State of Utah

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Department of
Environmental Quality

Kimberly D. Shelley
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DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQE-IN113860035-22

September 1, 2022

Brian Nash
Hexcel Corporation
PO Box 18748
Salt Lake City, UT 84118-0748
Shelley.Balback@hexcel.com

Dear Mr. Nash:

Re: Intent to Approve:
Modification to Approval Order to DAQE-AN113860032, to Add Research and Technology Operation
Project Number: N113860035

The attached document is the Intent to Approve (ITA) for the above-referenced project. The ITA is subject to public review. Any comments received shall be considered before an Approval Order (AO) is issued. The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final AO.

Future correspondence on this ITA should include the engineer's name, **Tad Anderson,** as well as the DAQE number as shown on the upper right-hand corner of this letter. Tad Anderson, can be reached at (385) 306-6515 or tdanderson@utah.gov, if you have any questions.

Sincerely,

Jon L. Black
Jon Black (Aug 24, 2022 09:46 MDT)

Jon L. Black, Manager
New Source Review Section

JLB:TA:jg

cc: Salt Lake County Health Department
Dan Fagnant, EPA Section 8

STATE OF UTAH
Department of Environmental Quality
Division of Air Quality

INTENT TO APPROVE
DAQE-IN113860035-22
Modification to Approval Order to DAQE-AN113860032, to Add Research and Technology Operation

Prepared By
Tad Anderson, Engineer
(385) 306-6515
tdanderson@utah.gov

Issued to
Hexcel Corporation - Salt Lake Operations

Issued On
September 1, 2022

Jon Black (Aug 24, 2022 09:46 MDT)

New Source Review Section Manager
Jon L. Black

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GENERAL INFORMATION

CONTACT/LOCATION INFORMATION

Owner Name
Hexcel Corporation

Source Name
Hexcel Corporation - Salt Lake Operations

Mailing Address
PO Box 18748
Salt Lake City, UT 841180748

Physical Address
6800 West 5400 South
West Valley City, UT 84118

Source Contact
Name Shelly Tucker
Phone (385) 232-0758
Email Shelley.Balback@hexcel.com

UTM Coordinates
411,206 m Easting
4,500,593 m Northing
Datum NAD27
UTM Zone 12

SIC code 2821 (Plastics Material, Synthetic Resins, & Nonvulcanized Elastomers)

SOURCE INFORMATION

General Description
Hexcel Corporation (Hexcel) owns and operates a carbon fiber and fabric pre-impregnation manufacturing plant in West Valley City, Salt Lake County. Carbon fiber is a lightweight, high strength reinforcement material used in the manufacture of various composite structure items.

NSR Classification
Minor Modification at Major Source

Source Classification
Located in Northern Wasatch Front O3 NAA, Salt Lake City UT $PM_{2.5}$ NAA, Salt Lake County SO_2 NAA
Salt Lake County
Airs Source Size: A

Applicable Federal Standards
NSPS (Part 60), A: General Provisions
NSPS (Part 60), IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
MACT (Part 63), A: General Provisions
MACT (Part 63), SS: National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process
MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
MACT (Part 63), DDDDD: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

MACT (Part 63), HHHHH: National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing
Title V (Part 70) Major Source

Project Description
Hexcel has requested to install and operate a new lab and office for research and technology (R&T). The lab will serve fiber line, prepreg, and matrix operations product development. The lab will include bench and pilot scale operations. The addition of the R&T operation is anticipated to include 1 emergency generator engine, 1 diesel belly tank, various electric ovens, various fume hoods, various mixers, various dip tanks, 3 pilot operations and solvent cleaning. Hexcel has requested to have the R&T operation be processed prior to any other projects. Hexcel has closed the Dublin, California, R&T operations and has requested to move it to the West Valley, Utah site.

SUMMARY OF EMISSIONS

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

Criteria Pollutant	Change (TPY)	Total (TPY)
CO_2 Equivalent	7.68	111682.68
Carbon Monoxide	0.03	137.97
Nitrogen Oxides	0.11	197.62
Particulate Matter - PM_{10}	0	268.50
Particulate Matter - $PM_{2.5}$	0	234.31
Sulfur Oxides	0.01	49.54
Volatile Organic Compounds	5.76	174.10

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
Dimethyl Formamide (CAS #68122)	1440	10600
Generic HAPs (CAS #GHAPS)	0	1220
Hydrogen Cyanide (Hydrocyanic Acid) (CAS #74908)	0	204840
Methanol (CAS #67561)	800	800
Methylene Chloride (Dichloromethane) (CAS #75092)	10.56	972251
Toluene (CAS #108883)	0	9200
Xylenes (Isomers And Mixture) (CAS #1330207)	0	9200
	Change (TPY)	**Total (TPY)**
Total HAPs	1.13	604.06

PUBLIC NOTICE STATEMENT

The NOI for the above-referenced project has been evaluated and has been found to be consistent with the requirements of UAC R307. Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an AO by the Director.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notification of the intent to approve will be published in the Salt Lake Tribune and Deseret News on September 4, 2022. During the public comment period the proposal and the evaluation of its impact on air quality will be available for the public to review and provide comment. If anyone so requests a public hearing within 15 days of publication, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated. The proposed conditions of the AO may be changed as a result of the comments received.

SECTION I: GENERAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO.

I.1	All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]
I.2	The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
I.3	Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
I.4	All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon request, and the records shall include the five-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of five (5) years. [R307-401-8]
I.5	At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
I.6	The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]
I.7	The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150]

I.8	The owner/operator shall submit documentation of the status of construction or modification to the Director within 18 months from the date of this AO. This AO may become invalid if construction is not commenced within 18 months from the date of this AO or if construction is discontinued for 18 months or more. To ensure proper credit when notifying the Director, send the documentation to the Director, attn.: NSR Section. [R307-401-18]

SECTION II: PERMITTED EQUIPMENT

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO.

II.A THE APPROVED EQUIPMENT

II.A.1	**Manufacturing Plant** West Valley Carbon Fiber and Composites Manufacturing Plant
II.A.2	**Building 2344** Operations are carbon fiber production with surface treatment, fiber sizing, and spooling One (1) natural-gas fueled, emergency generator rated at 45 kW One (1) diesel-fueled, emergency generator rated at 100 kW One (1) diesel-fueled, emergency generator rated at 125 kW
II.A.3	**Building 2344** **Carbon Fiber Production Line 2** One (1) electrically-heated, low-temperature, carbonization furnace One (1) electrically-heated, high-temperature, carbonization furnace One (1) Bake Furnace, Inc. incinerator with afterburner system rated at a combined rating of 1.0 MMBtu/hr
II.A.4	**Building 2344** **Carbon Fiber Production Line 3** Three (3) electrically-heated oxidation ovens One (1) electrically-heated, low-temperature, carbonization furnace One (1) electrically-heated, high-temperature, carbonization furnace One (1) thermal-oxidation fume incinerator rated at 750,000 Btu/hr
II.A.5	**Building 2436** Operations are carbon fiber production with surface treatment, fiber sizing, and spooling One (1) diesel-fueled, emergency generator rated at 180 kW One (1) diesel-fueled, emergency generator rated at 200 kW
II.A.6	**Building 2436** **Carbon Fiber Production Line 4** Four (4) electrically-heated, oxidation ovens One (1) electrically-heated, low-temperature, carbonization furnace One (1) electrically-heated, high-temperature, carbonization furnace One (1) thermal oxidation fume incinerator rated at 2 MMBtu/hr

II.A.7	**Building 2436** **Carbon Fiber Production Line 5** Four (4) natural gas-fueled, oxidation ovens with two (2) - 2.5 MMBtu/hr burners per each oven One (1) electrically-heated, low-temperature, carbonization furnace One (1) electrically-heated, high-temperature, carbonization furnace One (1) thermal-oxidation fume incinerator rated at 2 MMBtu/hr
II.A.8	**Building 2478** Pre-impregnation coating, resin preparation and handling Three (3) diesel-fueled, emergency generators rated at 30 kW, 125 kW, and 300 kW One (1) muffle furnace Two (2) roof-top furnaces, each rated at 177,000 Btu/hr Solvent vapor hood Laboratory fume hood and test oven Retox RTO system with two (2) low NO_x burners with maximum rating at 2.4 MMBtu/hr for main burner and 4.0 MMBtu/hr for auxiliary burner
II.A.9	**Building 2478 (Continued)** One (1) RTO system for Tower 3 with a maximum combined rating at 15.9 MMBtu/hr consisting of: Low NO_x main burner with maximum rating at 4.6 MMBtu/hr with maximum NO_x rating at 30 ppm Duct trim burner with maximum rating at 5.0 MMBtu/hr with maximum NO_x rating at 30 ppm Supplemental Fuel Injection system with maximum fuel input rating at 6.3 MMBtu/hr
II.A.10	**Building 2478 (Continued)** Two (2) 8551-7 resin mixing systems Solvated-resin mixing system consisting of: Nine (9) five-gallon mixing vessels One (1) 25-gallon mixing vessel One (1) 50-gallon mixing vessel Two (2) 100-gallon mixing vessels One (1) 250-gallon mixing vessel Five (5) pole-mounted, blade/propeller type mixers One (1) 50-gallon reactor vessel One (1) 1,100-gallon reactor vessel
II.A.11	**Building 2478 (Continued)** Mixing vessel and portable container vapor collection system consisting of: Sealing lids with vacuum pressure, and venturi-type vapor capture attachments Four (4) solvent coaters with associated drying towers, each consisting of 1. Creel area 2. Solvated resin dip tank and metering room 3. Vertical drying oven 4. Spooling operations One (1) solvent-jet container cleaning system

II.A.12	**Building 2478 (Continued)** Five (5) resin warming ovens One (1) calcining oven Three (3) Blue M electrically-heated drying ovens One (1) 6,000-gallon storage tank Five (5) 300-gallon solvated mix storage tanks Six (6) 3,500-gallon storage tanks with dispensing system Miscellaneous portable stainless-steel containers of various capacity (50 to 600 gallons)
II.A.13	**Building 2478 (Continued)** One (1) diesel-fired emergency generator rated at 85 bhp (NEW) RTO system with LNB, rated at 4.6 MMBtu/hr with a 98% destruction efficiency (NEW) RTO system with low-NO_x burners for Tower 4 with a combined rating at 19.0 MMBtu/hr consisting of: Low NO_x main burner with a rating of 4.0 MMBtu/hr with maximum NO_x rating at 30 ppm Duct trim burner with a rating of 11.0 MMBtu/hr with maximum NO_x rating at 30 ppm Supplemental Fuel Injection system with a fuel input rating of 4.0 MMBtu/hr
II.A.14	**Building 2479** Operations are carbon fiber production with surface treatment, fiber sizing, and spooling One (1) diesel-fueled, emergency generator rated at 275 kW One (1) diesel-fueled, emergency generator rated at 400 kW One (1) 5,000-gallon storage tank One (1) 5,000-gallon sizing storage tank One (1) 300-gallon sizing mixing tank
II.A.15	**Building 2479** **Carbon Fiber Production Line 6** Four (4) low-temperature, natural gas-fueled, oxidation ovens with two (2) - 2.5 MMBtu/hr burners per oven One (1) electrically-heated, low temperature, nitrogen-purged carbonization furnace with two (2) attached natural gas-fueled exhaust ports
II.A.16	**Building 2479** **Line 6 (Continued)** One (1) electrically-heated, high temperature, nitrogen purged carbonization furnace with one burner box at the furnace entrance Two (2) water-based wash baths: 1. One (1) ammonium bicarbonate treatment bath 2. One (1) water wash bath One (1) sizing application bath One (1) fume incinerator rated at 750,000 Btu/hr
II.A.17	**Building 2479** **Carbon Fiber Production Line 7** Four (4) low-temperature, natural gas-fueled, oxidation ovens with two (2) - 2.5 MMBtu/hr burners per oven One (1) electrically-heated, low temperature, nitrogen-purged carbonization furnace with two (2) attached natural gas-fueled exhaust ports

II.A.18	**Building 2479** **Line 7 (Continued)** One (1) electrically-heated, high temperature, nitrogen-purged carbonization furnace with one burner box at the furnace entrance One (1) ammonium bicarbonate water-based treatment bath One (1) water-based wash bath One (1) sizing application bath One (1) fume incinerator rated at 300,000 Btu/hr
II.A.19	**Building 2480** **Carbon Fiber Production Line 8** Operations are carbon fiber production with surface treatment, fiber sizing, and spooling Four (4) low-temperature, natural gas-fueled, oxidation ovens with two (2) - one MMBtu/hr burners per oven One (1) electrically-heated, low-temperature, nitrogen-purged carbonization furnace with two (2) natural-gas fueled exhaust ports
II.A.20	**Building 2480** **Line 8 (Continued)** One (1) electrically-heated, high-temperature, nitrogen-purged carbonization furnace with one (1) burner box at each furnace entrance Two (2) diesel-fueled, standby emergency generators rated at 500 kW - each One (1) ammonium bicarbonate water-based treatment bath One (1) water-based wash bath One (1) sizing application bath One (1) fume incinerator rated at 3 MMBtu/hr
II.A.21	**Building 2481** **Fiberline 10** Operations are carbon fiber production with surface treatment, fiber sizing, and spooling Four (4) low-temperature, natural gas-fueled, oxidation ovens with two (2) - one MMBtu/hr burners per oven One (1) electrically-heated, low-temperature, nitrogen-purged carbonization furnace with two (2) natural gas-fueled exhaust ports
II.A.22	**Building 2481** **Fiberline 10 (Continued)** One (1) electrically-heated, high-temperature, nitrogen-purged carbonization furnace with one (1) burner box at each furnace entrance One (1) ammonium bicarbonate water-based treatment bath One (1) water-based wash bath One (1) sizing application bath Two (2) diesel-fueled, emergency generators rated at 500 kW - each One (1) fume incinerator rated at 3 MMBtu/hr
II.A.23	**Building 2482** **Carbon Fiber Production Line 11** Operations are carbon fiber production with surface treatment, fiber sizing, and spooling Four (4) low-temperature, natural gas-fueled, oxidation ovens with two (2) - one MMBtu/hr burners per oven One (1) electrically-heated, low-temperature, nitrogen-purged carbonization furnace with two (2) natural gas-fueled exhaust ports

II.A.24	**Building 2482** **Line 11 (Continued)** One (1) electrically-heated, high-temperature, nitrogen-purged carbonization furnace with one (1) burner box at each furnace entrance One (1) ammonium bicarbonate water-based treatment bath One (1) water-based wash bath One (1) sizing application bath Two (2) diesel-fueled, emergency generators rated at 500 kW - each One (1) fume incinerator rated at 3 MMBtu/hr
II.A.25	**Building 2483** **Carbon Fiber Production Line 12** Operations are carbon fiber production with surface treatment, fiber sizing, and spooling Four (4) low-temperature, natural gas-fueled, oxidation ovens with two (2) - one MMBtu/hr burners per oven One (1) electrically-heated, low-temperature, nitrogen-purged carbonization furnace with two (2) natural gas-fueled exhaust ports
II.A.26	**Building 2483** **Line 12 (Continued)** One (1) electrically-heated, high-temperature, nitrogen-purged carbonization furnace with one (1) burner box at each furnace entrance One (1) ammonium bicarbonate water-based treatment bath One (1) water-based wash bath One (1) sizing application bath Two (2) diesel-fueled, emergency generators rated at 500 kW - each One (1) fume incinerator rated at 3 MMBtu/hr
II.A.27	**Building 2484** **Carbon Fiber Production Line 13** Operations are carbon fiber production with surface treatment, fiber sizing, and spooling Four (4) low temperature, hybrid powered oxidation ovens (electric/natural gas heated) with two (2) heated zones per oven. Each zone is rated at 1.35 MMBtu/hr for natural gas combustion with Low NO_x burners. One (1) electrically-heated, low temperature, nitrogen purged carbonization furnace One (1) electrically-heated, high temperature, nitrogen purged carbonization furnace
II.A.28	**Building 2484** **Line 13 (Continued)** One (1) low NO_x Burner Direct Fired Thermal Oxidizer (DFTO) rated at 4.5 MMBtu/hr maximum firing rate Two (2) low NO_x burner dual chamber RTOs, each rated at 3.55 MMBtu/hr maximum firing rate One (1) particulate baghouse - design maximum: 31,000 scfm One (1) ammonium bicarbonate bath and several fresh water wash/rinse baths One (1) ammonium bicarbonate mix room with bag handler, mixer and water together with ammonium bicarbonate blend tanks
II.A.29	**Building 2484** **Line 13 (Continued)** One (1) sizing area consisting of aqueous based sizing baths and several steam-heated drums and/or electrically heated dryers for aqueous based sizing drying Metal screen filters installed on the stack ductwork leading to the RTO Two (2) diesel-fueled, emergency generators rated at 500 kW each

II.A.30	**Building 2485** **Carbon Fiber Production Line 14** Operations are carbon fiber production with surface treatment, fiber sizing, and spooling Four (4) low temperature, hybrid powered oxidation ovens (electric/natural gas heated) with two (2) heated zones per oven. Each zone is rated at 1.35 MMBtu/hr for natural gas combustion with Low NO_x burners. One (1) electrically-heated, low temperature, nitrogen purged carbonization furnace One (1) electrically-heated, high temperature, nitrogen purged carbonization furnace
II.A.31	**Building 2485** **Line 14 (Continued)** One (1) low NO_x burner DFTO rated at 4.5 MMBtu/hr maximum firing rate Two (2) low NO_x burner dual chamber RTOs, each rated at 3.55 MMBtu/hr maximum firing rate One (1) particulate baghouse - design maximum: 31,000 scfm One (1) ammonium bicarbonate bath and several fresh water wash/rinse baths One (1) ammonium bicarbonate mix room with bag handler, mixer and water together with ammonium bicarbonate blend tanks
II.A.32	**Building 2485** **Line 14 (Continued)** One (1) sizing area consisting of aqueous based sizing baths and several steam-heated drums and/or electrically heated dryers for aqueous based sizing drying Metal screen filters installed on the stack ductwork leading to the RTO Two (2) diesel-fueled, emergency generators rated at 500 kW each
II.A.33	**Building 2486** Matrix Operations Material Storage Building Matrix operations materials storage
II.A.34	**Building 2488** Flammable Materials Storage Building Flammable materials storage
II.A.35	**Building 2489** **Carbon Fiber Production Line 15** Operations are carbon fiber production with surface treatment, fiber sizing, and spooling Four (4) low temperature, hybrid powered oxidation ovens (electric/natural gas heated) with two (2) heated zones per oven. Each zone is rated at 1.35 MMBtu/hr for natural gas combustion with low NO_x burners. One (1) electrically-heated, low temperature, nitrogen purged carbonization furnace One (1) electrically-heated, high temperature, nitrogen purged carbonization furnace
II.A.36	**Building 2489** **Line 15 (Continued)** One (1) low NO_x Burner DFTO rated at 4.5 MMBtu/hr maximum firing rate with one (1) particulate baghouse that has a maximum design air flow of 32,000 scfm Two (2) low NO_x burner dual chamber RTOs, each rated at 3.55 MMBtu/hr maximum firing rate with one (1) particulate filter box that has a maximum design air flow of 15,000 scfm One (1) ammonium bicarbonate bath and several fresh water wash/rinse baths

II.A.37	**Building 2489** **Line 15 (Continued)** One (1) ammonium bicarbonate mix room with bag handler, mixer and water together with ammonium bicarbonate blend tanks One (1) sizing area consisting of aqueous based sizing baths and several steam-heated drums and/or electrically heated dryers for aqueous based sizing drying Metal screen filters installed on the stack ductwork leading to the RTO One (1) diesel-fueled, emergency generator rated at 2,346 bhp
II.A.38	**Building 2490** **Carbon Fiber Production Line 16** Operations are carbon fiber production with surface treatment, fiber sizing, and spooling Four (4) low temperature, hybrid powered oxidation ovens (electric/natural gas heated) with two (2) heated zones per oven. Each zone is rated at 1.35 MMBtu/hr for natural gas combustion with low NO_x burners. One (1) electrically-heated, low temperature, nitrogen purged carbonization furnace One (1) electrically-heated, high temperature, nitrogen purged carbonization furnace
II.A.39	**Building 2490** **Line 16 (Continued)** One (1) low NO_x Burner DFTO rated at 4.5 MMBtu/hr maximum firing rate with one (1) particulate baghouse that has a maximum design air flow of 32,000 scfm Two (2) low NO_x burner dual chamber RTOs, each rated at 3.55 MMBtu/hr maximum firing rate with one (1) particulate filter box that has a maximum design air flow of 15,000 scfm One (1) ammonium bicarbonate bath and several fresh water wash/rinse baths
II.A.40	**Building 2490** **Line 16 (Continued)** One (1) ammonium bicarbonate mix room with bag handler, mixer and water together with ammonium bicarbonate blend tanks One (1) sizing area consisting of aqueous based sizing baths and several steam-heated drums and/or electrically heated dryers for aqueous based sizing drying Metal screen filters installed on the stack ductwork leading to the RTO One (1) diesel-fueled, emergency generator rated at 2,346 bhp
II.A.41	**Building 8132** Laboratory Fume hoods One (1) diesel-fueled, emergency generator rated at 150 kW
II.A.42	**Building 8162** Research and Development (R&D) facility for new processes Fume incinerator system rated at 750,000 Btu/hr with at 3:1 turndown ratio capability Manufacturing Equipment A pilot scale fiber line with various ovens, furnaces, and other processes as necessary for research and development purposes, and production of specialty materials
II.A.43	**Building 2491** Two natural gas-fired boilers that each has a maximum firing rate of 25 MMBtu/hr with a maximum NO_x emission rate of 9 ppmv.

II.A.44	**R&T Facility (NEW)** Electric Ovens Fume Hoods Mixers Dip Tanks Solvent Cleaning Operations Diesel-fired Emergency Generator Capacity: 135 bhp Diesel Belly Tank Capacity: 228 gallons

SECTION II: SPECIAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO.

II.B REQUIREMENTS AND LIMITATIONS

II.B.1	**Source Wide**
II.B.1.a	Visible emissions from all emission points shall not exceed a 10% opacity limit. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-401-8]
II.B.1.b	The following limits shall not be exceeded: 1. 1,892,270 decatherms of natural gas consumed per rolling 12-month period. 2. 16,760,000 pounds of carbon fibers produced from the fiber lines per rolling 12-month period. 3. The total use rate for maintenance and testing per emergency generator engine shall not exceed 65 hours per rolling 12-month period. 4. The total use rate for maintenance and testing per the R&T emergency generator engine shall not exceed 100 hours per rolling 12-month period. [R307-401-8]
II.B.1.b.1	Compliance with each limitation shall be determined on a rolling 12-month total. No later than 20 days after the end of each month, a new 12-month total shall be calculated using data from the previous 12 months. Records of consumption, production, and generator engine hours shall be kept on a monthly basis, for all periods when the plant is in operation. Records of consumption, production and generator engine hours including rolling 12-month totals shall be made available to the Director or Director's representative upon request. Natural gas consumption shall be determined by examination of the natural gas billing records for the plant. Carbon fiber production shall be determined by examination of plant production records. Emergency generator engine hours of operation shall be determined by examination of maintenance records, which shall be kept on site. [R307-401-8]
II.B.1.c	Diesel-fueled power generator engines shall be used for electricity producing operation only during the periods when electric power from the public utilities is interrupted, for regular maintenance of the generators, or during periodic maintenance of the company owned electrical substation. [R307-401-8]

II.B.1.d	The residence time within the various furnaces or fume incinerators shall be demonstrated using the following equation: R = Vol/Q Where, R = residence time in seconds Vol = inside volume of the incinerator - ft^3 Q = maximum exhaust gas flow rate - ft^3/second. [R307-401-8]
II.B.1.e	Fume incinerator temperatures shall be monitored with temperature sensing equipment that is capable of continuous measurement and readout of the combustion temperature. The readout shall be located such that an inspector/operator can at any time safely read the output. The measurement shall be accurate within ± 25ºF at operating temperature. The measurement need not be continuously recorded. All instruments shall be calibrated against a primary standard at least once every 180 days. The calibration procedure shall be in accordance with 40 CFR 60, Appendix A, Method 2, paragraph 6.3, and 10.31, or use a type "K" thermocouple. [40 CFR 60]
II.B.1.f	Unless otherwise indicated, all carbon fiber production thermal-oxidation fume incinerators shall be operated at the following parameters: A. At a minimum temperature of 1,400 ºF B. At a minimum residence time of 0.5 seconds. [R307-401-8]
II.B.1.g	Unless otherwise indicated, all solvent-coating fume incinerators shall be operated at the following parameters: A. At a minimum temperature of 1,450 ºF B. At a minimum residence time of 0.5 seconds. [R307-401-8]
II.B.1.h	All high-temperature carbon fiber furnaces shall utilize a dedicated burner box at each furnace entrance. Each burner box shall be equipped with pilot lights to ensure that combustion occurs. [R307-401-8]
II.B.1.i	Except for Carbon Fiber Lines 13, 14, 15, and 16, emissions from all low-temperature carbonization furnaces shall be routed to and combusted within a dedicated fume incinerator in each case before being discharged to the atmosphere. [R307-401-8]
II.B.1.j	Emissions from all solvent coating towers shall be routed to, and combusted within a thermal-oxidization fume incinerator in each case before being discharged to the atmosphere. [R307-401-8]
II.B.1.k	HAP emissions from all solvated-resin mixing vessels vapor collection systems, and portable container cleaning vapor collection systems shall be routed to, and combusted within a thermal-oxidization fume incinerator, dual chambered RTO, or flare device in each case before being discharged to the atmosphere. [R307-401-8]

II.B.1.l	All effluent stack/vents for process emissions from carbon fiber production shall have wire mesh filters to control broken carbon filaments, except those stacks vented to the fume incinerators, high-temperature furnace outlet stacks, end chamber stacks on the oxidation ovens and surface treatment stacks. [R307-401-8]
II.B.1.m	Hexcel shall comply with all applicable requirements of UAC R307-309 for PM_{10} nonattainment areas (Salt Lake County) for Fugitive Emission and Fugitive Dust sources. To be in compliance, Hexcel must operate in accordance with the most current version of R307-309. [R307-309]
II.B.1.n	The in-plant access roads and parking lots shall be paved, except for power supply right-of way access roads, and shall be periodically swept or sprayed clean as dry conditions warrant or as determined necessary by the Director. Records of cleaning paved roads shall be made available to the Director or the Director's representative upon request. [R307-401-8]
II.B.1.o	The owner/operator shall use only natural gas as primary fuel for all fuel burning HVAC units, burner boxes, solvent coating - drying towers, miscellaneous ovens, and boilers. Process off-gas may be used to supplement the operation of any of these devices in which such fuel would be compatible. This condition does not apply to steam, or electrically powered units. [R307-401-8]
II.B.1.p	The owner/operator shall use vapor recovery system off-gas as primary fuel, and natural gas as supplemental fuel for all thermal oxidation fume incinerators attached to the solvent coating - drying towers. [R307-401-8]
II.B.1.q	The owner/operator shall only use diesel fuel (fuel oil #1, #2 or diesel fuel oil additives) in the equipment on site. All diesel burned shall meet the definition of ultra-low sulfur diesel (ULSD), and contain no more than 15 ppm sulfur. [R307-401-8]
II.B.1.q.1	To demonstrate compliance with the diesel fuel requirements for any diesel fuel purchased, the owner/operator shall keep and maintain fuel purchase invoices. The fuel purchase invoices shall indicate that the diesel fuel meets the ULSD requirements, or the owner/operator shall obtain certification of sulfur content from the fuel supplier. [R307-401-8]
II.B.1.r	The owner/operator shall comply with all applicable requirements of UAC R307-325, and R307-335 for VOC sources located in Davis and Salt Lake Counties, and ozone and $PM_{2.5}$ nonattainment areas, or any of the applicable requirements of 40 CFR 63.8055 whichever is most stringent. To be in compliance, this facility must operate in accordance with the most current version of UAC R307-325 and R307-335 or the applicable section(s), if renumbered. [40 CFR 63, R307-325, R307-335]
II.B.1.s	The following limits shall not be exceeded: 171.34 tons per rolling 12-month period for VOCs (not including combustion VOCs) 102.42 tons per rolling 12-month period for Hydrogen Cyanide 486.12 tons per rolling 12-month period for Methylene Chloride 14.5 tons per rolling 12-month period for the combined Xylene, Toluene, and Dimethylformamide [R307-401-8]
II.B.1.s.1	Compliance with each limitation shall be determined on a rolling 12-month total. No later than 20 days after the end of each month, a new 12-month total shall be calculated using data from the previous 12 months. [R307-401-8]

II.B.1.s.2	The VOC or HAP emissions shall be determined by maintaining a record of VOC or HAP emitting processes used each month. The record shall include the following data for each material used: A. Name of the VOC, or HAPs emitting material, such as: paint, adhesive, solvent, thinner, reducers, chemical compounds, toxics, isocyanates, etc. B. Density of each material used (pounds per gallon) C. Percent by weight of all VOC, or HAP in each material used D. Gallons of each VOC, or HAP emitting material used E. The amount of VOC, or HAP emitted monthly by each material used shall be calculated by the following procedure: VOC = % VOC by Weight / 100 x [Density (lb / gal)] x Gal Consumed x 1 ton / 2000 pounds HAP = % HAP by Weight / 100 x [Density (lb / gal)] x Gal Consumed x 1 ton / 2000 pounds F. The amount of VOC, or HAP emitted monthly from all materials used. G. The amount of VOCs, or HAPs reclaimed for the month shall be similarly quantified and subtracted from the quantities calculated above to provide the monthly total VOC, or HAP emissions. [R307-401-8]
II.B.2	**Building 2478 (Solvent Coating and Resin Preparation and Handling)**
II.B.2.a	The approved installations/processes for the resin preparation and handling shall consist of the following: Cleaning of the resin mixers shall be done using Butyrolactone (BLO), or M-Pyrol (NMP) aqueous based solvent, Dimethylformamide (DMF), Methyl Ethyl Ketone, or Acetone. Waste contaminated wiping materials shall be placed in a covered container and disposed in a manner that prevents volatilized solvent from being emitted into the atmosphere. Portable containers shall be cleaned using the solvent-jet cleaning device, or by hand. The solvent-jet cleaning device will be attached to the vapor collection system when using a HAP solvent for cleaning. [R307-401-8]
II.B.2.b	Water-based epoxy resin coating may be used on fiber lines in addition to the solvent-based coating used on tower solvent coating (listed for informational purposes only). [R307-401-8]

II.B.2.c	The combined burner natural gas input of the Tower 3 RTO system shall be limited to 10.0 MMBtu/hr or less. Natural gas consumption shall be monitored with metering equipment that is capable of continuous measurement and readout of the natural gas consumption of the RTO system. The readouts shall be located such that an inspector/operator can at any time safely read the output. The measurements shall be accurate within +/- 5 % of full scale (0 to 10% scale) at operating conditions. The measurements shall be recorded every hour. All instruments shall be calibrated as per manufacturer's standard at least once every 24 months. If the metering equipment is inaccurate by more than +/- 5 % of full scale (0 to 10% scale) at the time of the calibration, then the calibration of the metering equipment shall be performed every year. Compliance with the natural gas limitation shall be determined on a calendar day averaging period. A calendar day is from midnight to midnight. Natural gas consumption shall be determined by examination of the natural gas meter records for Tower 3. Records of consumption shall be kept on a monthly basis, for all periods when the incinerator is in operation. [R307-401-8]
II.B.2.d	The 4.6 MMBtu/hr Regenerative Thermal Oxidizer shall be operated at the following parameters: A. Maintain a minimum temperature of 1,450 °F B. Maintain a minimum residence time of 0.5 seconds [R307-401-8]
II.B.2.d.1	RTO temperature shall be monitored with temperature sensing equipment that is capable of continuous measurement and readout of the combustion temperature. The readout shall be located such that an inspector/operator can at any time safely read the output. The measurement shall be accurate within ± 25°F at operating temperature. The measurement need not be continuously recorded. All instruments shall be calibrated against a primary standard at least once every 180 days. The calibration procedure shall be in accordance with 40 CFR 60, Appendix A, Method 2, paragraph 6.3, and 10.31, or use a type "K" thermocouple. [R307-401-8]
II.B.3	**Building 2479 (Carbon Fiber Lines 6 & 7)**
II.B.3.a	The following operating parameters for the incinerator shall be maintained within the indicated ranges: 1. The incinerator shall be operated with a minimum residence time of 1.0 second at the maximum temperature and flow rate. 2. Temperature - 1,400 degrees F minimum to 1,700 degrees F maximum 3. Percent excess O_2 - 6% minimum on Fiberline 7. [R307-401-8]
II.B.3.b	Each tank, except the sizing-mixing tank, shall have submerged fill to prevent volatilization during filling of the tank. Each of these tanks shall contain sizing, or pre-discharge water (prior to filling with the intended material). [R307-401-8]

II.B.3.c	The finishing area shall have a steam heated drum for aqueous based sizing drying and the water-based wash baths: 1. Ammonium bicarbonate wash bath 2. Water wash baths 3. Sizing application bath. [R307-401-8]
II.B.3.d	The Fiber Line 7 fume incinerator exhaust stack shall be monitored with oxygen content sensing equipment that is capable of continuous measurement and readout of the oxygen content within the stack. The readout shall be located such that an inspector/operator can at any time safely read the output. The measurement shall be accurate within +/- 5% of full scale (0 to 10% scale) at operating conditions. The measurement need not be continuously recorded. All instruments shall be calibrated as per manufacturer's standard at least once every 180 days. [R307-401-8]
II.B.3.e	The sizing process on lines 6 and 7 shall use only aqueous base sizing solution. [R307-401-8]
II.B.4	**Building 2480 (Carbon Fiber Line 8) & Building 2481 (Carbon Fiber Line 10)**
II.B.4.a	These fume incinerators exhaust stacks shall be monitored with oxygen content sensing equipment that is capable of continuous measurement and readout of the oxygen content within the stack. The readouts shall be located such that an inspector/operator can at any time safely read the output. The measurements shall be accurate within +/- 5% of full scale (0 to 10% scale) at operating conditions. The measurements need not be continuously recorded. All instruments shall be calibrated as per manufacturer's standard at least once every 180 days. [R307-401-8]
II.B.4.b	These fume incinerators exhaust stacks shall be monitored with oxygen content sensing equipment that is capable of continuous measurement and readout of the oxygen content within the stack. The readouts shall be located such that an inspector/operator can at any time safely read the output. The measurements shall be accurate within ± 5% of full scale (0 to 10% scale) at operating conditions. The measurements need not be continuously recorded. All instruments shall be calibrated as per manufacturer's standard at least once every 180 days. [R307-401-8]
II.B.4.c	The following operating parameters for the incinerators shall be maintained within the indicated ranges: 1. The incinerators shall be operated with a minimum residence time of 1.0 second at the maximum temperature and flow rate. 2. Temperature - 1,400ºF minimum to 1,700ºF maximum 3. Percent excess O_2 - 6% minimum. [R307-401-8]
II.B.5	**Building 2482 (Carbon Fiber Line 11) & 2483 (Carbon Fiber Line 12)**
II.B.5.a	These fume incinerators exhaust stacks shall be monitored with oxygen content sensing equipment that is capable of continuous measurement and readout of the oxygen content within the stack. The readouts shall be located such that an inspector/operator can at any time safely read the output. The measurements shall be accurate within +/- 5% of full scale (0 to 10% scale) at operating conditions. The measurements need not be continuously recorded. All instruments shall be calibrated as per manufacturer's standard at least once every 180 days. [R307-401-8]

II.B.5.b	The following operating parameters for the incinerators shall be maintained within the indicated ranges: 1. The incinerators shall be operated with a minimum residence time of 1.0 second at the maximum temperature and flow rate. 2. Temperature - 1,400 degrees F minimum to 1,700 degrees F maximum 3. Percent excess O_2 - 6% minimum. [R307-401-8]
II.B.6	**Building 2484 (Carbon Fiber Line 13) and Building 2485 (Carbon Fiber Line 14)**
II.B.6.a	The RTO exhaust stacks shall be monitored with oxygen content sensing equipment that is capable of continuous measurement and readout of the oxygen content within the stack. The readouts shall be located such that an inspector/operator can at any time safely read the output. The measurements shall be accurate within plus or minus 5% of full scale (0 to 10% scale) at operating conditions. The measurements need not be continuously recorded. All instruments shall be calibrated as per manufacturer's standard at least once every 180 days. Hexcel shall not operate more than one RTO in Building 2484 or Building 2485 at full capacity (3.5 MMBTU/hr, each) except for during the transition period from one RTO to the second RTO. Operation of both RTOs during the transition period, in the same building at full capacity, shall not exceed 100 hours per rolling 12-month period. Hexcel may operate both RTOs that are located in the same building in stand-by mode. Standby mode shall not exceed 1.5 MMBTU/hr, each. [R307-401-8]
II.B.6.b	The baghouse pressure drop monitoring devices will be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and will be accurate to within one of the following: 1. +/- 0.5 inches water gauge pressure (+/- 125 pascals); or 2. +/- 0.5% of span. [R307-401-8]
II.B.7	**Building 2489 (Carbon Fiber Line 15) and Building 2490 (Carbon Fiber Line 16)**
II.B.7.a	The RTO exhaust stacks shall be monitored with oxygen content sensing equipment that is capable of continuous measurement and readout of the oxygen content within the stack. The readouts shall be located such that an inspector/operator can at any time safely read the output. The measurements shall be accurate within plus or minus 5% of full scale (0 to 10% scale) at operating conditions. The measurements need not be continuously recorded. All instruments shall be calibrated as per manufacturer's standard at least once every 180 days. Hexcel shall not operate more than one RTO in Building 2489 or Building 2490 at full capacity (3.5 MMBTU/hr, each) except for during the transition period from one RTO to the second RTO. Operation of both RTOs during the transition period, in the same building at full capacity, shall not exceed 100 hours per rolling 12-month period. Hexcel may operate both RTOs that are located in the same building in stand-by mode. Standby mode shall not exceed 1.5 MMBTU/hr, each. [R307-401-8]

II.B.7.b	The baghouse pressure drop monitoring devices will be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and will be accurate to within one of the following: 1. +/- 0.5 inches water gauge pressure (+/- 125 pascals); or 2. +/- 0.5% of span. [R307-401-8]
II.B.8	**Building 8162 (Research & Development Facility)**
II.B.8.a	This fume incinerator exhaust stacks shall be monitored with oxygen content sensing equipment that is capable of continuous measurement and readout of the oxygen content within the stack. The readouts shall be located such that an inspector/operator can at any time safely read the output. The measurements shall be accurate within +/- 5% of full scale (0 to 10% scale) at operating conditions. The measurements need not be continuously recorded. All instruments shall be calibrated as per manufacturer's standard at least once every 180 days. [R307-401-8]
II.B.8.b	The following operating parameters for the incinerators shall be maintained within the indicated ranges: 1. The incinerators shall be operated with a minimum residence time of 1.0 second at the maximum temperature and flow rate. 2. Temperature - 1,400 degrees F minimum to 1,700 degrees F maximum 3. Percent excess O_2 - 6% minimum. [R307-401-8]
II.B.8.c	The R&D facility shall be used only for new fiber products development, new manufacturing processes development, and specialty materials production. [R307-401-8]
II.B.8.d	Any surface treatment or sizing performed on the fibers produced in the R&D facility shall be water based, except for the use of no more than 200 lb of VOC solvents per year. [R307-401-8]

PERMIT HISTORY

This Approval Order shall supersede (if a modification) or will be based on the following documents:

Supersedes	AO DAQE-AN113860032-19 dated May 13, 2022
Is Derived From	Notice of Intent dated December 6, 2021
Incorporates	Additional Information dated May 20, 2022

ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by Environmental Protection Agency to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CO	Carbon monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent - Title 40 of the Code of Federal Regulations Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal Division of Air Quality use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - Title 40 of the Code of Federal Regulations 52.21 (b)(49)(i)
GWP	Global Warming Potential - Title 40 of the Code of Federal Regulations Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/YR	Pounds per year
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO_x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM_{10}	Particulate matter less than 10 microns in size
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO_2	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds