OhioEPA

State of Ohio Environmental Protection Agency

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P.O. Box 1049
Columbus, OH 43216-1049

CERTIFIED MAIL # 91 7108 2133 3932 4449 4821

April 23, 2010

Mr. Doug Spangler
Core Molding Technologies, Inc.
800 Manor Park Drive
Columbus, OH 43228

Re: Permanent Total Enclosure for emissions unit P007 – Notice of Violation

Dear Mr. Spangler:

Thank you for your courtesy extended to Eric Yates and I during our visit and tour of your facility on April 6, 2010. The visit and subsequent records review is being used as part of our full compliance evaluation for Core Molding. This letter is meant to document our findings with respect to one specific issue relating to the SMC machine room (emissions unit P007). An additional letter will be sent once the full compliance evaluation is completed and will document the overall facility compliance status and include any additional requested actions.

As a result of our meeting and subsequent review of Core Molding's files located at our office, it appears that there may be some confusion regarding the permanent total enclosure ("PTE") for emissions unit P007. Permit to install #01-6439 issued on December 24, 2006 and the Title V operating permit issued on May 30, 2004 require that emissions unit P007 operate with a PTE. Additionally, the above-referenced permits require that Core Molding install, operate, and maintain monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the PTE.

Findings

During our meeting on April 6, 2010, Core Molding indicated that it was unable to operate emissions unit P007 with a PTE and, thus, has not installed the pressure monitors required by the PTI and Title V permit. However, during a review of our files, documents were discovered that appear to indicate that the SMC machine room was designed as a PTE and may currently be operating as a PTE. A report prepared for Navistar International, dated December 15, 1992, indicated that "the SMC Mix Room and the SMC Machine Room meet the criteria, as outlined in USEPA's Method 204, for a PTE." Additionally, an October 20,

2004 letter from Core Molding Technologies to Ohio EPA acknowledged the presence of a PTE for emissions unit P007 and indicated that Core Molding was in the process of ordering pressure monitors to meet the requirements of the Title V permit (documents attached).

Violation

Ohio Revised Code ("ORC") 3704.05(J)(2) states that "No person shall violate any applicable requirement of Title V permit or any permit condition." Core Molding's failure to install and monitor the above-described monitoring equipment constitutes a violation of the Title V permit and ORC 3704.05(J)(2).

Requested Actions

Ohio EPA requests that within 90 days of the date of this letter, Core Molding verify that the SMC machine room is operating as a PTE by completing a compliance demonstration using USEPA Method 204. Within 30 days of the verification that the SMC machine room meets the definition of a PTE, Ohio EPA requests that Core Molding install and monitor the pressure monitoring devices required by PTI #01-6439 and the Title V permit.

Please note that Ohio EPA has the authority to seek civil penalties as provided in section 3704.06 of the Ohio Revised Code (ORC). This letter or information pursuant to this letter does not constitute a waiver of Ohio EPA's authority to seek civil penalties as provided in the ORC. The decision on whether or not to seek such penalties will be made by Ohio EPA at a later date.

If you have questions regarding this letter, please contact Eric Yates at (614) 728-3807.

Sincerely,

Kelly Toth

Kelly Toth
Supervisor, Permits and Compliance
Division of Air Pollution Control
Central District Office

Attachments

c: Shara Dine, Dine Comply
John Paulian, DAPC/CO
Adam Ward, DAPC/CDO
Eric Yates, DAPC/CDO

CORE
MOLDING TECHNOLOGIES

RECEIVED
OCT 25 2004
OHIO EPA/CDO

October 20, 2004

Mr. Mike Riggleman
Supervisor, Permits and Compliance
Ohio EPA, CDO, DAPC
3232 Alum Creek Drive
Columbus, OH 43207-3417

Dear Mr. Riggleman,

Thank you for allowing Core to respond to the Notice of Violation issued by your office on September 20, 2004. The first issue noted in your letter involves the pressure differential monitors for emissions unit P007, required by our Title V permit. We have received a timeline from our contractor for the installation and programming of the monitoring system. They expect to have the system installed and operational by November 30. We will be working with the contractor to do everything possible to expedite this process.

This will be a computerized system that electronically measures and records the pressure in the SMC machine room (the Permanent Total Enclosure around P007) and the pressure in the Maturation room, which connects to the PTE. The data will be logged to a PC that can be accessed through our network to verify compliance with the pressure differential requirements. The data will be backed up nightly by our network to ensure no data is lost.

The other two issues noted during the September 17 inspection were corrected shortly after the inspection. The part in the cold cleaner that caused the lid to be raised slightly was removed from the tank. The next time that part (a funnel used to pour hazardous waste into a drum) needs to be cleaned, it will be put in the large cold cleaner in the SMC department. This tank is deeper than the small tank in the SMC department, so the lid will have no problem closing completely.

The five-gallon bucket that was observed next to the SMC machine (P007) was emptied into the hazardous waste drum and then covered with a lid. All employees in the department were instructed to keep the pail empty and covered with a lid at all times (except while being filled). The importance of keeping lids on all buckets and drums has been added to our annual environmental awareness training that all company employees must complete each year. This year's training is being conducted in October.

Core continually strives to maintain compliance with all environmental regulations, and we appreciate this opportunity to improve our programs. Thank you for your time in resolving these issues. We also greatly appreciate all of the time and help Todd Scarborough has given to us over the past few years on many projects.

800 Manor Park Drive • P.O. Box 28183 • Columbus, Ohio 43228-0183 • (614) 870-5000

If you have any questions or concerns with our corrective actions, please let me know.

Sincerely,

Linda J. Denison

Linda J. Denison, CHMM
Environmental Engineering Coordinator

QSOURCE

December 15, 1992

Ms. Michelle Culpepper
Navistar International
Columbus Plastics Operation
800 Manor Park Drive
P O Box 28183
Columbus, Ohio 43228-0183

RE: Permanent Total Enclosure Compliance Determination

Dear Ms. Culpepper:

Qsource Engineering, Inc. (QEI) was retained by Navistar International's Columbus Plastics Operation to conduct an engineering evaluation of the Permanent Total Enclosure (PTE) which consists of the Sheet Molded Compound (SMC) Mix Room and the SMC Machine Room.

The evaluation was conducted in accordance with USEPA's Method 204 "Criteria for and Verification of a Permanent or Temporary Total Enclosure" which is published in USEPA's "The Measurement Solution: Using a Temporary Total Enclosure for Capture Efficiency Testing". Method 204 stipulates that in order to demonstrate a PTE the following criteria need to be demonstrated:

- Any natural draft opening (NDO) shall be at least four equivalent opening diameters from each VOC emitting point.
- The total area of all NDO's shall not exceed five percent of the surface area of the enclosure's walls, floor, and ceiling.
- The average face velocity (FV) of air through all NDO's shall be at least an inward 200 ft/min.
- All access doors and windows whose areas are not included as NDO's and are not included in the calculation of FV shall be closed during routine operation of the process.
- All VOC emissions must be captured and contained for discharge through a control device.

2490 Technical Drive, Miamisburg, Ohio 45342 (800) 356-9039
gineering, Inc. (513) 866-4211 FAX (513) 866-7893 Qsource Environmental Services, Inc. (513) 866-1711 FAX (513) 866-7473

The procedure used to demonstrate compliance with these criteria are:

- Determine the equivalent diameters of the NDO's and determine the distances from each VOC emitting point to all NDO's.
- Measure total area of the enclosure and the total area of all NDO's of the enclosure.
- Measure the volumetric flow rate, corrected to standard conditions, of each gas stream entering and/or exiting the enclosure through an exhaust duct or hood using EPA Method 2.
- Verify that the direction of air flow through all NDO's is inward. Monitor the direction of air flow at intervals of at least 10 minutes for 1 hour.

COMPLIANCE DEMONSTRATION

Navistar International's Columbus Plastics Operation conducted a PTE compliance demonstration on November 17, 1992. QEI was retained by Navistar to assist in demonstrating that the SMC Mix Room and the SMC Machine Room constitute a PTE. QEI retained Hayden Environmental Group, Inc. (HEG) to perform triplicate velocity measurements and duplicate moisture determinations on the Mixing Room Inlet, SMC Room Inlet, and SMC Room Outlet. These test were coordinated in such a manner as to be conducted simultaneously with the compliance capture and destruction efficiency demonstration of the paint line and incinerator respectively. Mr. Dave Newsad of the Ohio Environmental Protection Agency Central District Office (OEPA CDO) was on-site to verify process conditions and witness the test procedures.

PERMANENT TOTAL ENCLOSURE

As previously stated, the PTE consists of the SMC Mix Room and the SMC Machine Room. The Mix Room has one air inlet and no exhaust points (outlet). The Machine Room has one air inlet and one air outlet. The inlet air, in both rooms, is tempered air for room temperature control. The single outlet location is the exhaust from the SMC Machine. This exhaust is vented through a cyclone into a thermal incinerator.

The only NDO associated with this enclosure is located in the SMC Machine Room. The SMC Machine Room contains a fork-lift door which separates the SMC Machine Room from the SMC Maturation Room. The gaps found between the fork-lift door and the surrounding walls constitute the NDO.

It should be noted that while the SMC mixers themselves are located within the enclosure, they are not considered to be part of the PTE. This is because the mixers are directly vented to the atmosphere.

It should also be noted that there currently are gaps surrounding the raw material flow pipes in the west wall of the SMC Mix Room. While at the time of testing these were considered NDO's, and the air flow direction was observed to be inward, the gaps will be sealed. Therefore, per Mr. Dave Newsad these will not be considered NDO's for this PTE.

COMPLIANCE DEMONSTRATION

Compliance with the PTE criteria will be demonstrated by restating the criteria listed in Method 204 and providing the results of the testing procedures conducted.

5.1 Determine the equivalent diameters of the NDO's and determine the distances from each VOC emitting point to all NDO's. The number of equivalent diameters shall be at least 4.

- An equivalent diameter is the diameter of a circle that has the same area as the opening. Again, the only NDO within the enclosure is that in the SMC Machine Room surrounding the fork-lift door. The total area of the NDO is 3.32 square feet (478 in^2). The equivalent diameter is calculated as follows:

$$\left[\frac{4 \ x \ 3.32 \ ft^2}{\pi}\right]^{0.5} = 2.06 \ ft \ dia.$$

The minimum distance from the NDO to any VOC emitting point shall be greater than 8.24 feet (2.06 ft dia. x 4). Conservatively, the nearest VOC emission point is assumed to be the far east end of the SMC Machine. The approximate distance from the NDO to this VOC emitting point is 18 feet. Therefore, the nearest VOC emitting point is over twice as far away as required by this criteria.

5.2 Measure total area of the enclosure and the total area of all NDO's of the enclosure. Calculate the NDO to enclosure area ratio.

- The total area of the enclosure (including walls, floor, and ceiling) is 17,716 square feet (89' long x 52' wide x 30' high). The total area of the NDO is 3.32 square feet (478 in^2).

$$\frac{3.32\ ft^2\ NDO}{17{,}716 ft^2\ enclosure} = 0.00019$$

The ratio of the total area of all NDO's to the total area of the enclosure is 0.00019. The criteria requires this ratio to be less than 0.05. Therefore, the enclosure easily complies with this criteria.

5.3 Measure the volumetric flow rate, corrected to standard conditions, of each gas stream entering and/or exiting the enclosure through an exhaust duct or hood using EPA Method 2. The minimum inward face velocity shall be 200 feet per minute.

- HEG performed triplicate velocity measurements at each of the following locations:

  - SMC Mix Room Inlet
  - SMC Machine Room Inlet
  - SMC Machine Room Outlet

The sampling and analytical procedures conformed to the most recent revisions of USEPA Reference Methods for stationary sources. Specifically, USEPA Reference Methods 1, 2, 3, and 4 were used. Three copies of HEG's compliance analytical report are attached.

The average volumetric flow rate determined during these measurements were:

PROCESS	DSCFM
- SMC Mix Room Inlet	1,372
- SMC Machine Room Inlet	1,906
- SMC Machine Room Outlet	7,257

The average face velocity is calculated as follows:

$$\frac{7{,}257\ DSCFM - (1{,}372\ DSCFM + 1{,}906\ DSCFM)}{3.32\ ft^2\ NDO} = 1198.5\ \frac{ft}{min}$$

The average face velocity across the NDO is far greater than the minimum 200 feet per minute mandated by the criteria.

5.4 Verify that the direction of air flow through all NDO's is inward. Monitor the direction of air flow at intervals of at least 10 minutes for 1 hour.

- A smoke tube was used to determine the direction of air flow through the NDO (fork-lift door). A total of 8 locations were sampled every 10 minutes. The 8 locations consisted of 2 per side and were taken starting at the bottom left hand side of the NDO and moving clockwise. The direction of the air flow was always inward. A detailed summary of these observations are attached.

CONCLUSION

It is for the following reasons that the SMC Mix Room and the SMC Machine Room meet the criteria, as outlined in USEPA's Method 204 "Criteria for and Verification of a Permanent or Temporary Total Enclosure", for a PTE:

- The criteria stipulates that the minimum distance from the NDO to any VOC emitting point shall be greater than four equivalent duct diameters (8.24 feet). The approximate distance from the NDO to the VOC emitting point is 18 feet.

- The criteria requires the ratio of the total area of the enclosure to the total area of all NDO's to be less than 0.05. The ratio of the total area of the enclosure to the total area of all NDO's is 0.00019.

- The minimum face velocity across the NDO shall be at least 200 feet per minute. The calculated average face velocity is 1,198.5 feet per minute.

- The direction of the air flow across the NDO was inward during every 10 minute interval and at every location across the NDO.

If you have any questions please call me at 866-4211.

Sincerely,

QSOURCE ENGINEERING, INC.

Kirk G. Krause

Kirk G. Krause
Project Engineer

TIME	LOCATION	DIRECTION
8:20	Left Side of NDO - Bottom	Inward
	Left Side of NDO - Top	Inward
	Top of NDO - Left	Inward
	Top of NDO - Right	Inward
	Right Side of NDO - Top	Inward
	Right Side of NDO - Bottom	Inward
	Bottom of NDO - Right	Inward
	Bottom of NDO - Left	Inward
8:30	Left Side of NDO - Bottom	Inward
	Left Side of NDO - Top	Inward
	Top of NDO - Left	Inward
	Top of NDO - Right	Inward
	Right Side of NDO - Top	Inward
	Right Side of NDO - Bottom	Inward
	Bottom of NDO - Right	Inward
	Bottom of NDO - Left	Inward
8:42	Left Side of NDO - Bottom	Inward
	Left Side of NDO - Top	Inward
	Top of NDO - Left	Inward
	Top of NDO - Right	Inward
	Right Side of NDO - Top	Inward
	Right Side of NDO - Bottom	Inward
	Bottom of NDO - Right	Inward
	Bottom of NDO - Left	Inward
8:52	Left Side of NDO - Bottom	Inward
	Left Side of NDO - Top	Inward
	Top of NDO - Left	Inward
	Top of NDO - Right	Inward
	Right Side of NDO - Top	Inward
	Right Side of NDO - Bottom	Inward
	Bottom of NDO - Right	Inward

TIME	LOCATION	DIRECTION
	Bottom of NDO - Left	Inward
9:02	Left Side of NDO - Bottom	Inward
	Left Side of NDO - Top	Inward
	Top of NDO - Left	Inward
	Top of NDO - Right	Inward
	Right Side of NDO - Top	Inward
	Right Side of NDO - Bottom	Inward
	Bottom of NDO - Right	Inward
	Bottom of NDO - Left	Inward
9:12	Left Side of NDO - Bottom	Inward
	Left Side of NDO - Top	Inward
	Top of NDO - Left	Inward
	Top of NDO - Right	Inward
	Right Side of NDO - Top	Inward
	Right Side of NDO - Bottom	Inward
	Bottom of NDO - Right	Inward
	Bottom of NDO - Left	Inward
9:22	Left Side of NDO - Bottom	Inward
	Left Side of NDO - Top	Inward
	Top of NDO - Left	Inward
	Top of NDO - Right	Inward
	Right Side of NDO - Top	Inward
	Right Side of NDO - Bottom	Inward
	Bottom of NDO - Right	Inward
	Bottom of NDO - Left	Inward