, located at major nitrogen oxides or major volatile organic compounds emitting facilities, with individual rated gross heat inputs of less than 20 million Btu per hour shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the furnaces, a case-by-case RACT evaluation is not necessary.

Source 171P (Line 1 Press) is comprised of a hardboard press associated with Line 1 door skin manufacturing operation, the volatile organic compound emissions from which are controlled by wet scrubbers. Although the press is not a source of nitrogen oxides, a significant amount of volatile organic compounds are generated while forming the door skins. Since the potential emission of volatile organic compounds from this source is greater than 2.7 tons per year and no presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c).

As was the case for the sources described above, this source is also subject to the requirements specified in Subpart DDDD of the National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products. In addition, the applicant has also chosen to “either reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than 20 ppmvd,” which is one of the options for complying with the subpart. For this source, compliance with the above limitations was achieved by existing wet scrubbers.

Since the source is required to comply with the requirements specified in Subpart DDDD, I recommend that compliance with the subpart be considered RACT in accordance with 25 Pa. Code Section 129.99(c) for the reasons provided above for Source 141P. In addition, I also recommend that conditions be incorporated into the Title V operating permit which require the source be tested every five years to demonstrate compliance with the recommended emission reductions/limitations in accordance with Section 129.100(a)(4). Stack testing to determine compliance with the above volatile organic compound limitations was not conducted within the prescribed timeframe, as is required pursuant to Section 129.100(a)(4).

Source 172P (Line 2 Press) is comprised of a hardboard press associated with Line 2 door skin manufacturing operation, the volatile organic compound emissions from which are controlled by wet scrubbers and a regenerative thermal oxidizer. Although the press is not a source of nitrogen oxides, a significant amount of volatile organic compounds are generated while forming the door skins. Since the potential emission of volatile organic compounds from this source is greater than 2.7 tons per year and no presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c).

As was the case for the sources described above, this source is also subject to the requirements specified in Subpart DDDD of the National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products. In addition, the applicant has also chosen to “either

reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than 20 ppmvd,” which is one of the options for complying with the subpart. For this source, compliance with the above limitations was achieved by existing wet scrubbers.

Since the source is required to comply with the requirements specified in Subpart DDDD, I recommend that compliance with the subpart be considered RACT in accordance with 25 Pa. Code Section 129.99(c) for the reasons provided above for Source 141P. In addition, I also recommend that conditions be incorporated into the Title V operating permit which require the source be tested every five years to demonstrate compliance with the recommended emission reductions/limitations in accordance with Section 129.100(a)(4). Stack testing to determine compliance with the above volatile organic compound limitations was not conducted within the prescribed timeframe, as is required pursuant to Section 129.100(a)(4).

As for the regenerative thermal oxidizer, pursuant to 25 Pa. Code Section 129.97(c)(6), thermal oxidizers used primarily for air pollution control shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the regenerative thermal oxidizer, a case-by-case RACT evaluation is not necessary.

Source 174P is an area of the facility where the dies and plates utilized in the Line 1, Line 2 and Die Form presses are cleaned. The Title V operating permit for this facility limits the emission of volatile organic compounds from the cleaning operation to no more than 2.70 tons per year. Pursuant to 25 Pa. Code Section 129.97(c)(2), sources of volatile organic compounds with the potential to emit less than 2.70 tons of volatile organic compounds per year shall maintain and operate the source in accordance with the manufacturer’s specifications and with good operating practices in accordance with 25 Pa. Code 129.97(c). This requirement has therefore been incorporated into the operating permit for the cleaning area incorporated in Source 174P. Furthermore, since a presumptive RACT requirement is available for the volatile organic compound emissions from this source, a case-by-case RACT evaluation is not necessary.

Source 184P (Die Form Press) is comprised of a hardboard press associated with Die Form Line door skin manufacturing operation, the volatile organic compound emissions from which are controlled by a wet scrubber. Although the press is not a source of nitrogen oxides, a significant amount of volatile organic compounds are generated while forming the door skins. Since the potential emission of volatile organic compounds from this source is greater than 2.7 tons per year and no presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c).

As was the case for the sources described above, this source is also subject to the requirements specified in Subpart DDDD of the National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products. In addition, the applicant has also chosen to “either reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), by 90% or limit the concentration of total hazardous air pollutants, measured as total

hydrocarbons (as carbon), to less than 20 ppmvd,” which is one of the options for complying with the subpart. For this source, compliance with the above limitations was achieved by an existing wet scrubber.

Since the source is required to comply with the requirements specified in Subpart DDDD, I recommend that compliance with the subpart be considered RACT in accordance with 25 Pa. Code Section 129.99(c) for the reasons provided above for Source 141P. In addition, I also recommend that conditions be incorporated into the Title V operating permit which require the source be tested every five years to demonstrate compliance with the recommended emission reductions/limitations in accordance with Section 129.100(a)(4). Stack testing to determine compliance with the above volatile organic compound limitations was not conducted within the prescribed timeframe, as is required pursuant to Section 129.100(a)(4).

Source 187P (Die Form Surface Coating Operation) is a surface coating operation comprised of two spray booths and four natural gas/propane-fired drying ovens, which are all rated less than 3 million Btu per hour. Pursuant to 25 Pa. Code Section 129.96(a), only sources “that were in existence on or before July 20, 2012, for which a requirement or emission limitation, or both, has not been established in Sections 129.51 through 129.52c, 129.54 through 129.69, etc.” are subject to the RACT requirements specified in Section 129.96 through 129.100. Since the spray booths incorporated in the surface coating operation are already subject to the requirements specified in Section 129.52c for the control of volatile organic compound emissions from flat wood paneling surface coating processes, they are not required to comply with the new RACT requirements. All applicable requirements specified by Section 129.52c were incorporated into the Title V operating permit when the operating permit was renewed on October 24, 2014. As for the drying ovens, pursuant to Section 129.97(c)(3), boilers or other combustion sources, located at major nitrogen oxides or major volatile organic compounds emitting facilities, with individual rated gross heat inputs of less than 20 million Btu per hour shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” This requirement has therefore been incorporated into the operating permit for the drying ovens incorporated in the surface coating operation. Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the drying ovens, a case-by-case RACT evaluation is not necessary.

Source 188P (Line 1 Surface Coating Operation) is a surface coating operation comprised of two spray booths and four natural gas/propane-fired drying ovens, which are all rated less than 5 million Btu per hour. Pursuant to 25 Pa. Code Section 129.96(a), only sources “that were in existence on or before July 20, 2012, for which a requirement or emission limitation, or both, has not been established in Sections 129.51 through 129.52c, 129.54 through 129.69, etc.” are subject to the RACT requirements specified in Section 129.96 through 129.100. Since the spray booths incorporated in the surface coating operation are already subject to the requirements specified in Section 129.52c for the control of volatile organic compound emissions from flat wood paneling surface coating processes, they are not required to comply with the new RACT requirements. All applicable requirements specified by Section 129.52c were incorporated into the Title V operating permit when the operating permit was renewed on October 24, 2014. As for the drying ovens, pursuant to Section 129.97(c)(3), boilers or other combustion sources, located at major nitrogen oxides or major volatile organic compounds emitting facilities, with

individual rated gross heat inputs of less than 20 million Btu per hour shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” This requirement has therefore been incorporated into the operating permit for the drying ovens incorporated in the surface coating operation. Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the drying ovens, a case-by-case RACT evaluation is not necessary.

Source 189P (Lap Siding Surface Coating Operation) is a surface coating operation comprised of two spray booths, four surface coating application machines and five natural gas/propane-fired drying ovens, which are all rated less than 5.5 million Btu per hour. Pursuant to 25 Pa. Code Section 129.96(a), only sources “that were in existence on or before July 20, 2012, for which a requirement or emission limitation, or both, has not been established in Sections 129.51 through 129.52c, 129.54 through 129.69, etc.” are subject to the RACT requirements specified in Section 129.96 through 129.100. Since the spray booths and coating application machines incorporated in the surface coating operation are already subject to the requirements specified in Section 129.52c for the control of volatile organic compound emissions from flat wood paneling surface coating processes, they are not required to comply with the new RACT requirements. All applicable requirements specified by Section 129.52c were incorporated into the Title V operating permit when the operating permit was renewed on October 24, 2014. As for the drying ovens, pursuant to Section 129.97(c)(3), boilers or other combustion sources, located at major nitrogen oxides or major volatile organic compounds emitting facilities, with individual rated gross heat inputs of less than 20 million Btu per hour shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” This requirement has therefore been incorporated into the operating permit for the drying ovens incorporated in the surface coating operation. Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the drying ovens, a case-by-case RACT evaluation is not necessary.

Source 190P (Line 2 Surface Coating Operation) is a surface coating operation that was shut down on August 26, 2016. Since a deactivation plan was never submitted within the year following shut down, as is required pursuant to 25 Pa. Code Section 127.11a to reactivate the source at a later date, the source has been removed from the operating permit.

Source 191P (Line 1 Tempering Operation) is comprised of a tempering oil application station and a tempering kiln with a heat input rating of 12.65 million Btu per hour, the volatile organic compound emissions from which are controlled by a regenerative thermal oxidizer. The subject operation is associated with Line 1 door skin manufacturing operation. Pursuant to 25 Pa. Code Section 129.97(c)(3), boilers or other combustion sources, located at major nitrogen oxides or major volatile organic compounds emitting facilities, with individual rated gross heat inputs of less than 20 million Btu per hour shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” This requirement has therefore been incorporated into the operating permit for the source. Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the kiln, a case-by-case RACT evaluation is not necessary. However, volatile organic compounds are also generated from the application of tempering oil. Since the potential emission of volatile organic compounds from this source is greater than 2.7 tons per year and no

presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c).

As was the case for other sources described above, this source is also subject to the requirements specified in Subpart DDDD of the National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products. In addition, the applicant has also chosen to “either reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than 20 ppmvd,” which is one of the options for complying with the subpart. For this source, compliance with the above limitations was achieved by installing a regenerative thermal oxidizer.

Since the source is required to comply with the requirements specified in Subpart DDDD, I recommend that compliance with the subpart be considered RACT in accordance with 25 Pa. Code Section 129.99(c) for the reasons provided above for Source 141P. In addition, I also recommend that conditions be incorporated into the Title V operating permit which require the source be tested every five years to demonstrate compliance with the recommended emission reductions/limitations in accordance with Section 129.100(a)(4). Stack testing to determine compliance with the above volatile organic compound limitations was not conducted within the prescribed timeframe, as is required pursuant to Section 129.100(a)(4).

As for the regenerative thermal oxidizer, pursuant to 25 Pa. Code Section 129.97(c)(6), thermal oxidizers used primarily for air pollution control shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the regenerative thermal oxidizer, a case-by-case RACT evaluation is not necessary.

Source 193P (Die Form Tempering Operation) is comprised of a tempering oil application station and a tempering kiln with a heat input rating of a 4.8 million Btu per hour, the volatile organic compound emissions from which are controlled by a wet scrubber. The subject operation is associated with Die Form Line door skin manufacturing operation. Pursuant to 25 Pa. Code Section 129.97(c)(3), boilers or other combustion sources, located at major nitrogen oxides or major volatile organic compounds emitting facilities, with individual rated gross heat inputs of less than 20 million Btu per hour shall “install, maintain and operate the source(s) in accordance with the manufacturer’s specifications and with good operating practices.” This requirement has therefore been incorporated into the operating permit for the source. Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the kiln, a case-by-case RACT evaluation is not necessary. However, volatile organic compounds are also generated from the application of tempering oil. Since the potential emission of volatile organic compounds from this source is greater than 2.7 tons per year and no presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c).

As was the case for other sources described above, this source is also subject to the requirements specified in Subpart DDDD of the National Emission Standards for Hazardous Air Pollutants:

Plywood and Composite Wood Products. In addition, the applicant has also chosen to “either reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than 20 ppmvd,” which is one of the options for complying with the subpart. For this source, compliance with the above limitations was achieved by an existing wet scrubber.

Since the source is required to comply with the requirements specified in Subpart DDDD, I recommend that compliance with the subpart be considered RACT in accordance with 25 Pa. Code Section 129.99(c) for the reasons provided above for Source 141P. In addition, I also recommend that conditions be incorporated into the Title V operating permit which require the source be tested every five years to demonstrate compliance with the recommended emission reductions/limitations in accordance with Section 129.100(a)(4). Stack testing to determine compliance with the above volatile organic compound limitations was not conducted within the prescribed timeframe, as is required pursuant to Section 129.100(a)(4).

Source 200P is a woodyard where logs are stored and chipped for use in the door skin manufacturing process at this facility. The Title V operating permit currently limits the emission of volatile organic compounds from this operation to 11.20 tons per year. This limitation was based on an emission factor of 0.036 pounds of volatile organic compounds per ton of green wood and established pursuant to the RACT requirements specified in 25 Pa. Code Sections 129.91 through 129.95. Since the potential emission of volatile organic compounds from this source is greater than 2.7 tons per year and no presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c). Although technically feasible, constructing an enclosure to house the woodyard is not practical and is also cost prohibitive. Based on the applicant’s calculations, constructing an enclosure controlled by a regenerative thermal oxidizer would cost \$112,285 per ton of volatile organic compounds destroyed. I therefore recommend the emission limitation currently established in the Title V operating permit be considered as representative of RACT.

Source 201P is a storage pile comprised of wood waste that had been generated at the facility over the years. Based on an emission factor of 0.693 tons of volatile organic compounds per acre of wood and 5.49 acres of wood waste, the applicant calculated the potential emission of volatile organic compounds to be 3.80 tons per year. Since the potential emission of volatile organic compounds from this source is greater than 2.7 tons per year and no presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c). As was the case for the woodyard, constructing an enclosure controlled by a regenerative thermal oxidizer would cost \$169,485 per ton of volatile organic compounds destroyed. In addition to being economically infeasible, the applicant is also required to remove the storage pile by August 31, 2022 in accordance with a consent order agreement entered into with the Department. I therefore recommend that no additional terms and conditions be established.

Source 202P is comprised of five Jet-A-Mark code printers located in various locations throughout the facility. The Title V operating permit for this facility limits the emission of

volatile organic compounds from the five printers to no more than 10.30 tons per year, which equates to 2.06 tons of volatile organic compounds per printer per year. Pursuant to 25 Pa. Code Section 129.97(c)(2), sources of volatile organic compounds with the potential to emit less than 2.70 tons of volatile organic compounds per year shall maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices in accordance with 25 Pa. Code 129.97(c). This requirement has therefore been incorporated into the operating permit for the printer incorporated in Source 202P. Furthermore, since a presumptive RACT requirement is available for the volatile organic compound emissions from this source, a case-by-case RACT evaluation is not necessary.

Source 203P (Trim Surface Coating Operation) is a surface coating operation comprised of one spray booth, two surface coating application machines and four natural gas/propane-fired drying ovens, which are all rated less than 6 million Btu per hour. Pursuant to 25 Pa. Code Section 129.96(a), only sources "that were in existence on or before July 20, 2012, for which a requirement or emission limitation, or both, has not been established in Sections 129.51 through 129.52c, 129.54 through 129.69, etc." are subject to the RACT requirements specified in Section 129.96 through 129.100. Since the spray booth and coating application machines incorporated in the surface coating operation are already subject to the requirements specified in Section 129.52c for the control of volatile organic compound emissions from flat wood paneling surface coating processes, they are not required to comply with the new RACT requirements. All applicable requirements specified by Section 129.52c were incorporated into the Title V operating permit when the operating permit was renewed on October 24, 2014. As for the drying ovens, pursuant to Section 129.97(c)(3), boilers or other combustion sources, located at major nitrogen oxides or major volatile organic compounds emitting facilities, with individual rated gross heat inputs of less than 20 million Btu per hour shall "install, maintain and operate the source(s) in accordance with the manufacturer's specifications and with good operating practices." This requirement has therefore been incorporated into the operating permit for the drying ovens incorporated in the surface coating operation. Since presumptive RACT requirements are available for the nitrogen oxides and volatile organic compound emissions from the drying ovens, a case-by-case RACT evaluation is not necessary.

Source 300P is comprised of six natural gas-fired emergency generators and two diesel-fired emergency fire pumps, the largest of which is 175 brake-horsepower. Pursuant to 25 Pa. Code Section 129.97(c)(5), stationary internal combustion engines rated at less than 500 brake-horsepower (gross) shall "install, maintain and operate the source(s) in accordance with the manufacturer's specifications and with good operating practices." This requirement has therefore been incorporated into the operating permit for the emergency engines incorporated in Source 300P. Furthermore, since a presumptive RACT requirement is available for the nitrogen oxides and volatile organic compound emissions from this source, a case-by-case RACT evaluation is not necessary.

Source 400P is comprised of twenty-seven storage tanks with capacities of greater than 2,000 gallons containing resins, polymers, waxes, tempering oils, paints and hydraulic oils. The Title V operating permit for this facility limits the emission of volatile organic compounds from the storage tanks to no more than 2.20 tons per year. Pursuant to 25 Pa. Code Section 129.97(c)(2), sources of volatile organic compounds with the potential to emit less than 2.70 tons of volatile

organic compounds per year shall maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices in accordance with 25 Pa. Code 129.97(c). This requirement has therefore been incorporated into the operating permit for the storage tanks incorporated in Source 400P. Furthermore, since a presumptive RACT requirement is available for the volatile organic compound emissions from this source, a case-by-case RACT evaluation is not necessary.

Although a **wastewater treatment system** is present at the facility, it is not listed as a separate source in the Title V operating permit. Rather, the wastewater treatment system is addressed in the site level conditions of the Title V operating permit. Furthermore, the condition which addresses the wastewater treatment also limits the emission of volatile organic compounds to no more than 6.80 tons per year and requires the applicant to maintain the dissolved oxygen uptake rate (DOUR) of the aeration basin at a minimum of 3.0 milligrams per liter per hour. Since the emission of volatile organic compounds from the source is greater than 2.7 tons per year and no presumptive RACT regulations have been promulgated for this source type, a case-by-case RACT evaluation was required in accordance with 25 Pa. Code Section 129.99(c). However, given the large surface area of the operation's aeration ponds, it was not technically feasible to collect the volatile organic compounds being emitted from this operation. I therefore recommend that terms and conditions currently established in the Title V operating permit which limit the emission of volatile organic compounds and requires a minimum DOUR be considered as representative of RACT.

In conclusion, based on the information contained in the application and subsequent information submitted for review, I recommend that Title V Operating Permit 08-00003 be modified as described herein to incorporate all applicable requirements specified in 25 Pa. Code Sections 129.96 through 129.100 of the Department's Reasonably Available Control Technology regulations.

cc: File No. TVOP 08-00003 – Facilities/Fac Op
Central Office, Air Quality Permits

Approval of a Reasonably Available Control Technology (RACT II) plan for JELD-WEN, Inc., Fiber Division - PA located in Wysox Township, Bradford County.

In accordance with 25 Pa. Code Sections 129.96 through 129.100, the Pennsylvania Department of Environmental Protection has made a preliminary determination to approve a RACT II plan and an amendment to the State Implementation Plan (SIP) for the Towanda Plant owned and operated by JELD-WEN, Inc., Fiber Division - PA in Wysox Township, Bradford County.

The proposed SIP revision does not adopt any new regulations. It incorporates the provisions and requirements contained in the amended RACT II approval for the facility, which are intended to satisfy the requirements for the 1997 National Ambient Air Quality Standard (NAAQS) and the 2008 NAAQS for ozone.

The proposed amendments to the RACT II determination, if finally approved, will be incorporated into a revised operating permit (08-00003) for the facility. The relevant RACT II requirements will be submitted to the U.S. Environmental Protection Agency (EPA) as a revision to Pennsylvania's State Implementation Plan and will remain in effect until replaced pursuant to 40 CFR 51 and approval by the EPA. Requirements that are not part of the RACT II determination will be excluded from the SIP submittal this includes the provisions of the Department's presumptive Reasonably Available Control Technology (RACT II) requirements in accordance with 25 Pa. Code Section 129.97, as they apply to existing sources at this facility.

The following is a summary of the proposed amendments to the RACT II determination for this operation that will be submitted to the EPA as a SIP revision:

<u>Source</u>	<u>RACT II Requirement</u>
Line 1 Refiners & First Stage Dryers	For volatile organic compounds: reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), contained in the effluent gas from the respective control device by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than or equal to 20 ppmvd.
Line 2 Refiners & First Stage Dryers	For volatile organic compounds: reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), contained in the effluent gas from the respective control device by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than or equal to 20 ppmvd.
Second Stage Dryers & Line 1 Felter Operation	For volatile organic compounds: reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), contained in the effluent gas from the respective control devices by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than or equal to 20 ppmvd.

Second Stage Dryers & Line 1 Felter Operation	For volatile organic compounds: reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), contained in the effluent gas from the respective control devices by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than or equal to 20 ppmvd.
Line 1 Press	For volatile organic compounds: reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), contained in the effluent gas from the respective control device by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than or equal to 20 ppmvd.
Line 2 Press	For volatile organic compounds: reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), contained in the effluent gas from the respective control device by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than or equal to 20 ppmvd.
Die Form Press	For volatile organic compounds: reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), contained in the effluent gas from the respective control device by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than or equal to 20 ppmvd.
Line 1 Tempering	For volatile organic compounds: reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), contained in the effluent gas from the respective control device by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than or equal to 20 ppmvd.
Die Form Tempering	For volatile organic compounds: reduce the emission of total hazardous air pollutants, measured as total hydrocarbons (as carbon), contained in the effluent gas from the respective control device by 90% or limit the concentration of total hazardous air pollutants, measured as total hydrocarbons (as carbon), to less than or equal to 20 ppmvd.

Woodyard	For volatile organic compounds: limit of 11.20 tons volatile organic compounds per 12-consecutive month period.
Wastewater Treatment Operation	For volatile organic compounds: limit of 6.80 tons volatile organic compounds per 12-consecutive month period and maintain the dissolved oxygen uptake rate (DOUR) of the aeration basin at a minimum of 3.0 milligrams per liter per hour.

Public hearing. A public hearing will be held if requested by May 2, 2018 to accept oral comments on the proposed operating permit revision and the proposed SIP revision. The hearing will be held, if requested, on May 16, 2018, at 10:00 AM at the DEP Northcentral Regional Office, 208 West Third Street, Suite 101, Williamsport, PA 17701. To request a hearing, to register to speak at a hearing, or to inquire if a hearing will be held, please contact Megan Lehman at 570-327-3659. The last day to pre-register to speak at a hearing, if one is held, will be May 2, 2018.

Any updates made to any aspect of the hearing, including whether or not a hearing will be held, will be posted online at <http://www.dep.pa.gov/About/Regional/North-central-Regional-Office/Pages/default.aspx>. Contact Megan Lehman at 570-327-3659 or monitor this web site to determine if a hearing will be held.

Persons wishing to present testimony at the hearing should contact Megan Lehman at 570-327-3659 at least one week in advance of the hearing to reserve a time to present testimony. Oral testimony will be limited to a maximum of 10 minutes per individual and two written copies of the oral testimony are requested. Each organization is requested to designate one witness to present testimony on its behalf. Persons unable to attend the hearing, if it is held, may submit three (3) copies of a written statement and exhibits within 10 days thereafter to Muhammad Q. Zaman, Environmental Program Manager, Pennsylvania Department of Environmental Protection, Northcentral Regional Office, 208 West Third Street, Suite 101, Williamsport, PA 17701.

Persons wishing to file a written protest or provide comments or additional information, which they believe should be considered prior to the issuance of a permit, may submit the information to Muhammad Q. Zaman, Environmental Program Manager, Pennsylvania Department of Environmental Protection, Northcentral Regional Office, 208 West Third Street, Suite 101, Williamsport, PA 17701. A 30-day comment period from March 31, 2018, will exist for the submission of comments, protests and information. Each submission must contain the name, address and telephone number of the person submitting the comments, identification of the proposed RACT II Operating Permit including the permit number and a concise statement regarding the relevancy of the information or objections to issuance of the proposed RACT II Plan.

All pertinent documents are available for public review between 8 a.m. and 4 p.m. at the DEP Northcentral Regional Office, 208 West Third Street, Suite 101, Williamsport, PA 17701. Appointments for scheduling a review may be made by calling the Department at 570-327-0550.

Sent to PA Bulletin on March 16, 2018. 