Notice of Construction (NOC) Approval

Issued in accordance with:
Chapter 70A.15 RCW, SRCAA Regulation I,
Article V, Chapter 173-400 WAC, and
Chapter 173-460 WAC

1610 S. Technology Blvd., Suite 101, Spokane, WA 99224 (509) 477-4727

NOTICE OF CONSTRUCTION (NOC):	#1954
DATE APPROVED:	DRAFT
COMPANY NAME:	Eastern Washington University Environmental, Health, and Safety 002 Martin Hall Cheney , WA 99004
FACILITY LOCATION:	Rozell Heating Plant 101 Rozell Street Cheney, WA 99004
FACITLIY CONTACT:	Steve Schmedding (509)359-4205
DESCRIPTION OF EQUIPMENT BEING INSTALLED:	B-1: ONE CLEAVER BROOKS CBNB 200D-50 DUAL FUEL FIRED BOILER RATED AT 73.8 MILLION BRITISH THERMAL UNITS PER HR(MMBTU/HR)WHEN FIRED WITH NATURAL GAS AND 70.6 MMBTU/HR WHEN FIRED WITH DIESEL B-2: ONE CLEAVER BROOKS CBNB 100D-40 DUAL FUEL FIRED BOILER RATED AT 32.8 MILLION BRITISH THERMAL UNITS PER HR(MMBTU/HR)WHEN FIRED WITH NATURAL GAS AND 31.2 MMBTU/HR WHEN FIRED WITH DIESEL

PREPARED BY:_____
John Conklin

REVIEWED BY:_____
April Westby, PE

APPROVED BY:_____
April Westby , Control Officer

PRELIMINARY DETERMINATION

A preliminary determination has been made, based on a review of the Notice of Construction (NOC #1954) application. The proposed project, if constructed and operated as described in the NOC application, will be in compliance with the applicable rules and regulations, as adopted pursuant to Chapter 70A.15 RCW, including Chapters 173-400 WAC and 173-460 WAC and SRCAA Regulation I, provided that the following conditions are met:

One-time requirements:

1. SRCAA shall be notified at least seven days prior to the anticipated finalization of commissioning for each boiler (i.e., operational control is handed over to Eastern Washington University and the boiler can be used to produce useful steam)

2. This order of approval shall become invalid if any of the following occur:
   a. Construction of the approved equipment is not commenced within eighteen months after the receipt of the approval, or
   b. Construction of the approved equipment is discontinued for a period of eighteen months or more, or
   c. Construction of the approved equipment is not completed within eighteen months of commencement.

   SRCAA may extend any of the eighteen-month periods referenced above, provided the proponent demonstrates that an extension is justified and the criteria given in SRCAA Regulation I, Section 5.13.B are met.

Ongoing requirements:

3. A copy of the NOC #1954 application and the final order of approval shall be kept on-site and made available to SRCAA personnel upon request.

4. The boilers and associated burners shall be maintained in good operating condition. An operation and maintenance (O&M) plan shall be developed for the equipment no later than 30 days after the finalization of commissioning for each boiler. Manufacturer O&M manuals that include the information described in Conditions 4.a – 4.e below, are acceptable. Once developed, the O&M plan shall be followed. The O&M plan shall be kept on-site and made available to SRCAA personnel upon request.

   The O&M plan shall, at a minimum, include the following:

   a. Normal operating parameters for the boilers;

   b. A description of the periodic maintenance activities that will be performed;

   c. The frequency of each maintenance activity will be performed;

   d. Corrective actions to be taken if any operating parameter is outside of the normal range;

   e. Recordkeeping form(s) to be used to document the date and nature of maintenance activities performed and any corrective actions taken.

Records, including the recordkeeping forms used to document maintenance activities and corrective actions taken, shall be kept in accordance with Condition 15 below.

5. The boilers' exhaust stack shall have a minimum height of **125** feet above ground level and shall exhaust vertically. No elbows, tees, or stack caps that impede exhaust air vertical flow shall be installed at the end of any of the stacks.

6. The flue gas recirculation system on the boilers shall be in operation whenever the boilers are in operation.

7. Visible emissions the boiler exhaust stack shall not exceed 10% opacity during any six-minute average, as determined using EPA Reference Method 9.

8. SRCAA approval must be obtained before any fuel other than natural gas or diesel (fuel oil #2) is burned in either boiler.

9. Each boiler shall meet the following emission limits when firing with natural gas and diesel at high fire (80% load or higher):

FUEL	OXIDES OF NITROGEN (NO_X) PPMV @ 3% O2	CARBON MONOXIDE (CO) PPMV @ 3% O2
Natural gas	30	50
Diesel	77	75

Testing to verify compliance with the NOx and CO emission limits given above may be required by SRCAA at any time, including but not limited to, occasions when the opacity limit, given in Condition 7 is exceeded.

10. Within 90 days after the new boiler's commissioning has been finalized, an initial performance test must be conducted on each boiler to demonstrate compliance with the emission limits given in Condition 9 above. The testing, specified below, shall be performed in accordance with SRCAA Regulation I, Section 2.09, unless alternate test methods or equivalent tests are requested in writing and approved by SRCAA:

    a. SRCAA shall be notified at least 30 calendar days prior to the start of the performance tests. A written test plan, including a description of the method(s) proposed, shall be submitted to SRCAA for approval at least 30 calendar days prior to the start of the initial performance tests. Once approved, the test plan shall be followed.

    b. During all initial testing, the boilers shall be operated at a minimum of 80% of rated capacity.

    c. Specific testing requirements for the boilers:

        i. Each boiler shall be tested when firing on the primary fuel (natural gas) and when firing on the back-up fuel (diesel)

        ii. Testing of each boiler shall be performed as described below:

1) Each test shall consist of three separate one-hour runs when firing on natural gas and three separate one-hour runs when firing on diesel.
2) The following constituents shall be measured during each test run:
   - Volumetric flow rate and temperature, per EPA Methods 1 & 2;
   - Oxygen (O2) & Carbon Dioxide (CO2), per EPA Method 3A;
   - Moisture content, per EPA Method 4;
   - Oxides of Nitrogen (NOx), per EPA Method 7E; and
   - Carbon Monoxide (CO), per EPA Method 10.

d. A performance test report shall be prepared and submitted to SRCAA within 45 calendar days of completion of the initial performance tests.

11. After the initial performance tests described in Condition 10, periodic combustion tests shall be performed on each boiler to verify compliance with the NO_X and CO emission limits given in Condition 9 above. The tests shall be performed using a combustion analyzer or SRCAA approved alternative test method. Testing shall meet the following requirements:

a. **Each** boiler shall be tested when firing on the primary fuel (natural gas) and when firing on the back-up fuel (diesel). The combustion tests shall be conducted per the following schedule:

   i. When firing on the primary fuel (natural gas), the combustion test must be performed on the boiler at least once in each week that the boiler operates.

   ii. When firing on the back-up fuel (diesel), the test shall be performed at least once in each week where the back-up fuel was burned in the boiler.

   Testing is not required on the weeks that a boiler does not operate on a given fuel. SRCAA may approve alternative testing schedules. Each combustion test shall reflect boiler operation under actual operating conditions and shall be conducted at a load that is representative of maximum boiler operations for the week. During periods of unavoidable boiler and/or combustion analyzer malfunctions, SRCAA may temporarily exempt the boiler from weekly combustion test requirements, if EWU submits a written request describing the cause(s) of the malfunction and a time schedule for completion of the repairs, and SRCAA approves the request.

b. The combustion analyzer shall be capable of analyzing for NO_X and CO emissions.

c. The combustion analyzer shall be calibrated using manufacturer recommended procedures and certified calibration gases, immediately prior to the test.

d. During each combustion test, the following operational parameters shall be measured and recorded:

   i) NOx and CO concentrations (ppmv) in the exhaust stream;
   ii) Temperature;
   iii) Percent O_2 for each NOx and CO reading; and
   iv) Average load.

e. A report documenting the combustion test results for the pervious heating season, shall be submitted to SRCAA by no later than July 30th each calendar year. The report shall include:

i) A calibration report for all calibrations performed on the combustion analyzer since submittal of the last report;

ii) The dates of the previous heating season;

iii) A summary of each combustion test performed (at least weekly) during the previous heating season, including the following:

- the date / time of each test,
- the boiler and fuel type being tested
- the NOx and CO emissions measured during each test (in ppm corrected to 3% O2; see sample calculation below),
- temperature, percent O2, and average load during each test

[NO_X, or CO] ppmv (@ 3% O_2) =Measured [NO_X, or CO] ppmv x (20.9-3)/(20.9-Measured [NO_X, or CO] %O_2)

(Example: Measured NO_X = 20 ppmv @ 7.5% O_2, & CO =30 ppmv @ 8.5% O_2;

therefore, NO_x @ 3% O_2 = 20 x $\frac{(20.9-3)}{(20.9-7.5)}$ = **26.7** ppmv NO_x @ 3% O_2, and

CO @ 3% O_2 = 30 x $\frac{(20.9-3)}{(20.9-8.5)}$ = **43.3** ppmv CO @ 3% O_2)

iv) A calculation for each boiler, while firing each fuel type, the average NOx and CO concentration in ppmv (corrected to 3% O_2) during the previous heating season. The averages shall include every combustion test conducted for each boiler firing on each fuel type. The average NOx and CO concentration(s) will be used to determine compliance with the emission limits given in Condition 9. (i.e., each weekly combustion test will not be compared against the emission limits given in Condition 9).

12. Only ultra-low sulfur diesel (diesel with a sulfur content of 0.0015% by weight or less) shall be used when the boilers are fired on diesel. Records shall be kept documenting the sulfur content of the fuel supplied to the boilers. Supplier certifications and invoices showing that each load of fuel received was ultra-low diesel are sufficient. Records shall be kept in accordance with 15 below.

13. The total annual amount of diesel burned in Boiler #1 and Boiler #2 shall not exceed **252,150** and **112,950** gallons respectively (equivalent to **500** hours of operation for each boiler). Monthly records shall be kept of the total amount of diesel burned in **each** boiler. At the end of each calendar year, the total amount of diesel burned in **each** boiler that calendar year shall be calculated. The total diesel fuel use for the calendar year shall be reported annually to SRCAA on forms provided by SRCAA. Records shall be kept in accordance with Condition 15 below.

14. Records shall be kept of the total amount of natural gas burned in both boilers during each calendar month. Annual natural gas usage shall be reported to SRCAA on

forms provided by SRCAA. Records shall be kept in accordance with Condition 15 below.

15. The following records shall be kept on-site for the most recent 24 months of operation and made available to SRCAA personnel upon request:
    a. Completed recordkeeping forms used to document maintenance activities performed on the boiler (described in Condition 4);
    b. Fuel certification records for each load of diesel delivered to the site for use in the boiler (described in Condition 12);
    c. Annual records of the total amount of diesel burned in **each** boiler (described in Condition 13); and
    d. Monthly records of the total amount of natural gas burned in the boilers (described in Condition 14).

16. The boilers approved under NOC #1854 are subject to SRCAA Order #95-06 (revised on 4/12/04). Eastern Washington University shall comply with all facility-wide emission limits given in the SRCAA Order #95-06 and any subsequent revisions of the Order.

17. The Control Officer, or duly authorized representative, shall be allowed to enter the facility premises at reasonable times to inspect equipment and/or records specific to the control, recovery, or release of contaminants into the atmosphere, in accordance with SRCAAA Regulation I, Article II and RCW 70A.15A.2500. For the purposes of this NOC approval, reasonable times include, but are not limited to, any of the following: normal business and/or equipment operating hours, periods of equipment breakdown or malfunction, and times when the Control Officer, or duly authorized representative are investigating air quality complaints filed with agency and/or have reason to believe that air quality violations have occurred or may be occurring. No person shall obstruct, hamper, or interfere with any such inspection.

18. It is an ongoing condition of this NOC approval that the boiler be registered with the agency. Registration includes the following:
    a. Submittal of updated registration information at least annually as required by SRCAA, using forms provided by SRCAA. The forms provided by the Authority shall be completed and returned to the Authority within 45 days of issuance.
    b. Timely payment of annual registration fees to SRCAA in the amount required by SRCAA Regulations, as periodically amended. Failure to pay registration fees and other related fees within 120 days of the annual registration billing due date will result in an administrative closure of the facility. Re-opening will be governed by SRCAA Regulation I, Section 4.02.F.2, and may include resubmission of a Notice of Construction and Application for Approval.

This condition is in addition to any other remedies available to the agency for non-compliance with agency regulations, state law or federal law.

General Information

This Notice of Construction approval is specific to the Rozell Heating Plant located at 101 Rozell Street, Cheney, WA 99004 and is not transferable to a new location. If the equipment is moved from this site to a new site in Spokane County, a new Notice of Construction may be required.

It should be noted that the approval of this Notice of Construction does not relieve the proponent of the obligation to comply with all other applicable federal, state and local regulations and requirements.

This order of approval may be modified, suspended or revoked in whole or in part for just cause including, but not limited to, the following:

1. Violation of any terms or conditions of this order of approval.

2. Obtaining this order of approval by misrepresentation or failure to disclose fully all relevant facts.

This order of approval may be appealed as described below:

Pursuant to the Revised Code of Washington (RCW) 43.21B.310, you have the right to appeal this Order by filing a notice of appeal with both the Pollution Control Hearings Board (PCHB) and the Spokane Regional Clean Air Agency (SRCAA) on or before the 30th day of receipt of SRCAA's order, permit, license, Notice and Order of Assessment of Civil Penalty, or Notice of Disposition.

Required procedures are detailed in state law (Chapter 43.21B RCW and Chapter 70A.15 RCW) and the PCHB's own regulations (Chapter 371.08 Washington Administrative Code) which may be

found in many public libraries, county and municipal law libraries or on the Internet at www.access.wa.gov/. Since others publish these documents, copies are not available from SRCAA.

If you are filing an appeal, mail, deliver, or fax it to SRCAA and the PCHB at:

SRCAA Address
SRCAA
1610 S. Technology Blvd., Suite 101
Spokane, WA 99224

SRCAA Fax Number
(509) 477-6828

PCHB Mailing Address
PCHB
Environmental Hearings Office
P.O. Box 40903
Olympia, WA 98504-0903

PCHB Fax Number
(360) 586-2253

PCHB Physical Address
PCHB
1111 Israel Rd. SW. Ste 301
Tumwater, WA 98501

The PCHB also accepts appeals via email at: PCHB-SHBappeals@eluho.wa.gov.