

LIMITATIONS ON FUEL CONSUMPTION IN STATIONARY COMBUSTION AIR EMISSION SOURCES

INTRODUCTION

The University of Nebraska-Lincoln (UNL) is required to limit fuel consumption for combustion sources with air quality permits. These include boilers at the City and East Campus Utility Plants and emergency power generators on both campuses. This Safe Operating Procedure (SOP) provides a summary of permit limits, recordkeeping, and reporting requirements for stationary combustion sources with respect to fuel use.

Emergency Generators

The EHS SOP, ***Power Stationary Emergency Generators - Permits and Compliance Requirements***, provides detailed information regarding permitting and restrictions for natural gas & diesel powered generators. Specifications & operation limitations are summarized below:

- The fuel consumption limit for any emergency generator is based on restricted hours of operation imposed by UNL's air permits. Each unit shall not operate for more than 500 hours during any consecutive 12-month period for any reason, including a 100 hour limit for maintenance/readiness testing during that time.
- Generators are limited to using diesel fuel that contains 0.0015% (15 ppm) or less sulfur (Ultra Low Sulfur Diesel) & minimum cetane index of 40. Any existing diesel fuel purchased before October 1, 2010, that may not meet these specifications, can be combusted until depleted.

Utility Plants

Table 1 summarizes maximum fuel use and minimum fuel specifications for the boilers at the City and East Campus Utility Plants as specified in the applicable air permits. Fuel supplier records must be maintained for each delivery to demonstrate compliance with the sulfur limits.

Table 1-Utility Plant Boiler Permit Limits

Permit Limits	East Campus Utility Plant			City Campus Utility Plant				
	B#3	B#4	B#5	B#1	B#2	B#6	B#7	
Permitted to burn #2 fuel oil	Boilers are not equipped to burn #2 fuel oil.			Yes	Yes	Boiler not equipped to burn #2 fuel oil	Yes	
Max gal/12 mo. #2 fuel oil				Combined total of 950,000			714,000	
Max sulfur #2 fuel oil				0.5% or less by weight				0.5% or less by weight
Min heating value (BTU/gallon) for #2 fuel oil				No limits specified in permit				
Permitted to burn #6 fuel oil	Yes	Yes	Yes	Boilers not equipped or permitted to burn #6 fuel oil		Yes	Boiler not equipped or permitted to burn #6 fuel oil	
Max gal/12 mo. #6 fuel oil	387,000 in boiler #5 and 690,000 in all boilers combined					1,200,000		
Max sulfur #6 fuel oil	Less than 1.7% sulfur by weight					1.7% or less sulfur by weight		
Min heating value (BTU/gallon) for #6 fuel oil	No limits specified in permit		148,000			No limits specified in permit		
Permitted to burn natural gas	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Maximum MMCF (million cubic feet) /12 mo.	182 in boiler #5 and a total of 1,650 in all boilers combined			Combined total of 1000		500	587.2	

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