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MEMORANDUM

To: Beverly McKeone, NSR Program Manager

From: Mike Egnor, Engineer

Date: February 24, 2017

Subject: Memo regarding PD17-15 for Addivant USA, LLC – 061-00006

On February 17, 2017, Addivant submitted a Permit Determination Form (PDF) for proposed changes at their South Plant located at the Morgantown Industrial Park, Morgantown, WV. According to Addivant, the facility was constructed in the 1960's and the majority of the facility is considered grandfathered under 45CSR13. The facility was the subject of several permits in the 1970's and early 1980's (with the last permit issued on August 1, 1980). Many previous permit determinations have also been submitted for the facility (the last in 2013). There is no Title V permit for the facility.

Addivant is proposing to add a new product variant to an existing chemical manufacturing unit at its South Plant facility. This change will utilize an existing reactor (K-215) to make a slightly different product. According to Addivant, the reactor is a grandfathered unit constructed in the 1970's. One of the products currently produced at the South Plant is Tris-nonylphenyl phosphite (TNPP), which is produced using a batch production process in three 2,000 gallon reactors. Addivant submitted PD15-036 to utilize one of these existing reactors to produce similar product TriTolyl Phenylphosphite (TTP). Addivant received a no permit needed determination (PD15-036) from the DAQ in 2015 for this similar product. Addivant is proposing to add a new product variant to utilizing an existing reactor to make a new (but similar) product Tri-Tolyl Phenylphosphite No Phenol (TTP NP).

Currently, TTP (Tri toyl phosphite) is manufactured at the South Plant factory building using a 2,000 gallon, glass-lined reactor, K-215. This grade of TTP consists of using an 85% MPC (meta/para cresol) and 15% phenol blend reacted with PCL3 (phosphorus trichloride). This material is then, nitrogen-sparged, cooled and filtered out to railcars. A maximum of 1,000 metric tons of this product is currently made. Recently, the customer has requested that another similar grade of TTP be manufactured, TTPNP. This grade of TTP consists of using 100% m,pcresol (MPC) and no phenol. The reaction would still be performed in K-215 using PCL3 and then nitrogen sparging. However, this product would be transferred into isocontainers at another product loading area instead of into railcars. The maximum expected volume for TTNP

is 1,000 metric tons. The total maximum volume for both grades of TTP and TTNP would be 2,000 metric tons. The average cycle time is 16 hours.

The minimal plant modifications to make this second grade of TTP would be the following:

1. Convert an existing phenol tank, T-228, to store MPC.
   a. Tank T-227 currently stores the MPC/phenol blend for TTP. Tank T-228 would be converted to storing just MPC for the TTPNP product. T-228 would also vent to the cresol vent scrubber, MM-188 and vent through existing emission point 5028. The scrubber will now use decyl alcohol to removed cresol form the cresol storage tank vent. The spent decyl alcohol/cresol solution would be drummed off as needed and sent out for waste disposal.

2. Vent TTPNP isocontainer to a carbon drum.
   a. The vent gas from the TTPNP isocontainer loading operation will contain trace amounts of HCL. This will vent to the tanker truck carbon drum through the emission point 5030.

3. Perform improvements to existing isocontainer loading area.
   a. Improve fall protection at isocontainer loading area. This will require a new gangway to be installed.
   b. Improve access for staging isocontainer into this area. This will require new pipe bridge columns to be installed and two existing columns to be removed.

4. Use R-215 receiver for MPC flush, cleanup, between campaigns of the two grades

Addivant estimated the VOC and HAP emissions to be reduced by 0.17 lbs/hr and 0.35 lbs/hr respectively. Addivant estimated the VOC and HAP emissions to increase by 0.95 TPY and 0.85 TPY respectively.

Determination of Permit Applicability

Pursuant to §45-13-5.1, "[n]o person shall cause, suffer, allow or permit the . . .modification . . . and operation of any stationary source to be commenced without . . . obtaining a permit to . . . modify." The definition of "modify" is given under Section 2.17 of 45CSR13 and primarily defines various emission levels that would define any proposed changes as a modification and require Addivant to get a permit prior to construction. Based on the emission estimate submitted by Addivant as discussed above, the proposed changes do not exceed any of the modification thresholds under §45-13-2.17.

Summary and Recommendation

Based on the information provided by Addivant, I recommend the issuance of a "no permit needed" letter to Addivant USA, LLC for the proposed changes at their South Plant.

Mike Egnor
Engineer

2/24/17
Date