



## DEPARTMENT OF NATURAL RESOURCES

## MISSOURI AIR CONSERVATION COMMISSION

## PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 07 2 0 1 0 - 0 1 0      Project Number: 2010-04-004

Parent Company:              Altec Industries, Incorporated

Parent Company Address: 210 Inverness Center Drive, Birmingham, AL 35202

Installation Name:            Altec Industries, Incorporated

Installation Number:        021-0078

Installation Address:        2106 South Riverside Road, St. Joseph, MO 64507

Location Information:        Buchanan County, S13, T57N, R35W

Application for Authority to Construct was made for:

Installation of a new plastic composite production operation for the manufacture of molded utility vehicle buckets. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

JUL 29 2010

EFFECTIVE DATE

  
DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

**You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review.** In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

Page No.	3
Permit No.	
Project No.	2010-04-004

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

Altec Industries, Incorporated  
Buchanan County, S13, T57N, R35W

1. Emission Limitation

- A. Altec Industries, Incorporated shall emit less than ten (10.0) tons individually and twenty-five (25.0) tons combined of Hazardous Air Pollutants (HAPs) in any consecutive 12-month period from the entire installation.
- B. The entire installation includes all equipment/ processes installed or permitted at Altec Industries, Incorporated as of the date of this permit.
- C. Attachment A and Attachment B shall be used to demonstrate compliance with Special Condition 1.A. In lieu of these attachments, Altec Industries, Incorporated may keep equivalent electronic records. At a minimum, Altec Industries, Incorporated must record the same information electronically as is specified in the attachments. Equivalent electronic records will be verified at the next inspection.

2. Record Keeping and Reporting Requirements

- A. Altec Industries, Incorporated shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
- B. Altec Industries, Incorporated shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2010-04-004  
Installation ID Number: 021-0078  
Permit Number:

Altec Industries, Incorporated  
2106 South Riverside Road  
St. Joseph, MO 64507

Complete: April 1, 2010

Parent Company:  
Altec Industries, Incorporated  
210 Inverness Center Drive  
Birmingham, AL 35202

Buchanan County, S13, T57N, R35W

REVIEW SUMMARY

- Altec Industries, Incorporated has applied for the authority to install a new plastic composite production operation for the manufacture of molded utility vehicle buckets.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. The HAP of concern from this process is styrene.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation.
- 40 CFR 63, Subpart WWWW, "National Emissions Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production", does not apply to the proposed equipment because the facility is limited to less than major source levels for HAPs.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.
- This installation is located in Buchanan County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-

6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

- Ambient air quality modeling was performed to determine the ambient impact of Styrene.
- Emissions testing are not required for the equipment.
- A modification to your Intermediate Operating Permit application is required for this installation within 90 days of equipment startup.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

Altec Industries, Incorporated (Altec) manufactures and assembles equipment used on utility (electric, telephone, cable, etc.) vehicles. This facility is a minor source of criteria pollutants and an area source of hazardous air pollutants. Altec submitted an initial Intermediate Operating Permit application on May 15, 1997 and resubmitted new Intermediate Operating Permit applications on October 1, 2002 and April 20, 2010. These intermediate operating permit applications requested a voluntary installation-wide limit to less than Title V major source levels for VOCs, individual HAPs, and all HAPs combined. If the facility would become major for HAPs, they would be subject to 40 CFR 63 Subpart WWWW. Since operating permits expire, the facility has also requested that this construction permit have an installation-wide limit on HAP emissions in order to avoid becoming a major source for HAPs.

The following permits have been issued to Altec from the Air Pollution Control Program.

**Table 1: Permit History**

Permit Number	Description
1198-006	Installation of a flow solder operation, gel coat booth, batch curing oven and resin boom winding operation.
0299-001	Installation of a powder coating system, sanding dust collection booth and welding fume collection system.
0799-007	Installation of a new powder coat spray operation and a new boom-winding machine.
042000-003	Increase Styrene emission limit.
082000-015	Installation of a new spray booth.
092000-003	Installation of a powder coating operation, a curing oven, a shot blast booth, and a cooling tunnel.
12003-002	Installation of a fiberglass vacuum molding operation, a laser metal cutting operation and four (4) dust collecting units.
032005-011	Addition of two (2) new spray paint booths (emission points PB-30 and PB-31)

## PROJECT DESCRIPTION

Altec has proposed to move a molding operation from another Altec facility located in a different state to the Altec facility located in St. Joseph, Missouri (Altec-St. Joseph). The proposed molding operation will manufacture utility vehicle buckets also known as platforms. Although the St. Joseph facility has existing molding operations, they have not previously made the utility vehicle buckets. The day-to-day bucket manufacturing (PCM-1A) steps include mold prep which consists of (1) cleaning the mold with the VOC-exempt compound, acetone, (2) spraying gelcoat on the interior surface of the bottom section of the mold, (3) assembling the top and bottom sections of the mold, (4) vacuum filling the closed mold with a styrene resin and catalyst mixture, and (5) cleaning the cured bucket with acetone.

In addition to the day-to-day production activities, the bucket manufacturing operations will be supported with mold building operations (PCM-1B) that occur on an as needed basis. The process steps for the mold building operations are essentially the same as those for the bucket manufacturing. The only difference being that gelcoat is applied to both the top and bottom sections of the mold.

Emissions from the bucket and mold building processes are generated by the gel-coat (GC-2) process and the closed molding process (PCM-1A and PCM-1B). Altec-St. Joseph will use an existing gelcoat spray booth (GC-2) for the bucket manufacturing and mold building gel-coat process steps. The existing gel-coat operation (GC-2) was permitted under permit number 042000-003 at a maximum design rate of 12 pounds gelcoat per hour. Although the gel-coat process (GC-2) has been previously permitted, the addition of the bucket manufacturing capability could be considered either a change in the method of operation or an increase in utilization. In this case, the gel-coat styrene emissions were included in the background concentration of the ambient impact analysis and the facility has requested a voluntary facility-wide limit on HAP emissions. As either determination would not affect the outcome of this permit, the gel-coat operation was not further evaluated.

## EMISSIONS/CONTROLS EVALUATION

The maximum hourly design rates for the bucket and mold building operations were provided by the applicant. As the bucket manufacturing is performed at an existing Altec facility, the applicant calculated the maximum design rate for the closed molding operations based on 2007 actual usage rates and a conservative estimate of the hours of operation. The following table provides a summary of the maximum design rates for the materials used to manufacture buckets and molds.

**Table 2: MHDRs for Closed Molding Operations (PCM-1)**

<b>Bucket Molding</b>	<b>MHDR (pounds per hour)</b>
Stypol Resin	47.40
Lyondell Styrene Monomer	2.29
Norox catalyst	0.80
<b>Mold Building</b>	<b>MHDR (pounds per hour)</b>
Corve 8117 Resin	1.35
Polylite Resin	1.81
Hi-Point catalyst	0.063

MHDR = Maximum Hourly Design Rate

The emission factors used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 4.4 "Polyester Resin Plastic Products Fabrication" (February 2007). Although this section indicates an emission factor range of 1% - 3% of the starting weight percent monomer, an emission factor of 3% was used in this analysis because it is the most conservative. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year.) The following table provides an emissions summary for this project.

**Table 3: Emissions Summary (tons per year)**

<b>Pollutant</b>	<b>Regulatory De Minimis Levels<sup>[1]</sup></b>	<b>Existing Potential Emissions<sup>[2,3]</sup></b>	<b>Existing Actual Emissions (2009 EIQ)</b>	<b>Potential Emissions of the Application</b>	<b>New Installation-Wide Conditioned Potential</b>
PM <sub>10</sub>	15.0	3.91	0.59	N/A	N/A
PM <sub>2.5</sub>	10.0	N/D	0.33	N/A	N/A
SO <sub>x</sub>	40.0	4.53	0.03	N/A	N/A
NO <sub>x</sub>	40.0	10.58	1.9	N/A	N/A
VOC	40.0	134.43	6.5	3.46	N/A
CO	100.0	17.28	1.59	N/A	N/A
Styrene	1.0	N/D	N/D	3.40	<10.0
Combined HAPs	25.0	104.81	4.34	3.46	<25.0

N/A = Not Applicable; N/D = Not Determined

<sup>1</sup>For individual HAPs, value represents the Screening Model Action Level (SMAL)

<sup>2</sup>Existing potential emissions obtained from permits 012003-002 and 032005-011

<sup>3</sup>Although facility has not taken an installation-wide limit in a construction permit, the original intermediate operating permit application (project number 021-0078-020) requested a voluntary limit on individual HAPs, combined HAPs, and VOCs to less than Title V major source levels.

### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.

## APPLICABLE REQUIREMENTS

Altec Industries, Incorporated shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110  
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Emission of Odors*, 10 CSR 10-2.070

## AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis is required for hazardous air pollutants when the potential emissions exceed the Screening Model Action Level (SMAL). As indicated in Table 3 above, the potential emissions of styrene from the bucket molding operation (PCM-1) are greater than the SMAL; therefore, an ambient impact analysis was performed using a conservative screening model (Screen3). Potential emissions from Altec-St. Joseph's existing sources were also included in the model as a background concentration. The existing sources of styrene emissions that were included in the ambient impact analysis were the centrifugal casting of the fiberglass boom (RES-1) and the gel coat spray operation (GC-2). Potential emissions from the existing processes (RES-1 and GC-2) were provided by the applicant. Table 4 below summarizes the results of the ambient impact analysis. As the modeled impacts are less than the Risk Assessment Levels (RALs) no further action is required.

Table 4: Ambient Impact Analysis

Pollutant	Modeled Impact $\mu\text{g}/\text{m}^3$	RAL $\mu\text{g}/\text{m}^3$	Time Period
Styrene	179.1	2240	24-hour
Styrene	35.8	333	Annual

## STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

---

Kathi Jantz  
Environmental Engineer

---

Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated April 1, 2010, received April 2, 2010, designating Altec Industries, Incorporated as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Kansas City Regional Office Site Survey, dated April 15, 2010.



