

# AIR QUALITY

## MANAGEMENT DISTRICT

### AUTHORITY TO CONSTRUCT

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**A/C NO.:** 25055

**ISSUED BY:** \_\_\_\_\_

**DATE ISSUED:** TBD

DAVID R. GROSE

**DATE EXPIRES:** TBD

**ISSUED TO:** AEROJET ROCKETDYNE, INC.

**LOCATION:** 2001 AEROJET ROAD, J ZONE, RANCHO CORDOVA, CA 95742

**DESCRIPTION:** J-ZONE TEST STANDS, USAGE: STATIC FIRING OF LIQUID, CONVENTIONAL SOLID, AND SMOKELESS SOLID PROPELLANTS.

### AUTHORITY TO CONSTRUCT CONDITIONS

#### START-UP REQUIREMENTS

S1. This Authority to Construct has been reviewed through an Enhanced New Source Review process in accordance with the procedural requirements of Section 401 through 408 of Rule 207 Title V – Federal Operating Permit Program.

**[Basis: SMAQMD Rule 202, Section 404 and 214, Section 404]**

S2. After completing the equipment installation authorized under this Authority to Construct (ATC), the permit holder must contact the Sacramento Metropolitan Air Quality Management District (SMAQMD) to arrange a start-up inspection. SMAQMD may be contacted at (916) 874-4800.

**[Basis: SMAQMD Rule 201, Section 405]**

S3. This Authority to Construct may serve as a temporary Permit to Operate provided that:

A. The permit holder has notified SMAQMD that the equipment installation is complete and the facility is ready for a start-up inspection,

B. The equipment installed matches the equipment authorized in this Authority to Construct,

C. The equipment is operated in compliance with all conditions in this Authority to Construct, and

D. The equipment and its operation complies with SMAQMD, state and federal laws and regulations.

**[Basis: SMAQMD Rule 201, Section 303.1, 405]**

S4. The permit holder agrees to indemnify and defend SMAQMD, its officers, agents, and employees if this permit, or the environmental review of the permit under the California Environmental Quality Act (CEQA) or the National Environmental Policy Act (NEPA), including any exemption determination, is challenged in state or federal court. This indemnification includes attorney fees awarded against SMAQMD, as well as attorney fees, court costs, legal fees, and other expenses incurred in defending the challenge. The District will provide written notice to the permit holder within 5 days if it receives a petition, complaint or other legal notice by a third party challenging this Authority to Construct (ATC) or the environmental review of the ATC. The permit holder may, within 10 days of notification, request cancellation of the

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ATC. If the permit holder requests cancellation, SMAQMD will cancel the permit within 5 days, and will notify the plaintiffs of the cancellation and request dismissal of the litigation.

**[Basis: SMAQMD Rule 201, Section 405]**

S5. Aerojet Rocketdyne, Inc. must submit to the Air Pollution Control Officer an application to modify the Title V permit with an Administrative Title V Permit Modification prior to commencing operation with modifications authorized by this Authority to Construct.

**[Basis: SMAQMD Rule 207, Section 301.5]**

#### GENERAL

1. The equipment must be properly maintained and operated in accordance with the information submitted with the application and the manufacturer's recommendations at all times.

**[Basis: SMAQMD Rule 201, Section 405 and Rule 202, Section 408.1]**

2. The Air Pollution Control Officer and/or authorized representatives must be permitted to do all of the following:

A. Enter the source premises or any location at which any records required by this ATC are kept.

B. Access and copy any records required by this ATC.

C. Inspect or review any equipment, operation, or method required under this ATC.

D. Sample emissions from the source or require samples to be taken.

**[Basis: SMAQMD Rule 201, Section 405]**

3. This ATC does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the SMAQMD Rules and Regulations.

**[Basis: SMAQMD Rule 201, Sections 303.1, 405]**

4. The facility may not discharge air contaminants or other materials that cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

**[Basis: SMAQMD Rule 402, Section 301]**

5. A legible copy of this ATC must be maintained on the premises with the equipment.

**[Basis: SMAQMD Rule 201, Section 401]**

#### EMISSION LIMITATIONS

6. The rocket testing operation must not discharge into the atmosphere any visible air contaminant other than uncombined water vapor for a period or periods aggregating more than three minutes in any one hour if the discharge is as dark or darker than Ringelmann No. 1 or is equal to or greater than 20% opacity.

**[Basis: SMAQMD Rule 401, Section 301]**

7. The Emissions from the rocket motor testing must not exceed the following limits.

**[Basis: SMAQMD Rule 201, Section 405 and SMAQMD Rule 202, Section 301]**

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Pollutant	Emission Factor lb/lb of Solid Propellant (conventional) (B)	Emission Factor lb/lb of Solid Propellant (smokeless) (B)	Emission Factor lb/lb of Liquid Propellant (B)	Maximum Allowable Emissions (A)	
				lb/day	lb/quarter
NOx	0.00	0.00	0.00	0	0
PM10	0.37	0.002	0.00	37	148
PM2.5	0.37	0.002	0.00	37	148
CO	0.23	0.534	Depends on fuel	550	2250
Fluorides	0.00	0.00	Depends on fuel	16	1472
HCl	0.20	0.062	0	20	80

(A) Maximum allowable emissions for PM10 and HCl are based on 100 lb of solid propellant per day and 400 lb of solid propellant per quarter. It is assumed all PM emissions are PM10 and PM2.5. The fluoride and CO emission limit is based on the combined emissions from J Zone rocket motor testing (AC 25055) and the oxidizer flaring system (PO 8633).

(B) Emission factors are based on Aerojet submittal for P/O 18853, P/O 18854, and A/C 25055 which was generated from a thermochemistry modeling software.

8. Alternate solid propellant (smokeless) emission factors may be utilized provided the Maximum Allowable Emissions in Condition No. 7 are not exceeded. Any deviations from the Emission Factors in Condition No. 7 are to be submitted to SMAQMD for review and approval at least thirty days prior to testing.

**[Basis: SMAQMD Rule 201, Section 405]**

### EQUIPMENT OPERATION

9. The amount of propellant used in the rocket motor testing must not exceed the following limits.

**[Basis: SMAQMD Rule 202, Section 301]**

Type Of Propellant	Maximum Allowable Propellant Usage	
	lb/day	lb/quarter
Conventional Solid Propellant	100	400

10. Solid propellant rocket motor testing must only be performed between 8:00 am and 12:00 am.

**[Basis: SMAQMD Rule 402, Section 301]**

11. Beryllium containing propellant must not be used at J Zone rocket motor test stands.

**[Basis: SMAQMD Rule 402, Section 301]**

12. J Zone rocket motor testing (AC 25055) and the fuel/oxidizer flaring systems (PO 8633 and 8641) must operate only when the flare propane pilot system is in operation.

**[Basis: SMAQMD Rule 402, Section 301]**

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#### RECORD KEEPING REQUIREMENTS

13. The following records must be continuously maintained onsite for the most recent five-year period and must be made available to the SMAQMD Air Pollution Control Officer upon request.

**[Basis: SMAQMD Rule 201, Section 405 and SMAQMD Rule 202, Section 301]**

Whenever performing a rocket motor test	A. Date B. Starting time and ending time C. Test duration time (seconds) D. Types of fuel used E. Quantity of fuel used F. Expected emissions from all pollutants listed in Condition No. 7
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#### EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

14. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer. Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.

**[Basis: SMAQMD Rule 202, Section 302]**

Pollutant/ Certificate	Face Value of ERC Certificates Surrendered Lb of PM10				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio Lb of PM10			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
PM10 SMAQMD ERC C07-1008 <b>Loan expires 04-01-2027</b>	177.6	177.6	177.6	177.6	1.2	148	148	148	148

15. This permit will expire on April 01, 2027, unless replacement credits have been provided. To replace credits, the facility must submit an application to modify the current permit at least six months prior to the permit's expiration date to allow sufficient time for processing the application and conducting necessary public notices and Board hearings, as applicable. If sufficient time is not allowed and the credits are not replaced prior to the expiration of the permit, then the facility will need to reapply for a new permit and the equipment will be subject to Rule 202 – NEW SOURCE REVIEW at the time of re-permitting.

A. Sufficient credits must be provided to offset the applied value of the ERC certificates specified in Condition No. 14, after applying the emission offset ratios from Rule 202, Section 303 in effect at the time the application for modification is deemed complete. If a smaller amount of credits is provided, the emission limits in Condition No. 7 will be reduced accordingly.

**[Basis: SMAQMD Rule 202, Section 302 and Rule 205, Sections 307 and Section 312]**

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Your application for this air quality Authority to Construct was evaluated for compliance with Sacramento Metropolitan Air Quality Management District (SMAQMD), state and federal air quality rules. The following list identifies the rules that most commonly apply to the operation of your equipment. Other rules may also be applicable.

<u>SMAQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS (8-24-06)
202	NEW SOURCE REVIEW (2-24-05)
214	FEDERAL NEW SOURCE REVIEW (08-23-12)
401	RINGELMANN CHART (4-19-83)
402	NUISANCE (8-3-77)
<u>FEDERAL</u>	<u>REGULATION TITLE</u>
40 CFR PART 61 SUBPART D	NATIONAL EMISSION STANDARD FOR BERYLLIUM ROCKET MOTOR FIRING
40 CFR PART 63 SUBPART P	NATIONAL EMISSION STANDARD FOR ENGINE TEST CELLS/STANDS

The conditions on this Authority to Construct reflect some, but not all, of the requirements of these rules. Because other rule requirements may apply to the operation, the permit holder should be familiar with all of the rules and related requirements. In addition, because future changes in prohibitory rules may establish more stringent requirements that may supersede the conditions listed here, the permit holder should monitor proposed rules and rule adoption actions at SMAQMD.

For further information please consult your SMAQMD rulebook or contact the SMAQMD for assistance.