

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

B165624018

FACILITY: New NGC, Inc.		SRN / ID: B1656
LOCATION: 2375 S NATIONAL CITY RD, NATIONAL CITY		DISTRICT: Saginaw Bay
CITY: NATIONAL CITY		COUNTY: IOSCO
CONTACT: Dennis Revord , Maintenace Manager		ACTIVITY DATE: 12/19/2013
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM 208A
SUBJECT: Scheduled inspection of active wallboard facility- permit modification was completed during the previous fiscal year. sgl		
RESOLVED COMPLAINTS:		

Thursday, December 19, 2013, S. LeBlanc arrived onsite to conduct a scheduled site inspection at the New NGC, Inc. Facility (NNGC) (SRN B1656). The referenced facility is a gypsum wall board plant located at 2375 National City Road, National City, Iosco County, Michigan. The referenced facility is a Category II, 208A Synthetic Minor, and operates under the referenced active permits:

- 73-98C Modification of existing Board Kiln (EUBOARDKILN),
- 356-95 Stucco Cooling and Storage Bins with Bag Filters
- 365-95 Dry Rock Bin and Baghouse Gypsum Process/Baghouses
- 158-76 Hot Stucco System (EUHOTSTUCCO),
- 157-76 Calciner #2 with Fabric Filter (part of EU3CALCIDYNES),
- 156-76 Calciner #3 with Fabric Filter (part of EU3CALCIDYNES),
- 155-76 Land Plaster Bin with Fabric Filters (EULANDPLASTERBIN),
- 154-76 Calciner #1 with Fabric Filter (part of EU3CALCIDYNES),
- 10-75 Rock Dryer and Hammer Mill with Fabric Filter(s) (EUROCKDRYER),
- 9-75 Raymond Mill and Fabric Filter, (EURAYMONDMILL) and
- 8-75 Trimming Saws (Board End Trimming, AKA B.E.T.), Paper separator (EUPAPERSEPARATOR) with associated fabric filter.

PTI 282-74 was issued for a Sly Pactecon dust filter, block grinders, score wheels and chamber wheels. District files appear to indicate that the permit was properly voided in 1996, but Permit Cards identified the referenced permit as an active permit for the site. The National Gypsum Quarry was originally permitted under the same SRN, but was designated a separate SRN (N7914) in 2007. Permit No. 371-06 is associated with the quarry.

The purpose of the inspection was to determine compliance with the above referenced permits. Mr. Dennis Revord, Maintenance Manager, provided a tour of the facility, and general overview of operation and practices. The facility was operating at the time of inspection.

FACILITY DESCRIPTION

The NNGC Facility is located on National City Road, which is located approximately 4-miles east of M-65, and less than 2-miles south of Whittemore Road, Iosco County, Michigan. The facility is located in what appears to be a mix of agricultural property and scattered residences.

The wallboard itself is reported to be a mixture of gypsum, paper, starch and an accelerant. From 1927 to 1959, gypsum rock [CaSO₄ 2(H₂O)] was mined from a quarry located immediately adjacent to the wall board plant. After 1959, mining was conducted at the "New Quarry" located approximately 5-miles from the plant. At the time of the initial permitting (1975) the facility was operating as Gold Bond Building Products, a Division of National Gypsum Company.

At present the facility has a substation onsite to provide power and uses natural gas to operate the calciners, rock dryer, board kilns and provide general heating. A number of years ago the facility was reported to have operated onsite boilers. The boilers and associated underground tanks were reported to have been removed from site.

Process Description – The NNGC Facility utilizes naturally occurring gypsum rather than synthetic gypsum generated from pollution control devices at power plants. As described by facility staff two types of water is associated with the wall board process, “free water” and “combined water”. Free water consists of the moisture content of the gypsum as compared to combined water which is the H₂O within the chemical composition of the rock [CaSO₄ 2(H₂O)].

Gypsum from the quarry is brought in to the stock pile (EUPLTTRKUNLOAD) (EUPLANTSTOCKPILE) by a contracted trucking company. From there the gypsum is transferred via EUPLANTCONVEYOR (grandfathered) to the Rock Dryer (EUROCKDRYER), a rotary kiln (with dust collector) that operates at less than 5 rpm. This unit begins what district files refer to as the nonmetallic mineral processing plant. The associated bag house creates a negative pressure in the rotary kiln and pulls dust and free water extracted by the temperature of the kiln. Staff report that the moisture collected at this point is not sufficient to plug the dust collector with dust.

From the Rotary Kiln/Rock Dryer, the gypsum rock is transferred to the hammer mill crusher (Williams hammer mill crusher) (installed in 1998), where the rock is reduced to a size of one-inch and under for further processing. The crushed rock is transferred to the dry rock bin via screw conveyors. The dry rock bin (EUDRYROCKBIN) is equipped with a small bin-top bag house/fabric filter.

From the dry rock bin, gypsum is transferred via a drag chain to the Raymond mill (EURAYMONDMILL) where the crushed gypsum rock is ground to a powder referred to as land plaster. One dust collector is associated with the Raymond mill. From this point the land plaster was conveyed to the land plaster bin (also equipped with a bin top bag filter) (EULANDPLASTERBIN) for storage.

From the land plaster storage bin, the land plaster is conveyed to one of three calcidynes Calcineres (EU3CALCIDYNES) on site. The calcidyne units further reduce the combined water from the gypsum. The resulting material, referred to as stucco can be mixed with the proper quantity of water and the gypsum will recrystallize. Each Calcidyne unit and its associated conveyors (primarily screw conveyors) have a dust collector and are referred to as the hot stucco dust collectors. (EUHOTSTUCCO) Stucco from the Calcidynes is transferred to the stucco cooling bin, which is equipped with a bin top bag filter.

From the cooling bin, the stucco goes to the board plant bin (EUBOARDPLANTBIN) from which it is used for manufacture of the gypsum wallboard. The board plant bin, and associated conveyors is equipped with a bag filter.

From the board plant bin, the stucco is mixed with water and an accelerant and sprayed on and then sandwiched between paper backing, the materials are cured while on the line, then cut and dried in a kiln (EUBOARDKILN). Farther down the line the board is again trimmed to the finish dimensions (EUBOARDENDTRIM). Dust collected during the trimming process is pneumatically returned into the process, and metered by a drag chain conveyor. Waste wallboard from the final trimming process is chopped up fine, and sent to a paper separator (EUPAPERSEPARATOR) located after the hammer mill, and is re-introduced into the manufacture process at that point.

Compliance History- Review of annual Michigan Air Emission Reports (MAERs) for the facility indicates that they were received in a timely manner, and a review of the submittal did not identify any omissions or errors. The 208a Annual Renewal Registration have also been received in a timely manner. No complaints were on file at the district office.

COMPLIANCE EVALUATION

With the exception of permits 73-98B (EUBOARDKILN) and 356-95 (EUDRYROCKBIN, EUBOARDPLANTBIN and EUHARRYSTUCCOBIN) only a limited number of permit conditions exist for the various permitted processes. For compliance purposes most conditions are limited to visible emissions associated with the process equipment and their associated pollution control devices and associated stacks. These conditions are addressed below.

Operational Status – The wallboard facility equipment was operating at the time of the inspection.

Prior to approval of Permit No. 73-98B, operational limits associated with the referenced permits for the facility were limited to: EUKILN (formerly EUBOARDKILN) with a total gas burner capacity of 57 Million BTU per hour. Facility Staff reported that the four burners operational output is approximately 48 Million BTUs/hour.

Material Usage – Material limits identified in permits associated with the facility were limited to maximum of 900 lbs of ammonium sulfate per day (Condition II.1 PTI 73-98C) or 8 lbs per thousand square feet of wallboard (Condition II.2 PTI 73-98C). Daily averages were calculated based on total volume of ammonium sulfate used based on inventory records, and the total number of hours operated per month. Daily averages were reported to be less than half of the permit limits in 2013.

As silicone has not yet been utilized to date in the production of wallboard at the facility no other records of material use were required by permit. Records kept by the facility are used to generate the annual MAERs reports, and are kept by the facility and corporate offices.

Emission Points/Limits -- Potential sources of contaminants identified onsite consist of contaminants associated with the non-metallic mineral processing and wallboard production activities, as well as the limited material stockpiles and road way traffic. Facility staff indicated that dust control on unpaved roadways consists primarily of a chloride spread on the roadways and when need be reactivated with water. Limited quantities of raw gypsum materials are reported to be stored onsite, and are composed primarily of larger rock, a minimal source of fugitive dust. No records of fugitive dust control activities are required under the referenced permits for the facility.

Visible Emission(VE) limits are defined in all of the permits associated with the facility. Facility staff have indicated that the visible emissions are visually monitored daily, and emission levels and dust collection gauges read and recorded weekly. Review of weekly log sheets and monthly environmental inspection/action log sheet for air emissions for the facility were completed as part of the December 19, 2013, inspection were in general compliance of permit requirements.

VE observations were made as part of the December 19, 2013, site inspection for the following horizontal and vertical stacks:

- Permit #158-76 Hot Stucco stack
- Permits (#1) 154-76, (#2) 157-76, (#3) 156-76 Calcidyne Stacks
- Permit #155-76 Land Plaster Stack

- Permit #09-75 Raymond Mill Stack
- Permit #356-95 Dry Rock Bin Stack
- Permit #10-75 Rock Dryer Stack
- Permit #08-75 BET Stack.
- Permit #356-95 B.P. Bin
- Permit #73-98A Kiln

The wallboard plant was operating at capacity, emission level was 0% from all the stacks at random observations made over the period of the site visit, no non-compliance issues were identified.

Equipment Maintenance –

Most process equipment is equipped with a dust collector/baghouse system, and all useable material is recycled back into the process. Gypsum is a soft mineral and staff have reported that it is relatively non abrasive, and that there were little problems associated with damage to the dust collector piping and vents. Some plugging at various points were reported to occur due to the limited weekly operations, which allowed moisture create plugs, which may on occasion result release of gypsum dust. Staff reported that spare sets of cages and bags for each dust collector are kept onsite, and in most cases AQD staff noted that the spares were visible in the immediate vicinity of the dust collectors.

Monitoring and Testing – With the exception of NSPS applicable testing conducted in association with EUPAPERSEPARATOR, testing for verification of emission rates at the owner's expense may be requested of the department. No such requests are of record. Monitoring is limited to Visible Emissions associated with equipment/dust collector stacks.

Record Keeping and Reporting – Record keeping requirements for the facility are associated with ammonium sulfate and silicone use, hours of operation and production for EUKILN. As previously indicated, environmental records are kept and maintained by the facility with respect to proper operation and maintenance of pollution control devices. Record keeping practices and reporting were found to be in general compliance with permit conditions.

SUMMARY

District Staff conducted a scheduled site inspection at The NNGC Wallboard Plant on Thursday, December 19, 2013. The facility was operating at the time of the inspection. Facility Staff provided a tour of the facility and process.

Based on the information collected during the recent site visit, it appears that the facility is being operated in compliance with its existing permits. sgl

NAME Sharon J. DeBlanc

DATE 1/27/2014 SUPERVISOR C. Stone