



## 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: 042009-007 Project Number: 2007-05-042

Parent Company: DRS Technologies, Inc.

Parent Company Address: 5 Sylvan Way, Parsippany, NJ 07054

Installation Name: DRS Sustainment Systems, Inc.

Installation Address: # 1 McDaniel Street, West Plains, MO 65775

Location Information: Howell County, S20, T24N, R8W

Application for Authority to Construct was made for:  
Diesel engine testing. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

APR 10 2009

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 not more than 60 days but at least 30 days in advance of this date. 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.

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Permit No.	
Project No.	2007-05-042

**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."*

DRS Sustainment Systems, Inc.  
Howell County, S20, T24N, R8W

**1. Emission Limitations**

- A. DRS Sustainment Systems, Inc. (DRS Sustainment Systems) shall emit less than 250.0 tons of Volatile Organic Compounds (VOCs) from the entire installation in any consecutive 12-month period. For the purpose of the special conditions of this permit, entire installation includes all emission units and processes identified in the "DRS Emission Point Summary" dated April 24, 2007 and received by the Air Pollution Control Program as Attachment A of DRS Sustainment Systems' Part 70 operating permit renewal application on May 1, 2007. The diesel engine testing operations (EP- 49) shall also to be considered as part of the entire installation.
- B. DRS Sustainment Systems shall emit less than 40.0 tons of Nitrogen Oxides (NO<sub>x</sub>) from deisel engine testing operations (EP- 49).
- C. Attachments B and C, or equivalent forms approved by the Air Pollution Control Program, shall be used to demonstrate compliance with Special Conditions 1(A) and 1(B). DRS Sustainment Systems 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. These records shall include Material Safety Data Sheets (MSDS) for all surface coating materials.
- D. DRS Sustainment Systems shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which the records from Special Condition 1.C. indicate that the source exceeds the limitations of Special Condition 1.A. or Special Condition 1.B.

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

Project Number: 2007-05-042  
Installation ID Number: 091-0011  
Permit Number:

DRS Sustainment Systems, Inc.  
# 1 McDaniel Street  
West Plains, MO 65775

Complete: May 3, 2007

Parent Company:  
DRS Technologies, Inc.  
5 Sylvan Way  
Parsippany, NJ 07054

Howell County, S20, T24N, R8W

REVIEW SUMMARY

- DRS Sustainment Systems, Inc. (DRS Sustainment Systems) has applied for authority to conduct diesel engine testing. New and re-conditioned engines are tested for up to 25 hours prior to shipment to the customer.
- With regard to diesel engine testing, potential emissions of volatile organic compounds (VOCs) are below significance levels (see 10 CSR 10-6.061, Table 1), however file review indicates that the installation (entire installation) has an unrestricted potential to emit greater than 250 tons per year for VOCs. The applicant is voluntarily accepting an emission limitation for VOCs to clarify that there is no need for prevention of significant deterioration (PSD) review for this installation.
- None of the New Source Performance Standards (NSPS) apply to the diesel engine testing. 40 CFR Part 60, Subpart IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* does not apply to engine testing.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment. 40 CFR Par 63, Subpart ZZZZ - *National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* does not apply to engine testing.
- 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 nitrogen oxides (NO<sub>x</sub>) are conditioned to below de minimis levels.

- This installation is located in Howell County, an attainment area for all criteria air pollutants.
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed since potential emissions of NO<sub>x</sub> are conditioned to below de minimis levels.
- Emission testing is not required for the diesel engine test cells.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

DRS Sustainment Systems, Inc. (DRS Sustainment Systems) produces heavy military transportation equipment and other military support items, such as mobile power generators and armor plating, using metal fabrication, welding and painting processes. The following construction permits have been issued to this installation by the Air Pollution Control Program

Table 1: Permits issued by Air Pollution Control Program

Permit No	Description
0787-006	Incinerator (has been removed from service)
1088-013	Paint booths
0990-005	Paint booths, boilers and drying ovens
0395-014	Closed abrasive blast booth
0896-001	Dust filter system for plasma arc cutting
0197-027	Controlled pyrolysis cleaning furnace with afterburner
1198-016	Paint booths and drying ovens
OP2002-033	Part 70 operating permit

DRS Sustainment Systems applied for renewal of their part 70 permit in May 2007; the application is currently in technical review.

### PROJECT DESCRIPTION

DRS Sustainment Systems manufactures mobile power generation systems for military applications. The systems manufactured at the West Plains plant are marketed as Deployable Power Generation & Distribution Systems (DPGDS). The DPGDS units are trailer-mounted enclosures with two 669 horsepower (hp) Caterpillar 3456 diesel engines and two Caterpillar generators. The engines can

utilize diesel fuel or jet fuel (JP-8). Maximum fuel consumption is 30 gallons per hour, per engine.

DPGDS engine testing began in 2006 prior to submittal of the permit application in May 2007. The applicant indicates that 227 units were tested in 2006, utilizing 196,863 gallons of JP-8. In 2007 JP-8 usage for engine testing was 35,600 gallons. No engine testing was conducted in 2008. There is no current military contract for additional production of DPGDS units; however, DRS may successfully bid on future contracts.

### EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 3.4, Large Stationary Diesel and All Stationary Dual-Fuel Engines (10/96). The SCC code for the emission factors is 2-02-004-01. The applicant also submitted “not-to-exceed” emission levels from Caterpillar which were in close proximity to the AP-42 emission factors cited above. The potential emissions of carbon monoxide may be under-estimated since some of the engine testing will occur at less than full load. The AP-42 emission factors are based on combustion of No. 2 fuel; APCP was not able to find emission factors for JP-8. 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 1: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2007 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM <sub>10</sub>	15.0	4.0	0.62	3.6	N/A
SO <sub>2</sub>	40.0	< 40	0.45	10.9	N/A
NO <sub>x</sub>	40.0	17.2	3.0	115.2	N/A
VOC	40.0	294.5	30.8	3.2	< 250
CO	100.0	4.0	0.24	30.6	N/A
HAPs	10.0/25.0	N/D	2.3	N/D	N/A

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

Notes: Existing potential emissions for PM<sub>10</sub>, NO<sub>x</sub>, VOC and CO were obtained from Permit No. 1198-016. DRS Sustainment Systems has calculated existing VOC potential emissions as 480 tons per year based on a maximum paint usage rate of 92 gallons per hour, so the existing potential emissions indicated in Table 1 may be an underestimate. Dependent upon the HAP content of surface coatings, the existing potential emissions of HAPs may be in excess of 10 tons per year individual and/or 25 tons per year combined. APCP did not evaluate the HAP content of surface coatings as part of this permit review.

## 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 nitrogen oxides are conditioned to below de minimis levels, and potential emissions of the remaining criteria pollutants are below de minimis.

## APPLICABLE REQUIREMENTS

DRS Sustainment Systems 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 Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

## SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-3.060

## 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.

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Steve Jaques, P.E.  
Environmental Engineer

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Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 2, 2007, received May 3, 2007 designating DRS Technologies, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southwest Regional Office Site Survey, dated May 14, 2007.
- DRS Emission Point Summary, Attachment A, submitted with Part 70 permit renewal application, dated April 24, 2007 and received May 1, 2007.





Ms. Tammy Hampton  
Environmental Specialist  
DRS Sustainment Systems, Inc.  
# 1 McDaniel Street  
West Plains, MO 65775

RE: New Source Review Permit - Project Number: 2007-05-042

Dear Ms. Hampton:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files.

Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance.

The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Steve Jaques, at the Departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH:sjl

Enclosures

c: Southwest Regional Office  
PAMS File: 2007-05-042  
Permit Number: