



SUSANA MARTINEZ GOVERNOR

JOHN A. SANCHEZ LIEUTENANT GOVERNOR

New Mexico ENVIRONMENT DEPARTMENT

Air Quality Bureau

1301 Siler Road, Building B Santa Fe, NM 87507-3113 Phone (505) 476-4300 Fax (505) 476-4375 www.nmenv.state.nm.us



DAVE MARTIN CABINET SECRETARY

BUTCH TONGATE
DEPUTY SECRETARY
EP2012-5246

CERTIFIED MAIL NO. 7010 2780 0001 3816 9234 RETURN RECEIPT REQUESTED

Permittee:

Owner: U.S. Department of Energy/NNSA Operator: Los Alamos National Security, LLC Los Alamos National Laboratory P.O. Box 1663, MS J978 Los Alamos, New Mexico 87545

NSR Air Quality Permit No. 2195N-R2 CMRR-RLUOB Facility TEMPO No. 856 – PRN 20120003

SEP 25 2012

Company Official:

Patricia Gallagher Group Leader, ENV-ES Agency Contact: Coleman Smith

Richard Goodyear Bureau Chief

Air Quality Bureau

Date of Issuance

Air Quality Permit No. 2195N-R2 is issued by the Air Quality Bureau of the New Mexico Environment Department (Department) to Los Alamos National Laboratory pursuant to the Air Quality Control Act (Act) and regulations adopted pursuant to the Act including Title 20, Chapter 2, Part 72 of the New Mexico Administrative Code (NMAC), (20.2.72 NMAC), Construction Permits and is enforceable pursuant to the Act and the air quality control regulations applicable to this source.

This permit NSR 2195N-R2 supersedes all portions of Air Quality Permit 2195N, issued 9/16/05, and Administrative Revision 2195N-R1, issued 12/20/07.

This permit revision removes the requirement to perform an initial compliance test for the boilers running on fuel oil, as this fuel type is restricted to 48 hrs/y/boiler. This facility is located in Township 19 N, Range 6E, Section 22, approximately three miles south of Los Alamos, New Mexico in Los Alamos County.

The Department has reviewed the permit application for the proposed construction and has determined that the provisions of the Act and ambient air quality standards will be met. Conditions have been imposed in this permit to assure continued compliance. 20.2.72.210. D NMAC states that any term or condition imposed by the Department on a permit is enforceable to the same extent as a regulation of the Environmental Improvement Board.

Pursuant to 20.2.75.11 NMAC, the Department will assess an annual fee for this facility. This regulation set the fee amount at \$1,500 through 2004 and requires it to be adjusted annually for the Consumer Price Index on January 1. The current fee amount is available by contacting the Department or can be found on the Department's website. The AQB will invoice the permittee for the annual fee amount at the beginning of each calendar year. This fee does not apply to sources which are assessed an annual fee in accordance with 20.2.71 NMAC.

All fees shall be remitted in the form of a <u>corporate check</u>, <u>certified check</u>, or <u>money order</u> made payable to the "NM Environment Department, AQB" mailed to the address shown on the invoice and shall be accompanied by the remittance slip attached to the invoice.

The facilities authorized to be constructed by this permit are considered to be "New Source(s)" as defined by 20.2.72.401 NMAC as the authority to construct them is after December 31, 1988 and they are not integrally related with and integrally connected to the process of an existing source. As described by the application, "the new CMRR facility will replace a significant existing building at LANL – the Chemistry and Metallurgy Research Building located at Technical Area (TA)-3.

It is not presently intended for this facility to use perchloric acid in any of its operations in Phase A and B of the CMRR Building project. Perchloric acid is not regulated under the Act.

The permittee is advised that the decommissioning, decontamination, demolition, and disposal of the old Chemistry and Metallurgy Research (CMR) building must be done in accordance with the requirements for asbestos in 40 CFR 61, Subpart M.

40 CFR Part 61 Subpart H applies to radioactive emissions. Subpart H is administered by the federal EPA. LANL included language specifying a HEPA filter in the exhaust of the Radiological Laboratory/Office Building (Phase A), in its application to EPA for preconstruction approval of this building, and EPA approved the language with the specification for a HEPA filter included.

TOTAL EMISSIONS

The total potential emissions from this facility, excluding exempted activities, are shown in the following table. Emission limitations for individual units are shown in Specific Condition 2.

Total Potential Criteria Pollutant Emissions from Entire Facility (for information only, not an enforceable condition):

Pollutant	Emissions (tons per year)				
Nitrogen Oxides (NOx)	14.5				
Carbon Monoxide (CO)	20.1				
Volatile Organic Compounds (VOC)	3.8				
Sulfur Oxides (SOx)	11.6				
Particulate Matter (Total Suspended, TSP)	2.1				
Particulate Matter (less than 10 microns, PM10)	1.9				
Particulate Matter (less than 2.5 microns, PM2.5)	1.9				

SPECIFIC CONDITIONS

Pursuant to 20.2.72 NMAC, and the specific regulatory citations in parenthesis, the facility is subject to the following conditions.

- 1. <u>Construction and Operation</u> (20.2.72.210 NMAC; NSPS 40 CFR 60, Subpart Dc)
 - a) The equipment regulated by this permit consists of

Table 1.1: Regulated Equipment List

Unit	Unit Description	Make	Serial		Manufacture	
No.		Model	No.	Capacity	Date	Other
CMRR- BHW-1	Boiler	Unilux ZF1100W	A1874	11 MMBtu/hr	2009	Dual Fuel
CMRR- BHW-2	Boiler	Unilux ZF1100W	A1875	11 MMBtu/hr	2009	Dual Fuel
CMRR- BHW-3	Boiler	Unilux ZF1100W	A1876	11 MMBtu/hr	2009	Dual Fuel
CMRR- BHW-4	Boiler	TBD	TBD	11 MMBtu/hr	TBD	Dual Fuel
CMRR- CHEM	Chemical Usage	NA	NA	NA	NA	NA

- b) This facility is authorized to operate on a continuous basis.
- c) Each boiler may be fired either using pipeline quality natural gas containing no more than 2 grains total sulfur per 100 standard cubic feet or No. 2 fuel oil containing no more than 0.5 % by weight total sulfur.
- d) Units CMRR-BHW-1 through -4 shall be operated on fuel oil for no more than 48 hours per year per boiler for non-emergency maintenance and readiness testing. As a result, these units are exempt from 40 CFR § 63.11193 et seq, (MACT Subpart JJJJJJ).
- e) Total annual fuel oil consumption for Units CMRR-BHW-1 through -4 shall not exceed 289,100 gallons on a rolling 365-day total basis.
- f) Units CMRR-BHW-1 CMRR-BHW-4 shall each be equipped with Low NOx burners designed not to exceed 30 ppm when fired using natural gas.
- g) This facility is subject to all applicable requirements including, but not limited to, the following regulations:

Table 1.2: applicable requirements

Citation	Title
40 CFR Part 60, Subpart A	General Provisions
40 CFR Part 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial- Institutional Steam Generating Units
40 CFR 61, Subpart H	US EPA is the Administrator of this rule in New Mexico.
20.2.3 NMAC	Ambient Air Quality Standards
20.2.7 NMAC	Excess Emissions
20.2.61 NMAC	Smoke and Visible Emissions
20.2.70 NMAC	Operating Permits
20.2.71 NMAC	Operating Permit Fees
20.2.72 NMAC	Construction Permits
20.2.73 NMAC	NOI & Emissions Inventory Requirements
20.2.75 NMAC	Construction Permit Fees
20.2.77 NMAC	New Source Performance Standards

- h) Units CMRR-BHW-1 CMRR-BHW-4 are subject to federal New Source Performance Standards (NSPS) found in 40 CFR 60, Subpart A General Provisions, and Subpart Dc- Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units and shall comply with both the notification requirements in Subpart A and with the specific requirements of Subpart Dc.
- i) LANL shall obtain a prior permit modification from NMED for the use of any lubricant or chemical that contains any toxic air pollutant ("TAP") listed in

20.2.72.502 NMAC if that TAP is emitted in quantities greater than the emissions in pounds per hour value stated in 20.2.72.502 NMAC, Table A or B. LANL may apply the appropriate Stack Height Release Correction Factor as provided for by 20.2.72.502 NMAC, Table C.

2. Emission Limits (20.2.72.210 NMAC, paragraphs A and B.1.b; NSPS 40 CFR 60, Subparts A and Dc)

Table 2.1: Allowable Emissions

Unit No.	¹ NO _x pph	NO _x tpy	CO pph	CO tpy	VOC pph	VOC tpy	SO ₂	SO ₂ tpy	TSP pph	TSP tpy	PM ₁₀ pph	PM ₁₀ tpy	PM _{2.5} pph	PM _{2.5} tpy
CMRR- BHW-1 (GAS)	0.7	2.9	1.1	4.8	2		0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4
CMRR- BHW-1 (OIL)	1.6		0.5		920		5.8		0.3		0.2		0.2	
CMRR- BHW-2 (GAS)	0.7	2.9	1.1	4.8			0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4
CMRR- BHW-2 (OIL)	1.6		0.5	**			5.8		0.3		0.2	**	0.2	
CMRR- BHW-3 (GAS)	0.7	2.9	1.1	4.8			0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4
CMRR- BHW-3 (OIL)	1.6		0.5				5.8	**	0.3		0.2		0.2	
CMRR- BHW-4 (GAS)	0.7	2.9	1.1	4.8			0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4
CMRR- BHW-4 (OIL)	1.6		0.5				5.8		0.3		0.2	17447	0.2	
All Boilers ³	N/A	2.9	N/A	0.9			N/A	10.4	N/A	0.5	N/A	0.3	N/A	0.3
CMRR- CHEM			1441			3.75								
Combined Total ³		14.5		20.1		3.75		11.6		2.1		1.9		1.9

1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO₂

2 The "--" symbol indicates a value that was considered negligible and not permitted under NSR 2195N.

3 The annual boiler tpy combined emission totals represent enforceable emission limit caps for all 4 boilers combined, fired with any combination of allowed fuel types.

a) Volatile Organic Compound Emissions

Volatile Organic Compound Emissions from CMRR-CHEM shall not exceed 3.75 tons per year. Hourly VOC boiler emissions are considered to be negligible (e.g. 0.1 lbs/hr) and are not assigned enforceable emission limits.

3. Monitoring

(20.2.72.210.C NMAC; NSPS 40 CFR 60, Subparts A and Dc)

The permittee shall:

- a) Monitor natural gas consumption on a monthly basis and fuel oil consumption on a daily basis when fuel oil is used for each boiler.
- b) Monitor the hours of operation of each boiler when fired on fuel oil.
- c) Assure fuel oil received by the facility is compliant with the sulfur requirement stated by permit condition 1(c).
- d) Evaluate visible emissions in accordance with EPA Reference Method 9 for at least ten (10) minutes each day fuel oil is used to fire a boiler(s) to demonstrate compliance with the visible emissions requirement specified by 20.2.61 Smoke and Visible Emissions.

4. Recordkeeping

(20.2.72.210.E NMAC; NSPS 40 CFR 60, Subparts A and Dc)

The permittee shall generate and maintain records:

- a) Required by 40 CFR 60, Subparts A and Dc including those specified by 60.48c(f)(1), (g) and (i).
- b) Of the visible emission readings required by condition 3(d).
- c) Of the type and quantity of chemicals and lubricants used, as allowed by this permit, including calculated VOC and TAP emissions from such use, on an annual basis.
- d) Of the natural gas consumption on a monthly rolling 12-month total.
- e) Of the hours of operation of each boiler when fired on fuel oil.

f) Of the total fuel oil consumption on a daily rolling 365-day total.

5. Reporting

(20.2.72 NMAC, Sections 210.E, and 212; NSPS 40 CFR 60, Subparts A and Dc)

The permittee shall:

- a) Submit reports as required by 40 CFR 60, Subparts A and Dc, including those specified by 60.48c(a)1-3 and 60.48c (d), (e)(11), (f)(1), and (j). LANL may submit the fuel supplier certification information on an annual basis in lieu of the semi-annual requirement specified by Subpart Dc because fuel oil usage is expected to be minimal based on permit condition 1(d).
- b) Submit manufacturer's data verifying that each boiler is equipped with Low NOx burners thirty (30) days prior to start-up of the boilers.
- c) Submit a summary of the VOC and TAP information required in condition 4.c. The submittal shall coincide with a regular Title V permit semiannual report.

6. Compliance Test

(20.2.72 NMAC Sections 210.C and 213; NSPS 40 CFR 60, Subparts A and Dc)

- a) Initial compliance tests for NOx and CO are required for the first three boilers listed in Table 1.1 that are installed, if all four are of the same make and model. If they are not of the same make and model, each boiler shall be subject to initial compliance tests. Each boiler shall be tested using natural gas fuel only.
 - Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.
- b) Boiler tests shall be conducted within sixty (60) days after each unit achieves maximum normal production. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests shall be conducted no later than one hundred eighty (180) days after initial startup of the source.
 - Boiler tests shall be conducted in accordance with EPA Reference Methods 1 through 4, Method 7E for NOx, Method 10 for CO as contained in 40 CFR 60, Appendix A, and with the requirements of Subpart A, General Provisions, 60.8(f). The results of the NOx tests shall be expressed as nitrogen dioxide (NO₂) using a molecular weight of 46 lb/lb-mole in all calculations (each ppm of NO/NO₂ is equivalent to 1.194 x 10⁻⁷ lb/SCF).

GENERAL CONDITIONS

1. Reporting

(20.2.72 NMAC Sections 210.E, and 212)

- a) The Permittee shall notify the Department in writing of or provide the Department with:
 - i) the anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date;
 - ii) the equipment serial number and the actual date of initial startup of each new or modified source within fifteen (15) days after the startup date;
 - iii) the date when each new or modified emission source reaches the maximum production rate at which it will operate within fifteen (15) days after that date;
 - iv) any change of operators within fifteen (15) days of such change;
 - v) any necessary update or correction no more than sixty (60) days after the operator knows or should have known of the condition necessitating the update or correction of the permit.

2. Revisions and Modifications

(20.2.72 NMAC, Sections 200.A.2 and E, and 210.B.4)

Any future physical changes or changes in the method of operation may constitute a modification as defined by 20.2.72 NMAC, <u>Construction Permits</u>. Unless the source or activity is exempt under 20.2.72.202 NMAC, no modification shall begin prior to issuance of a permit.

Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, or will increase the discharge of emissions. Any such proposed changes shall be submitted as a revision or modification.

Modifications or revisions to this permit shall be processed in accordance with 20.2.72 NMAC.

3. Notification to Subsequent Owners (20.2.72 NMAC, Sections 7.P.1and 212.C)

The permit and conditions apply in the event of any change in control or ownership of the

facility. No permit modification is required in such case. However, in the event of any such change in control or ownership, the permittee shall notify the succeeding owner of the permit and conditions and shall notify the Department of the change in ownership within fifteen (15) days of that change.

Any new owner or operator shall notify the Department, within thirty (30) days of assuming ownership, of the new owner's or operator's name and address.

4. Right to Access Property and Review Records (NMSA 1978, Section 74-2-13)

The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. The company, upon either a verbal or written request from an authorized representative of the Department, shall produce any records or information necessary to establish that the terms and conditions of this permit are being met.

5. Posting/Retention of the Permit

A copy of this permit shall be posted at the plant site or retained at the plant site at all times and shall be made available to Department personnel for inspection upon request.

6. <u>Permit Cancellations</u> (20.2.72.211 NMAC)

- a) The Department shall automatically cancel any permit for any source which ceases operation for five (5) years or more, or permanently. Reactivation of any source after the five (5) year period shall require a new permit.
- b) The Department may cancel a permit if the construction or modification is not commenced within two (2) years from the date of issuance or if, during the construction or modification, work is suspended for a total of one (1) year.
- 7. Pursuant to 20.2.72.210.A NMAC, the contents of a permit application specifically identified by the Department shall become the terms and conditions of the permit or permit revision. Unless modified by conditions of this permit, the applicant shall construct or modify and operate the facility in accordance with all representations of the application and supplemental submittals that the Department relied upon to determine compliance with applicable regulations and ambient air quality standards. If the Department relied on air quality modeling to issue this permit, any change in the parameters used for this modeling shall be submitted to the Department for review. Upon the Department's request, the applicant shall submit additional modeling for review by the Department. Results of that review may require a permit modification.

- 8. Prior to any asbestos demolition or renovation work, the permittee shall determine whether 40 CFR 61, Subpart M, National Emission Standard for Asbestos applies.
- 9. For engines or turbines equipped with catalytic converters and/or air fuel ratio controllers, or similar device which performs the same function of maintaining appropriate air and fuel ratios, records shall be made and maintained by the owner or operator for a period of at least two (2) years from the date of generation and a summary of quarterly reports shall be submitted to the Department annually, which:
 - a) For each air fuel ratio (AFR) controlling type device, demonstrate that the manufacturer's or supplier's recommended maintenance is performed, including replacement of oxygen sensor as necessary for oxygen-based controllers. Verification of proper operation of the controller shall be demonstrated at least quarterly by measuring and recording exhaust oxygen or NO_x concentrations with a properly calibrated portable analyzer as specified in the most current version of the SOP for "Use of Portable Analyzers in Performance Tests".
 - b) For any engine equipped with a catalytic converter, demonstrate the maintenance of the NO_x and CO reduction efficiency across the catalyst bed. This test shall be performed within ninety (90) days following initial startup and on a quarterly basis thereafter, unless an alternative testing schedule is specified by the department. Properly calibrated portable analyzers are acceptable for this demonstration. The test shall be conducted at ninety percent (90%) or greater of full load and shall include the exhaust volume flow rate (dscf) and the NOx and CO emission rate (lb/hr).
- 10. For engines equipped with catalytic converters, the engine shall not be operated without the catalytic converter, specifically including catalyst maintenance periods. During periods of catalyst maintenance, the permittee shall either (1) shut down the engine(s); or (2) replace the catalyst with a functionally equivalent spare to allow the engine to remain in operation.
- 11. Flares used to comply with the NSPS (e.g. 40 CFR 60, Subpart GGG, KKK and VV) requirements for VOC leaks shall be tested in accordance with the requirements contained in 40 CFR 60, Subpart A, General Provisions, paragraph 60.8 (performance tests) and 60.18 (general control device requirements).
- 12. Except as provided in the Specific Conditions, records shall be maintained on-site for a minimum of two (2) years from the time of recording and shall be made available to Department personnel upon request.
- 13. If this permit requires any compliance testing, the owner or operator shall notify the

Department at least thirty (30) days prior to the test date and allow a representative of the Department to be present at the test. The permittee shall submit a testing protocol to the Department at least thirty (30) days prior to the test date and shall observe the following testing procedures:

- a. The test protocol and compliance test report shall conform to the standard format specified by the Department. The most current version of the format may be obtained from the Enforcement and Compliance Section of the Air Quality Bureau.
- b. Pursuant to 20.2.72.210.C NMAC, for combustion sources with stacks, the permittee shall also provide a one-quarter (1/4) inch stainless steel sampling line adjacent to the sampling ports and extending down to within four (4) feet above ground level to provide access for future audits. The line shall extend into the stack a distance of 1/4 the stack diameter, but not less than one inch from the stack wall. The sampling line shall be maintained clear of blockage at all times. This line shall be in place at the time of any required compliance tests. For any source for which compliance tests are not required or for previously existing sources this line shall be installed no later than one hundred and eighty (180) days from the date of this permit.
- c. As an alternative, the owner or operator may provide a portable sampling line that is readily available which allows the Department to safely obtain representative stack gas samples at the time of compliance audits or site inspections.
- d. A physical configuration of the facility that conforms to the emissions testing requirements of 20.2.72.210.C NMAC and of 40 CFR 60.8(e), which is imposed under the authority of 20.2.72.210.C.4 NMAC.

ADDITIONAL REQUIREMENTS

Applications for permit revisions and modifications shall be submitted to:

Program Manager, <u>Permits</u> Section New Mexico Environment Department Air Quality Bureau 1301 Siler Road, Bldg. B Santa Fe, New Mexico 87505 Compliance test protocols, regularly scheduled reports, a copy of the test results, and excess emission reports, shall be submitted to:

Program Manager, <u>Compliance and Enforcement</u> Section New Mexico Environment Department Air Quality Bureau 1301 Siler Road, Bldg. B Santa Fe. New Mexico 87505

REVOCATION

The Department may revoke this permit if the applicant or permittee has knowingly and willfully misrepresented a material fact in the application for the permit. Revocation will be made in writing, and an administrative appeal may be taken to the Secretary of the Department within thirty (30) days. Appeals will be handled in accordance with the Department's Rules Governing Appeals From Compliance Orders.

APPEAL PROCEDURES

20.2.72.207.F NMAC provides that any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for hearing before the Environmental Improvement Board. The petition shall be made in writing to the Environmental Improvement Board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered and attach a copy of the permitting action for which review is sought. Unless a timely request for hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to:

Secretary, New Mexico Environmental Improvement Board 1190 St. Francis Drive, Runnels Bldg. Rm. N2153 P.O. Box 5469 Santa Fe, New Mexico 87502

U1202023



State of New Mexico Environment Department

Air Quality Bureau

1301-B Siler Road Santa Fe, NM 87507

Telephone: (505) 476-4300

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INVOICE

Primary Billing Party:

Los Alamos National Security, LLC PO Box 1663, MS J978 Meteorology and Air Quality Group

Los Alamos, NM 87545

Agency Interest:

856 - Los Alamos National Laboratory

PO Box 1663 MS K490

Los Alamos, NM 87545

INVOICE ID: 101703

INVOICE DATE:

08/28/2012

INVOICE DUE DATE: 10/20/2012

ASSESSMENTS

Air Quality, PRN20120003, Air - General Review Fee

\$1,380.00

Air Quality, PRN20120003, Air - NSR Filing Fee

\$500.00

INVOICED AMOUNT

\$1,880.00

CREDITS

Payment (08/28/2012)

Total Credits:

\$500.00

\$500.00

BALANCE DUE

\$1,380.00

Cut Here and Include Lower Portion with Payment

Primary Billing Party:

Los Alamos National Security, LLC

PO Box 1663, MS J978

Meteorology and Air Quality Group

Los Alamos, NM 87545

Agency Interest:

856 - Los Alamos National Laboratory

PO Box 1663 MS K490

Los Alamos, NM 87545

INVOICE ID: 101703

Invoice Amount:

\$1,380.00

INVOICE DUE DATE: 10/20/2012

Please make checks payable to:

Mail payments to:

NMED Federal Tax ID#:

85-6000565

New Mexico Environment Department, AQB

Air Quality Bureau 1301-B Siler Road Santa Fe, NM 87507

Amount Enclosed

Telephone: (505) 476-4300

Fax: (505) 476-4375

