

## COMPLIANCE ASSISTANCE BULLETIN

### August 2015

### ***Rich-Burn, Spark-Ignited Engines used in Agricultural Operations***

#### **Engines with Non-Certified Retrofit Exhaust Control Device:**

In order to comply with the emissions requirements of District Rule 4702 (*Internal Combustion Engines*), some operators elected to install non-certified retrofit exhaust control devices on rich-burn, spark-ignited internal combustion engines. Engines with non-certified retrofits are subject to additional monitoring and testing requirements under Rule 4702, which are discussed below. ***(If you have engines with a Non-Certified Lambda Management System Retrofit, please refer the Compliance Assistance Bulletin dated January 2015, which can be located on the District website at <http://www.valleyair.org/busind/comply/AssistanceDocuments/Non-CertifiedLambdaCABFINAL.PDF>)***

Effective **July 1, 2015**, the District will be enforcing the following requirements for engines with non-certified systems:

- **Initial and Recurring Source Testing** – Rule 4702 requires an initial source test to demonstrate NO<sub>x</sub>, CO & VOC emissions compliance, and recurring source testing to be performed every 60 months thereafter. If initial and recurring source testing has been conducted as required, please continue to do so and submit source test records as required. If an initial source test has not been conducted, or it has been more than 60 months since the last source test was completed, and either:
  - The ATC or PEER was issued before July 1, 2015, then a source test must be performed no later than **November 1, 2015** and every 60 months thereafter; or
  - The ATC or PEER is issued on or after July 1, 2015, then a source test must be performed **within 60 days of start-up** and every 60 months thereafter.

The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. A list of Certified Source Test Companies is available on the District's website at [http://www.valleyair.org/busind/comply/source\\_testing.htm](http://www.valleyair.org/busind/comply/source_testing.htm).

If the required source testing cannot be completed by the applicable deadline above, either due to availability of water, or insufficient irrigation demand (out of season), you may seek District approval to postpone the source test until adequate conditions exist. The operator must submit a written request to the District to postpone the source test, which includes the reason the testing cannot be conducted (along with supporting documentation) and the estimated date testing will be completed if the request is approved. Approvals will be determined on a case-by-case basis.

- **Ongoing Emissions Monitoring** – Portable analyzer monitoring is required every month the engine operates to demonstrate ongoing emissions compliance, except during months when a source test is performed. If the monitoring has been performed as required, please continue to do so and maintain copies of the analyzer readings. Otherwise, monitoring will be required starting the first month after the initial source test is performed and every month thereafter, as applicable.

#### **New Retrofit System Certifications Issued in 2015**

The District has recently issued the following certifications for exhaust control retrofit systems:

Final Certification issued to MurCal on June 29, 2015 for:

- **Stationary Natural Gas Emission Compliance (SNGEC)** System consisting of the following components:
  - Compliance Controls (FW Murphy) AFR 1R, 9R, or 64R air/fuel ratio controller,
  - Johnson-Matthey Model Modulex B or Modulex C 3-way catalyst,
  - Zirconia HEGO type oxygen sensor(s),
  - Manifold Absolute Pressure (MAP) sensor, and
  - Two Type K thermocouples.

Interim Certification issued to Coastal Ignition and Controls, Inc. on June 30, 2015 for:

- **Altronic Inc. EPC-50 AFRC** System consisting of the following components:
  - Altronic Model EPC-50 air/fuel ratio controller,
  - EmeraChem EC-xxxx-xx-S-C three-way catalyst system,  
(The “x” will be replaced by the specific values for the rating of the catalyst required for each engine)
  - Zirconia type Exhaust Gas Oxygen sensor, and
  - Two Type K thermocouples.

Control systems with Final Certification have performed all the required initial testing and durability monitoring to demonstrate ongoing compliance with the emissions limits in Rule 4702. Control systems with Interim Certification have performed initial testing that demonstrated compliance with the emission limits in Rule 4702; however, have not completed the required durability monitoring to date. Both types of certifications require an initial portable analyzer test be completed for each installation. Operators of systems with Interim Certification will be required to perform additional portable analyzer tests annually until the system receives Final Certification. If Final Certification is not attained within three years from the date Interim Certification was issued, then the system will no longer be certified and operators will be required to fully comply with the source testing and ongoing emissions monitoring requirements for non-certified systems.

### **Certification Verification Option for Qualifying Retrofit Systems:**

If you are already operating one of the two retrofit systems listed above with a valid, District-issued ATC, permit, or registration that was issued prior to the system becoming certified, you may qualify to have the above testing and monitoring requirements removed from your permit or registration by demonstrating that your system meets the requirements of the certification. In order to qualify for this option, an authorized installer must complete an on-site inspection of each system installation and conduct a portable analyzer test to verify the following:

- The retrofit system includes all required components;
- The retrofit system is properly installed and operating correctly;
- The system has been properly calibrated to the engine; and
- Portable analyzer readings for NO<sub>x</sub> and CO show compliance at the time of the inspection.

Verification by the authorized installer and the portable analyzer test should be submitted to the District Permit Services Department using the attached form. A list of authorized installers can be found on the District website at: <http://www.valleyair.org/busind/comply/certified-equipment.htm>. If your installation satisfies all of the criteria for a certified retrofit system, your permit or registration will be revised and an updated copy will be sent to you. Title V permit holders will also need to submit an application to modify their Title V permit along with the verification form. Verification and test results must be submitted to the District by **November 1, 2015** or the engine will need to comply with the requirements for a non-certified retrofit system listed above. Once the system has been verified, any future maintenance and repair of the system must be conducted by an authorized installer in order to maintain the certification status.

### **Replacement Option for Non-Certified Retrofit Systems (excluding Non-Certified Lambda Management Systems):**

If your current retrofit system does not include an air-fuel ratio controller and/or catalyst that matches one of the certified systems mentioned above, but you would like to have one or more components replaced so that your engine will have a certified retrofit system, you must first submit an application for a new ATC or PEER. Engines subject to PEERs may begin modifications, but must submit a complete application before the modified engine can be operated. Engines subject to permits may not begin modifications until an ATC has been issued. In order to meet the certification requirements, new components of the certified system must be installed by an authorized installer, and portable analyzer readings taken at that time.

Applications to modify a permit or PEER to install a certified retrofit system must be submitted to the District Permits Department by **November 1, 2015**, to avoid having to complete a source test. Once an ATC is issued by the district, or the PEER Application has been submitted, an authorized installer must complete the installation of the retrofit system and perform a portable analyzer test **within 90 days**.

Should you have questions or need clarification regarding the information contained within this bulletin, please visit our website at <http://www.valleyair.org/busind/comply/certified-equipment.htm> or contact Jennifer Ledergerber by telephone at (661) 392-5533 or by email at [jennifer.ledergerber@valleyair.org](mailto:jennifer.ledergerber@valleyair.org).

# Certified Retrofit Verification Form

**This form may be used to verify existing installations of retrofit systems installed prior to July 2015 that include an air/fuel ratio controller and 3-way catalyst matching one of the certified systems listed below. Oxygen sensors, MAP sensors, and thermocouples may be added or replaced as needed to complete the certified system. All other modifications will require an ATC or PEER Application.**

**Final Certified Stationary Natural Gas Emission Compliance (SNGEC) System:**

- Compliance Controls (FW Murphy) AFR 1R, 9R, or 64R air/fuel ratio controller;
- Johnson-Matthey Model Modulex B or Modulex C 3-way catalyst;
- Zirconia HEGO type oxygen sensor(s);
- Manifold Absolute Pressure (MAP) sensor; and
- Two Type K thermocouples.

**Interim Certified Altronic Inc. EPC-50 AFRC System:**

- Altronic Model EPC-50 air/fuel ratio controller;
- EmeraChem EC-xxxx-xx-S-C 3-way catalyst system; (The "x" will be replaced by the specific values for the rating of the catalyst required for each engine)
- Zirconia type Exhaust Gas Oxygen sensor; and
- Two Type K thermocouples.

Date of Verification: \_\_\_\_\_

Authorized Installer Company: \_\_\_\_\_

Facility Name: \_\_\_\_\_

Authorized Installer Phone No: \_\_\_\_\_

**List the Permit/ATC/PEER and check the appropriate box for each engine verified by the authorized installer:**

| Permit/ATC/PEER No. | Engine Serial No. |   |   |  |
|---------------------|-------------------|---|---|--|
| _____               | _____             | <input type="checkbox"/> Final Certified SNGEC System | <input type="checkbox"/> Interim Certified Altronic AFRC System | <input type="checkbox"/> Not Certified |
| _____               | _____             | <input type="checkbox"/> Final Certified SNGEC System | <input type="checkbox"/> Interim Certified Altronic AFRC System | <input type="checkbox"/> Not Certified |
| _____               | _____             | <input type="checkbox"/> Final Certified SNGEC System | <input type="checkbox"/> Interim Certified Altronic AFRC System | <input type="checkbox"/> Not Certified |
| _____               | _____             | <input type="checkbox"/> Final Certified SNGEC System | <input type="checkbox"/> Interim Certified Altronic AFRC System | <input type="checkbox"/> Not Certified |
| _____               | _____             | <input type="checkbox"/> Final Certified SNGEC System | <input type="checkbox"/> Interim Certified Altronic AFRC System | <input type="checkbox"/> Not Certified |

**For Certified/Verified Retrofit Systems:** Attach and submit to the District records of initial portable analyzer testing for each engine and analyzer calibration records and results. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. The emission readings shall be corrected to 15% O<sub>2</sub>. Use the Engine Documentation Form on the next page and attach one for each verified engine listed above.

**I verify that the installed retrofit system (Final Certified SNGEC System or Interim Certified Altronic AFRC System) is suitable for use on the engine(s) listed above, and meets all criteria set forth in the certification.**

|                                   |                                |       |
|-----------------------------------|--------------------------------|-------|
| _____                             | _____                          | _____ |
| Authorized Installer (Print Name) | Authorized Installer Signature | Date  |

**Engine Documentation Form**  
(Attach one copy for each engine listed on page 1)

| Permit/ATC/PEER No.                  | Engine Make | Engine Model No. | Engine Serial No. | Engine BHP Rating   | Exhaust Flow Rate | Exhaust Temperature             |
|--------------------------------------|-------------|------------------|-------------------|---------------------|-------------------|---------------------------------|
|                                      |             |                  |                   |                     |                   | /<br>Pre-catalyst/Post-catalyst |
| Air Fuel Ratio Controller Make/Model |             |                  |                   | Catalyst Make/Model |                   |                                 |
|                                      |             |                  |                   |                     |                   |                                 |

**Attach Portable Analyzer Test Results Below**