K5367
MWILL

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

K536730991

FACILITY: City of Hamtramck		**SRN / ID:** K5367
LOCATION: 3401 Evaline Street, HAMTRAMCK		**DISTRICT:** Detroit
CITY: HAMTRAMCK		**COUNTY:** WAYNE
CONTACT: David Webster , Administration Office		**ACTIVITY DATE:** 03/12/2015
STAFF: C. Nazaret Sandoval	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:**
SUBJECT: This inspection was conducted to address the City of Hamtramck permitting concerns regarding the repairs of an existing boiler that suffered damages due to the flooding of the basement during August of 2014. THIS FACILITY IS A MINOR SOURCE		
RESOLVED COMPLAINTS:		

Source: City of Hamtramck
Location: 3401 Evaline St., City of Hamtramck, MI 48212
Date of Inspection: March 12, 2015
Date of Report: March 17, 2015
Reason for Inspection: Scheduled Inspection
Inspector: Nazaret Sandoval, Michigan Department of Environmental Quality (DEQ) / Air Quality Division
Personnel Present: David Webster, City of Hamtramck/ Administration
Facility Phone Number: (313) 876-7700 Ext. 327
Facility Fax Number: (313) 876 -7771

BACKGROUND

On February 26, 2015, Tracy Kecskemeti from the Office of Waste Management and Radiological Protection of the DEQ contacted the Air Quality Division (AQD), Detroit Field Office. In her email Ms. Kecskemeti asked us to provide technical assistance to Mr. David Webster of the City of Hamtramck who had contacted her in relation to Air Quality permitting issues.

On February 27, 2015 I contacted Mr. Webster to gather more information about his concerns. He indicated that the City of Hamtramck has a boiler which resides in the City Hall basement. The boiler was damaged as a result of the flooding and the City contacted a mechanical services company to have the boiler repaired. He explained that the project is one of the three Federal Emergency Management Agency (FEMA) projects that the City of Hamtramck undertook as a result of the August 11-13, 2014 flooding. Mr. Webster clarified that one of the requirements imposed by FEMA for the approval of the reimbursement of project expenses is to receive documentation from the State corroborating that an evaluation have been conducted to determine if the boiler is subject to permitting requirements under the Michigan Air Pollution Control Rules and/or the Federal Air Quality Regulations.

In an effort to address Mr. Webster's concern the AQD / Detroit Field Office discussed the regulatory framework pertaining to boilers. I provided technical guidance and factsheets to help him to evaluate and determine if the boiler was subject the State or Federal Regulations, and/or if the boiler is exempt from the requirements to obtain a permit to install (PTI) under the State Rules.

Early in our discussions, I told Mr. Webster that the DEQ/AQD Detroit Field Office does not issue exemption determinations. When we are dealing with exemptions, our role is limited to helping the facilities to interpret the regulations. However, based on the circumstances of this FEMA project, I decided to schedule a visit to the City Hall to inspect the equipment and determine if a permit to install was required.

I met with Mr. Webster at the City Hall at 2:00 PM on March 12, 2015. I inspected the boiler, the water heater and some of the furnaces that are used to provide heat to the building.

PRELIMINARY EVALUATION / DISCUSSION

The initial email, received on February 26, 2015, did not have much information about the boiler. At a minimum, in order to sort out the applicable regulations, we need to know: the boiler maximum design heat input capacity in Btu per hour, the installation/modification and/or reconstruction date, and verification if the boiler uses natural gas only or if it has back up fuel oil. I also asked Mr. Webster if there was any additional heating equipment in the City Hall building that could potentially be emitting air pollutants to the ambient air.

During the past two weeks I have been in continuous communication with Mr. Webster discussing his concerns. While I waited for requested information, we have been discussing the State Air Quality regulations applicable to fuel-burning equipment used for space heating, service water heating and indirect heating. I emailed Mr. Webster copies (excerpts) of the applicable State Rules. I also provided a factsheet and a brochure that explains the Federal Regulations that could potentially be applicable to Area Source Boilers (NSPS and GACT-NESHAP-Subpart 6J).

The following information is a summary of the initial email correspondence I had with Mr. Webster, early on in our conversations, before I have specific information about the boiler specifications. It captures our preliminary discussions, the follow up questions and my comments on the applicability of State and Federal Regulations for Gas Fueled Boiler:

1) Verify the Boiler Maximum Total Heat Input in Btu per hour.

The maximum design heat input capacity rating can be obtained from the "boilerplate" on the boiler or by contacting the boiler's manufacturer. There may be different ratings for different fuels.

The Michigan Air Pollution Control Rules have provisions under Rules R336.1280 to R336.1289 that allows certain equipment and processes to be exempt from the requirements of the AQD Rule R336.1201 (1) to obtain a permit to install (PTI).

The State Rule R336.1282 (b) (i) is applicable to fuel-burning equipment used for space heating.Here is an excerpt of that rule:

"R 336.1282 - Permit to install exemptions; furnaces, ovens, and heaters.

Rule 282. The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:

(b) Fuel-burning equipment which is used for space heating, service water heating, electric power generation, oil and gas production or processing, or indirect heating and which burns only the following fuels:

> *(i) Sweet natural gas, synthetic gas, liquefied petroleum gas, or a combination thereof and the equipment has a rated heat input capacity of not more than 50,000,000 Btu per hour.*

The listed PTI exemptions are available to the owners or responsible parties of the sources of Air Pollution for them to determine the applicability of a particular exemption based on their analysis of their equipment and processes. In other words, when we are dealing with PTI exemptions, our role is limited to helping the facilities to interpret the regulations.

Here is the interpretation of Rule 282;

If you find out that the heat input capacity of the boiler is less than 50 Million Btu per hour, and if the boiler only burns natural gas, the equipment could be exempt of the requirements of the State AQD Rule R336.1201 (1) to obtain a permit to install (PTI) pursuant to Rule 282 (b) (i). If that is the case, you can provide that information to FEMA specifying the exemption rule you are using for your equipment.

Further analysis may be need it, since the boiler could be subject to other federal regulations (see Item 3 and 4 below)

2) State Rule R 336.1201 (1) – Permit to Install

If the heat Input is more than 50 Million Btu per hourthe boiler is subject to PTI per Rule 201 (the AQD State Rule) and you would need to contact DEQ Permit Section. The boiler may qualify for a General Permit for natural gas-fired boilers, with a maximum rated heat input of 100 million Btu per hour.

The boiler could also be subject to the "New Source Performance Standards (NSPS) for Boilers Burning Natural Gas Only (See analysis below)

3) NSPS – Subpart Dc Applicability (40 CFR Part 60 –Subpart Dc)

The attached fact sheet explains the NSPS federal regulation and pertains to boilers that are capable of only burning natural gas. If your boiler burns or is equipped to burn other fuels, such as oil for back up purposes, then you will need to read the relevant parts of the standard that apply to that fuel usage.

Subpart Dc of NSPS applies to steam generating units (boilers) from small commercial, industrial, and municipal buildings (e.g., schools, hospitals, churches, retail buildings, etc.) that meet **all** of the following:

- Combust any of several fuel types, including coal, oil, natural gas, and wood.
- Maximum design heat input capacity is greater than or equal to 10 million Btu per hour and equal to or less than 100 million Btu per hour.
- Construction, modification, or reconstruction started after June 9, 1989.(refer to fact sheet for the definitions and prove of project expenses)

In order to complete the evaluation of the applicability of NSPS - Subpart Dc Standards you will need to answer all to the above questions and decide if the boiler meets all the above conditions. . If the boiler meets the first two conditions, then you have to analyze the third one. Does the boiler meet the definitions of "modification" or "reconstruction"? They are different and you have to submit documentation backing up the selected definition. The boiler won't be subject to NSPS –Subpart Dc if the boiler was repaired and not reconstructed. The boiler will be considered repaired if you can prove (by submitting the project expenses) that the "one for one" replacement of parts **does not** exceed 50 percent of the fixed capital costs required to construct an entirely new "comparable boiler".

What do you need to do if you are subject to NSPS – Subpart Dc (refer to attached factsheet)

4) Is the boiler subject to 40 CFR Part 63 Subpart JJJJJJ - Area Sources Industrial, Commercial, and Institutional Boilers?

If the boiler only uses Natural Gas as a fuel, then it is NOT subject to this regulation (See

attached pamphlet). However, you may need to maintain records to demonstrate exemption applicability, including records documenting the boiler's fuel design and fuel usage.

INSPECTION AND EVALUATION

On March 12, 2015 I met Mr. Webster at the City Hall building and he handed out to me all the information I have requested during our previous conversations.

The following information is attached:

1. Summary list for the building heating equipment and water boiler specifications.
2. Email from David Stenrose form the Department of Licensing and Regulatory Affairs (LARA) indicating the Boiler's date of installation and permit number.
3. Expenses invoice for the repairs of the Boiler ($21,665.06) and the replacement of the Water Heater ($1,951.92) for a total amount of $ 23,616.98
4. Expenses estimate for Boiler Replacement for the amount of $72,680 (This was provided as a reference to compare the cost of repairs versus the cost of replacement for similar equipment and determine if the boiler was reconstructed)
5. Natural Gas Fuel Consumption for City Hall Building (June 2013 – June 2014)

According to the information, the boiler was manufactured by Weil-McLain and has an input heat capacity of 4,113,000 Btu per hour. It has a permit from LARA (Permit No. MI372311) and it was built in 1992 and installed in 1994.

I inspected the boiler in the basement of the building and confirmed that the information provided by Mr. Webster was accurate. I verified the heat input capacity from the Boiler Name Plate.
The new 75-Gallons hot water tank with a heat input capacity of 75,100 Btu per hour. was also in the basement.

There are eleven (11) furnaces which provide heat to the building with an added total heat input capacity of 1,060,000 Btu per hour. The furnaces are located in utility rooms at various floor of the building. I inspected two of the furnaces on the third floor. Furnaces #5, #6, # 7 and # 8 are in the utility room by the Administration office. I checked the manufacturer's plate to verify the heat input capacities for furnace # 5 and #6 and they were each rated at 100,000 Btu per hour.

CONCLUSION

Based on the maximum heat input capacities, all the fuel-burning equipment at the City Hall building are exempt from the requirements of the AQD Rule R336.1201 (1) to obtain a permit to install (PTI) pursuant to Rule 282 (b) (i). Even when the heat input capacities of all the equipment are added, the total (5,248,100 Btu per hour) is less than 50 Million Btu per hour. The boiler could potentially have been subject to a federal regulation under NSPS 40 CFR Part 60 –Subpart Dc because it combust natural gas and it was installed after June 9, 1989. However, the boiler fails to meet one of the three applicability criteria because the heat input capacity falls below 10 Million Btu per hour. Consequently, the boiler is not subject to NSPS Subpart Dc.

NAME Mandoral DATE 9/3/15 SUPERVISOR JK