

## PROJECT SUMMARY

### I. INTRODUCTION

The Children's Memorial Hospital has submitted an application for federally enforceable state operating permit consisting of support equipment for their medical center, including eight steam boilers, and six emergency electric generators. This permit prevents the site from being classified as a major source of emissions under the Clean Air Act. Therefore, the Children's Memorial Hospital will not have to obtain a federal permit under the Clean Air Act Permit Program. The renewal permit would contain limitations and accompanying recordkeeping and reporting requirements to assure that the site is operated as a non-major source.

### II. SOURCE DESCRIPTION

These boilers and generators are used by the facility to generate steam and electrical power for their own usage. Each generator consists of a reciprocating engine which drives an electric generator by means of a rotating shaft. The reciprocating engines are driven by the combustion of distillate diesel fuel oil or natural gas.

### III. EMISSIONS

Air pollutants are generated when these boilers and reciprocating engines are in operation. These emissions occur from the combustion of diesel fuel or natural gas and are exhausted through a pipe to a vent located on the roof.

The primary air pollutants from these boilers and reciprocating engines are nitrogen oxide (NO<sub>x</sub>), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO<sub>2</sub>), and particulate matter (PM).

NO<sub>x</sub> is formed thermally by the combination of oxygen and nitrogen in the air at the temperature at which the fuel is burned. CO, VOM, and PM are formed from incomplete combustion of the fuel. Emissions of SO<sub>2</sub> are found in varying amounts from the combustion of diesel fuel, depending on the sulfur content of the fuel.

The proposed permit includes limitations that restrict the potential annual emissions of NO<sub>x</sub>, CO, VOM, and SO<sub>2</sub> to levels below major source thresholds.

### IV. APPLICABLE EMISSION STANDARDS

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois. The Board has standards for sources of particulate matter, volatile

organic material, and sulfur dioxide for reciprocating engines. This site readily complies with those Board standards.

## V. PROPOSED PERMIT

The conditions of the proposed permit contain limitations and requirements to assure that this site will be operated as a non-major source. The permit establishes limitations on the amount of fuel which may be burned.

The permit conditions also establish appropriate compliance procedures, including record keeping requirements and reporting requirements. The facility must carry out these procedures on a continual basis to demonstrate that the boilers and generators are operating within the limitations established by the permit.

## VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that these boilers and generators meet all applicable state and federal air pollution control requirements, subject to the conditions of the draft permit. The Illinois EPA is therefore proposing to issue a permit with federally enforceable limits for the above referenced equipment to the Mount Sinai Hospital.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If there is significant public interest in this matter, the Illinois EPA may hold a public hearing in accordance with 35 Ill. Adm. Code Part 166.