STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

IN THE MATTER OF APPROVING A NEW) Preliminary Determination
CONTAMINANT SOURCE FOR)
ZODIAC CORPORATION)
NEWPORT FACILITY)

To: Mr. Mark Harper
Zodiac Aerospace Cabin & Structures Support LLC
501 N. Newport Ave.
Newport, WA 99156

EQUIPMENT/COMBINED EMISSIONS

The list of equipment units and combined emissions for the facility are provided in Table 1.

TABLE 1. FACILITY EMISSIONS - TONS PER YEAR (TPY)

Pollutant	Total Thermal Oxidizer Exhaust[1] (tpy)	Winder (tpy)	Mixing (Totes & Vats & Barrels)[2] (tpy)	Powder Weighing & Adding[3] (tpy)	Panel Press (tpy)	Solvent Cleaning (tpy)	Sawing & Cleaning Booth & Measure & Thermwood[4] (tpy)	Total Emissions (tpy)
PM10	0.117	0	0	0.062	0	0	1.102	1.281
PM2.5	0.117	0	0	0	0	0	0	0.117
SO2	0.251	0	0	0	0	0	0	0.251
NOx	2.178	0	0	0	0	0	0	2.178
NO2 as a TAP[5]	2.178	0	0	0	0	0	0	2.178
VOC	6.555	22.000	15.661	0	5.338	10.950	0	60.502
CO	1.257	0	0	0	0	0	0	1.257
Formaldehyde	0.068	0	0	0	0.040	0	0	0.108
Methanol	0.815	5.344	2.856	0	0	0.548	0	9.562
MIBK	0.286	0.725	0.600	0	0	0.329	0	1.939
Phenol	2.712	0	0	0	0.040	0	0	2.752
Toluene	0	0	0.008	0	0	0	0	0.008
Triethylamine	0	0	0.012	0	0	0	0	0.012
Isopropanol	0.543	2.612	1.691	0	0	0	0	4.846

1. Combined emissions from RTO exhaust (Treater and combustion of propane).
2. Combined emissions mixing sources (totes, vats & barrels).
3. Combined emissions from powder sources (weighing & adding).
4. Combined emissions from core sawing, cleaning booth, measuring table & Thermwood trimming.
5. Conservatively assumes 100% of NOx to be NO2. Total facility NO2 (0.497 lb/hr) is below the WAC 173-460-150 TAP SQER (1.03 lb/hr).

DETERMINATIONS

THEREFORE, IT IS ORDERED that the project as described in the Notice of Construction application and more specifically detailed in plans, specifications, and other information submitted to Ecology is approved for construction and operation, provided the following are met:

APPROVAL CONDITIONS

1. ADMINISTRATIVE CONDITION

1.1. Upon issuance of this approval, all previous orders regulating this facility, including Approval Order No. 11AQ-E392, are rescinded and replaced entirely with this Approval Order.

2. EQUIPMENT RESTRICTIONS

2.1. The fan(s) exhausting the treater shall have a minimum combined capacity of 2,000 standard cubic feet per minute (scfm).
2.2. The fan(s) exhausting the press shall have a minimum combined capacity of 10,000 acfm.
2.3. The fan(s) exhausting the warming oven shall have a minimum combined capacity of 200 acfm.
2.4. Zodiac shall submit evaluations of proposed new equipment and/or for raw materials not equivalent in composition (new/substituted materials exceeding current worst case VOC/HAP/TAP composition for that classification of raw material) to Ecology for review. Written approval of the proposal by Ecology shall be received prior to commencing production. The proposal should contain documentation of how the new equipment and/or products will comply with the conditions of this permit.

3. OPERATIONAL LIMITATIONS

3.1. The treater shall not be operated without the thermal oxidizer operating at or above 1400 Degrees Fahrenheit and associated collection system (fan(s), etc…) also operating as designed.
3.2. The treater shall operate at negative pressure with respect to the inside of the facility.
3.3. The total TAP/VOC loading to the thermal oxidizer from the treater shall not exceed 150 lb/hr.
3.4. Neither the press nor the warming oven shall be operated without the associated ventilation system being operated as designed.
3.5. Emissions from Thermwood Trimming routing operations shall be collected and controlled by the Torit dust collector.
3.6. Total annual Tarsol A1-200 or industry equivalent alcohol blend usage in the winder process shall not exceed 42,150 lbs. An alternate solvent can be used as long as the VOC/HAP/TAP composition of the alternate solvent contains a lower amount of all VOCs/HAPs/TAPs.
3.7. Only acetone and Tarsol A1-200 (or an alternate solvent containing a lower amount of VOCs/HAPs/TAPs) shall be used as solvents in the winder process.
3.8. Resin formulations and production of the number of plies in the press shall not exceed the following limits on a calendar year basis:
  3.8.1. Combined production of resins 1102, 1114, 1502, and 1510 shall be limited to 1,000,000 pounds per year.
  3.8.2. Prepreg plies made from resins 1113, 1102, 1114, 1502, and 1510 shall be limited to 525,000 plies per year.
  3.8.3. Prepreg plies made from resins 1180 and 1112 shall be limited to 350,000 plies per year.
  3.8.4. Prepreg plies made from resins 6070 and all other prepreg plies purchased from other vendors that contain formaldehyde shall be limited to 22,000 plies per year.
  3.8.5. Prepreg plies shall not exceed 64 inches width and 124 inches length.

4. TESTING REQUIREMENTS

4.1. Zodiac shall perform stack testing for formaldehyde during normal operating conditions according to the following Conditions:

4.1.1. Testing shall be performed within 5 years of the date of issuance of this permit except as provided in Condition 4.5.

4.1.2. Testing shall be performed at all stacks associated with formaldehyde emissions (thermal oxidizer and panel press) and shall be used to show compliance with the facility-wide formaldehyde emission limit in Condition 5.4.

4.2. Zodiac shall conduct stack testing for NOx and NMOC from the thermal oxidizer during normal operations according to the following Conditions:

4.2.1. Testing shall be performed within 5 years of the date of issuance of this permit except as provided in Condition 4.5.

4.2.2. Testing shall be used to show compliance with the emission limits in Condition 5.1.

4.3. Zodiac shall conduct stack testing for methanol, total HAPS, and total VOCs from the winder operations during normal operations according to the following Conditions:

4.3.1. Testing shall be performed within 5 years of the date of issuance of this permit except as provided in Condition 4.5.

4.3.2. Testing shall be used to show compliance with the emission limits in Condition 5.5.

4.4. Periodic emission testing shall be repeated every 5 years.

4.5. Additional Testing - Zodiac shall comply with all requirements in 40 CFR 60.8 except subsection (g), except that 40 CFR 60.8(g) [audit tests] or any other testing, may be required by Ecology at their discretion.

4.6. General Testing Requirements – The following requirements apply to all testing.

4.6.1. Testing shall be conducted for all pollutants of concern as determined by Ecology. Test results shall be compared with the limits established in this permit in order to determine the compliance status of the unit(s) being tested. Pollutant emission rates shall be reported in terms consistent with each applicable requirement or as specified by Ecology.

4.6.2. The testing shall consist of at least three (3) total runs. The average emission rate and concentration of the three run set shall be used for comparison with applicable emission limits.

4.6.3. Testing shall occur with the treater operating at a minimum of ninety (90) percent of maximum production capacity. This means that the total TAP/VOC loading rate must be at least 135 lbs/hour (90% of 150 lbs/hr). If testing occurs at a lower production rate, the appropriate maximum allowable TAP/VOC loading rate shall be reduced using the following method. The new maximum rate shall be obtained by determining the average loading rate during the test and dividing this number by 0.90. The reduced rate limit shall apply until another emission test is conducted.

4.6.4. All process equipment shall be operated and controlled by the normal shift operator during the period when the testers are on site to conduct testing and during actual testing. Any person other than the operator or supervisor, including any consultant, representative or tester, directing the operation of process equipment in any way during the testing period will immediately invalidate the testing for the purposes of Ecology's evaluation. No controls or monitors other than those permanently installed and utilized during the normal course of operation will be used to direct the operation of the equipment during testing.

4.6.5. During testing operating parameters shall be recorded on fifteen (15) minute intervals as a minimum. The parameters recorded shall at a minimum include resin usage rate of the treater, thermal oxidizer outlet temperature, air pressure within the treater as indicated by the gauges installed at each end, and a surrogate parameter for air flowrate (as described under condition 8.1 of this permit) for the treater. The total TAP/VOC loading rate to the thermal oxidizer shall be calculated based on the recorded resin usage rate and resin chemical content information. These calculations shall be included in the test report.

4.6.6. During testing, opacity shall be measured at any time visible emissions are observed. Testing shall use 40 CFR 60, Appendix A, Method 9.

4.6.7. Sampling ports and platforms, as well as safe and adequate access to them, shall be provided.

4.6.8. The test report shall be submitted to Ecology no later than sixty (60) days following completion of the testing.

4.6.9. A test plan will be submitted to Ecology at least 30 days prior to testing that will include a testing protocol for Ecology approval that includes the following information:

4.6.9.1 The location and Unit ID of the equipment proposed to be tested.

4.6.9.2 The operating parameters to be monitored during the test.

4.6.9.3 A description of the source including manufacturer, model number, design capacity of the equipment and the location of the sample ports or test locations.

4.6.9.4 Time and date of the test and identification and qualifications of the personnel involved.

4.6.9.5 A description of the test methods or procedures to be used.

5. EMISSION LIMITS

5.1. The following emission limits shall apply to the thermal oxidizer exhaust:

5.1.1. NOx emissions shall not exceed 0.28 lb/hr measured using EPA Reference Method 7E.

5.1.2. NMOC concentration shall not exceed 44.9 ppmdv as propane,

5.1.3. NMOC emission rate shall not exceed 1.02 lb/hr as propane, 1-hour average.

5.2. Emissions from the laboratory as determined by mass balance shall not exceed the following annual limits:

5.2.1.	Ethanol	860 lbs
5.2.2.	Isopropanol	87 lbs
5.2.3.	Methanol	43 lbs
5.2.4.	Methyl Isobutyl Ketone	10 lbs
5.2.5.	Acetone	3,194 lbs

5.3. Opacity from any process vent or stack shall at no time exceed 10% as measured using EPA Reference Method 9.

5.4. Facility-wide emissions of formaldehyde, shall be less than or equal to 215 lbs/year on a monthly rolling average.

5.5. Facility-wide emissions shall not exceed the tons per year totals for each pollutant listed in Table 1.

6. OPERATION AND MAINTENANCE (O&M) MANUAL

A site-specific O&M manual for the emission units and control equipment addressed in this permit shall be developed and followed. The O&M manual shall be completed within 60 days of issuance of this permit. Manufacturers' operating instructions and design specifications for the emission units and control equipment shall be included in the manual. The O&M manual shall be reviewed at least annually and updated as appropriate to reflect any modifications to the emission units or operating procedures. Emissions that result from failure to follow the operating procedures contained in the O&M manual or manufacturer's operating instructions may be considered proof that the equipment was not properly installed, operated, and/or maintained. The O&M manual shall at a minimum include:

6.1. A description of each process or emission unit identified in this permit that gives a brief summary of the function and location within the facility.

6.2. A list and description of all operating parameters which are monitored on each process or emission unit, ventilation/ducting system, and control device. These parameters shall at a minimum include those identified under condition 8.1 of this permit. The manual shall include an acceptable operating range for each parameter. This acceptable range shall be based on manufacturer recommendations and/or site specific testing results. The O&M manual shall include baseline values for each operating parameter related to the treater as collected during the initial, and each subsequent emission test.

6.2.1. A description of the purpose, function and location of each instrument utilized to measure the operating parameters.

6.2.2. A schedule of the regular maintenance activities to be performed on process equipment, ducting, and control devices.

7 SUBMITTALS

All notifications, reports, and other submittals shall be sent to:

Washington State Department of Ecology
Air Quality Program
4601 N. Monroe Street
Spokane, WA 99205-1295

8 MONITORING AND RECORDKEEPING

Monitoring equipment for operating parameters listed in this permit shall include measurement of the parameter and display in an easily accessible location. Each display shall include a label identifying the parameter measured and the units of measurement. Specific records shall be kept on-site by the permittee and made available for inspection by Ecology upon request. The records shall be organized in a readily accessible manner and cover a minimum of the most recent 60-month period. The monitoring and recordkeeping to be performed shall include the following:

8.1. The following parameters shall be recorded at least once per shift that the unit is operated. The permittee may install systems which continuously monitor air flowrate or pressure (as

appropriate), and include either visual or audible alarms which activate when the monitored parameter falls outside an acceptable range. The acceptable ranges shall be proposed by Zodiac and approved by Ecology in writing. If this option is exercised, records documenting the date, time, probable cause, and resolution of each alarm episode shall be retained.

8.1.1. Treater resin usage rate (lbs resin/hr). Records shall identify the resin used, and include a corresponding total TAP/VOC loading rate value for each data point collected. The calculations used to determine the TAP/VOC loading rate shall be available for review.

8.1.2. Air pressure at the two ends of the treater (inches water column).

8.1.3. Air flowrate (or surrogate) as collected from the treater.

8.1.4. Air flowrate (or surrogate) as collected from the multi-opening press.

8.1.5. Air flowrate (or surrogate) as collected from the warming oven.

8.2.The following parameters shall be continuously recorded during all times of oxidizer operation.

8.2.1. Oxidizer operating temperature (degrees Fahrenheit or Celsius).

8.3 Records of all maintenance and repair activities performed on the process units, ducting, and emission control devices shall be retained.

8.4 Records of equipment specifications (per manufacturer) for each process unit.

8.5 Copies of all reports from emission testing conducted shall be retained, whether or not the testing was required by Ecology.

8.6 All testing forms resulting from EPA reference method 9 tests shall be retained.

8.7 Records of all deviation events and complaints received, including date, time, description, nature and magnitude of deviation if applicable, corrective action, and result.

8.8 Records indicating the total quantity of each material used at the facility.

8.9 Records indicating the dimensions of the largest prepreg panels processed in the panel press on an annual basis.

8.10 Running total number of panels processed in the press on an annual basis.

8.11 Running total number of prepregs plies processed in the press according to the resin components of Condition 3.8.

8.12 Running total pounds of resin processed in the warming oven on an annual basis.

8.13 Running total pounds of combined production of resins 1102, 1114, 1502, and 1510 on an annual basis.

8.14 Records of actual hours of operation for the treater.

8.15 Records documenting the type and amount of solvent usage in the winder process.

8.16 Records documenting the mass of solvent lost during lab operations.

8.17 Records documenting facility evaluation of new products to be processed in the treater establishing compliance with condition 2.4 of this permit (including testing data), as well as, copies of the Ecology written approval for each new product.

9 REPORTING

9.1 The following information will be submitted to the AQP at the address in Condition 7 above by January 31 of each calendar year. This information may be submitted with annual emissions information requested by the AQP.

9.1.1 Facility emissions for the previous calendar year for each pollutant by emission unit or process.

9.1.2 Overall facility emissions for the previous calendar year for each pollutant.
9.1.3 A raw material receiving summary for the previous calendar year for those products whose usage is necessary to calculate emissions.
9.1.4 Written notification that the O&M manual described in Approval Condition 6 has been developed and updated within 60 days after the issuance of this Order. A copy of the most current O&M manual will be provided to Ecology if requested.

9.2 Stack test reports of any stack test shall be submitted to Ecology within 60 days of completion of the test and shall include, at a minimum, the following information:

9.2.1 The information from Conditions 4.6.9.3, 4.6.9.4, and 4.6.9.5 including field and analytical laboratory data, quality assurance/quality control procedures and documentation.
9.2.2 A summary of results, reported in units and averaging periods consistent with the applicable emission standard or limit.
9.2.3 A summary of control systems or equipment operating conditions.
9.2.4 A summary of operating parameters for the equipment being tested.
9.2.5 Copies of field data and example calculations.
9.2.6 Chain of custody information.
9.2.7 Calibration documentation.
9.2.8 Discussion of any abnormalities associated with the results.
9.2.9 A statement signed by the senior management official of the testing firm certifying the validity of the source test report.

10 GENERAL CONDITIONS

10.1 **Commencing/Discontinuing Construction and/or Operations:** This Approval Order shall become void if operation of equipment is discontinued for a period of eighteen (18) months, unless prior written notification is received by Ecology at the address in Condition 7 above.

10.2 **Compliance Assurance Access:** Access to the source by representatives of Ecology or the EPA shall be permitted upon request. Failure to allow such access is grounds for enforcement action under the federal Clean Air Act or the Washington State Clean Air Act, and may result in revocation of this Approval Order.

10.3 **Availability of Order and O&M Manual:** Legible copies of this Order and the O&M manual shall be available to employees in direct operation of the emergency diesel electric generators, and cooling towers, and be available for review upon request by Ecology.

10.4 **Equipment Operation:** Operation of the facility equipment shall be conducted in compliance with all data and specifications submitted as part of the NOC application and in accordance with the O&M manual, unless otherwise approved in writing by Ecology.

10.5 **Modifications:** Any modification to the equipment or operating procedures, contrary to information in the NOC application, shall be reported to Ecology at least 60-days before such modification. Such modification may require a new or amended Approval Order.

10.6 **Activities Inconsistent with the NOC Application and this Approval Order:** Any activity undertaken by the permittee or others, in a manner that is inconsistent with the NOC application and this Order, shall be subject to Ecology enforcement under applicable regulations.

10.7 **Obligations under Other Laws or Regulations:** Nothing in this Approval Order shall be construed to relieve the permittee of its obligations under any local, state, or federal laws or regulations

All plans, specifications, and other information submitted to Ecology relative to this project and further documents and any authorizations or approvals or denials in relation thereto shall be kept at the Eastern Regional Office of the Department of Ecology in the "Air Quality Controlled Sources" files, and by such action shall be incorporated herein and made a part thereof.

Authorization may be modified, suspended, or revoked in whole or part for cause including, but not limited to the following:

1. Violation of any terms or conditions of this authorization;
2. Obtaining this authorization by misrepresentation or failure to disclose fully all relevant fact.

The provisions of this authorization are severable and, if any provision of this authorization, or application of any provisions of their circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this authorization, shall not be affected thereby.

YOUR RIGHT TO APPEAL

You have a right to appeal this Approval Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Approval Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of this Approval Order:

- File your appeal and a copy of this Approval Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Approval Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	**Department of Ecology** Attn: Appeals Processing Desk P.O. Box 47608 Olympia, WA 98504-7608

Pollution Control Hearings Board 1111 Israel Road SW, Suite 301 Tumwater, WA 98501	**Pollution Control Hearings Board** P.O. Box 40903 Olympia, WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov

To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser

DATED at Spokane, Washington this ____day of _____, 2017.

PREPARED BY:

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