October 4, 2024

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Re: Regulatory Applicability of City of Chicago Zoning Ordinance 17-9-0117-G.1 for the Proposed Project at 12260 S. Carondolet Avenue, Chicago, IL 60633

Dear Mr. Dunkle,

Roux Associates, Inc. (Roux) is providing this letter to PVS Chemical Solutions, Inc. (PVS Chemical Solutions) evaluating the applicability of City of Chicago's Air Quality Ordinance (17-9-0117-G.1 of the Municipal Code of Chicago) for the proposed project at the property located at 12260 S. Carondolet Avenue, Chicago, IL (Site or Facility). Both on-Site and off-Site activities from Site operations and the proposed building redevelopment at the Site were evaluated for any potential increased emissions in the area surrounding the Site. The evaluation was performed to identify, to the extent feasible, whether there will be any increased emission(s) as a result of the proposed project on ambient air quality. The City of Chicago (City), in accordance with the Chicago Air Quality Ordinance requirements, has requested that an air quality impact analysis be submitted to demonstrate that the NAAQS will be protected. The objective of this evaluation effort is to provide an assessment of any net pollutant emission change because of this proposed project into ambient air and the resulting potential impacts on the public.

Air Quality Regulatory Framework

The Air Quality Ordinance, approved by City of Chicago Council in March 2021, regulates the construction and expansion of certain facilities that create air pollution. For certain types of operations, the ordinance requires site plan review and approval by various departments including the Chicago Department of Public Health (CDPH). Based on the CDPH interim guidance along with City of Chicago's Air Quality Ordinance, the air quality impact evaluation is required if changes in traffic resulting from the project or increased emissions as a result of the project were posing a potential risk to air quality in an existing community. In discussions with CDPH, it was agreed that the project did not generate any additional emissions, and therefore, this letter provides a summary justification as to why air modeling is not required. This letter has been developed following CDPH Air Quality Impact Evaluation Interim Guidance (CDPH, 2021).

Proposed Project Description

The Site is a chemical manufacturing plant located on the west side of South Carondolet Avenue and about a fourth of a mile north of East 126th Street and takes up a total of approximately 23 acres. Per the FESOP

Construction Application, the proposed project will entail construction of a new building and expanding the existing operation by adding the following emission units:

- Two (2) Ultra High Purity (UHP) Sulfuric Acid production lines (EU12), and
- One (1) additional oleum tower to be incorporated into the Oleum Process (EU02), controlled by the existing Oleum Vent Scrubber (APC2, previously referred to as "West Scrubber System.") without any additional material throughput for EU02.

There are no changes to the throughput limits of the Oleum Process because of the new oleum tower due to its use in the new process. Both new units will ultimately be controlled by the existing Mist Eliminator and Tail-Gas Scrubber. All of this results in no new emissions from the overall process.

With the addition of the new equipment, the plant is updating its FESOP with the Illinois EPA, submitting a FESOP Construction Application. The application will follow the Environmental Justice Process and includes a public review and comment period. The new FESOP calls for stack testing to confirm performance of the equipment and compliance with the permit.

As proposed, the building redevelopment will demolish an existing old building on-site and replace it with a new Ultra High Purity (HUP) process building (building redevelopment). The product produced in the new building offsets some existing products made by the facility resulting in a ton for ton replacement. As a result, it is expected that the new building operation will not expand existing operations or have any other impact on the existing Site operations.

Summary of Traffic Impact Study

The existing Site contains 80 parking spaces for customers and employees on the east side of the Site and 2 truck loading bays near the center of the Site. Access to the Site will be provided via two access drives that contain one inbound lane and one outbound lane, both located on S Carondolet Avenue. The northern access drive (Truck Access) is the entry and exit for truck traffic which has restricted entry controlled by a fence and gate. The southern access drive (Passenger Access) is used to enter and exit the passenger car parking lot located on the east side of the property. The outbound lane of the Passenger Access is under stop sign control.

The on-Site and off-Site portion of the study estimates mobile-source emissions of $PM_{2.5}$, PM_{10} and NO_2, associated with operation activities at the proposed facility and intersections, which was identified in a completed Traffic Impact Study, prepared by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) on July 12, 2024 (KLOA, 2024). Mobile-source emission rates were modeled using EPA's MOVES emission modeling system. Emission factor lookup tables provided by CDPH were used to prepare emissions inventories for mobile equipment. The tables were created from USEPA's most recent version of MOVES. Emission factors are based on default inputs available in MOVES as obtained directly from the USEPA as well as inputs prepared by the Chicago Metropolitan Agency for Planning (CMAP).

The objectives of the traffic study were to determine the existing vehicular conditions in the study area to establish a base condition; assess the impact that the facility has on transportation conditions in the area, and to determine any street modifications and/or improvements that will be necessary to effectively accommodate traffic generated by the facility. Vehicle, pedestrian, and bicycle counts were conducted during the weekday morning and weekday evening peak periods at the intersection of 126th Place with Carondolet Avenue in order to determine the general peak hour of traffic activity during these time periods.

Based on the traffic counts that were performed in July 2024 during the weekday morning (6:00 A.M. to 9:00 A.M.) and evening (3:00 P.M. to 6:00 P.M.) peak periods, the weekday morning peak hour generally occurs from 6:30 A.M. to 7:30 A.M. and the weekday evening peak hour generally occurs from 3:15 P.M. to 4:15 P.M.

Traffic data was obtained from the Traffic Impact Study (KLOA, 2024) for the calendar year 2024 (existing traffic). **Table 1** shows the weekday morning and evening peak hour traffic estimated to be generated by the Site.

Table 1: Trip Generation Estimates from Traffic Impact Study

Vehicle Type	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Daily Trips	
	In	Out	In	Out	In	Out
Passenger Cars	24	5	3	23	27	28
Trucks – Single Unit	0	0	0	1	0	1
Trucks – Multi Unit	3	3	1	1	4	4
Total	27	8	4	25	31	33

Notes:
- Traffic Study categorized traffic going associated with the Truck Access in three subcategories (Passenger Truck, Single-Unit, and Multi-Unit).

The capacity analysis results for the unsignalized intersections are summarized in **Table 2**. The delays and level of service (LOS) show the existing conditions at each intersection.

Table 2: Overall Intersection Delays – Projected Conditions in Year 2029

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
Stop Sign @ S Carondolet & Truck Access*	6.5	A	4.5	A
Stop Sign @ S Carondolet & Passenger Access*	6.0	A	4.5	A
Stop Sign @ S Carondolet & E 126th Place[1]	13.9	B	67.3	F

Notes:
AM – Morning Peak Hour, PM – Evening Peak Hour
AM and PM overall delays were calculated by averaging delays from all bounds reaching the intersection.
[1]Reference: KLOA, 2024 Table 6

The guidance specifically identifies intersections impacted by the project with level of service as D, E, and F along with any increases in potential emissions from diesel vehicles as required to complete an air quality impact evaluation. To that end, a project without additional passenger or diesel vehicles as part of its operation and not contributing to the existing LOS/delay should be interpreted as not requiring an air quality impact evaluation. Based on the CDPH interim guidance along with City of Chicago's Air Quality Ordinance, the air quality impact evaluation is required if significant number of diesel-powered vehicles or increasing delays in already delayed intersections were posing a potential risk to existing communities.

According to the traffic impact study, the facility currently generates 25 total vehicle trips during the weekday morning peak hour and 19 trips during the weekday evening peak hour which is approximately three percent and two percent of the total traffic traversing the intersection of 126th Place with Carondolet Avenue during the peak hours, respectively. During the weekday morning peak hour, the facility generated a total of eight trucks and during the weekday evening peak hour, the facility generated a total of one truck which is less

than one percent of the total traffic traversing the intersection of 126th Place and Carondolet Avenue during both peak hours. The results of the capacity analysis for the intersection of 126th Place with Carondolet Avenue during the weekday evening peak hour are primarily the results of the operations of the eastbound through/right-turn lane in which the facility is not attributing any traffic to this movement.

The Project traffic study only evaluated the current condition since the proposed project is expected not to have any increase of passenger vehicles and diesel vehicles associated with the operation of the development. Additionally, the level of service (LOS) for the intersections around the site will not change as a result of Site operation.

Proposed Project Emissions

The total Project emission calculations include the sum of idling and on-road passenger vehicle exhaust based on the peak hour vehicle trips within 0.5 miles of the project and maximum overall delay times from the project traffic study. Since the project does not increase vehicular traffic on- and off-site it is expected that there will be no increase in particulate matter (PM) and oxides of nitrogen (NO_x) emissions as a result of mobile sources. Based on the applicable ordinance and the CDPH guidance, the Project does not increase passenger vehicle or truck traffic in congested intersections and is not required to complete an air quality analysis.

The magnitude of stationary source emissions before and after completion of this project (stationary combustion or fugitive sources) will not increase. In fact, before and during the implementation of this project some of the unpaved areas of the site will be paved that will result in further reduction of fugitive dust emissions (i.e., PM_{10} and $PM_{2.5}$). To further reduce the current fugitive dust emissions, the plant's current FESOP includes requirements for Fugitive Particulate Matter covered by the plants Fugitive Particulate Matter Operating Program. This program includes monitoring with data tracking, action plans including dust control applications throughout the plant and street sweeping equipment on asphalted areas, and continual improvements of driveways and walkways with solid surfaces to reduce dust. This program meets or exceeds the IEPA and state standards and helps reduce overall fugitive particulate emissions. This program will be continued with the new FESOP being proposed.

As detailed above, the Project emissions are either net zero (i.e., stationary sources emissions and vehicular exhaust emissions) or net negative (i.e., fugitive dust emissions from on-site paved and unpaved roads). Based on these evaluations along with the guidance provided by CPDH, we conclude that a detailed air quality analysis should not be required for this project.

Should you have any questions or require further information regarding this evaluation, do not hesitate to contact Mir SeyedAbbasi or Michael Hillebrenner by telephone at (630) 572-3300 or by email at mseyedabbasi@rouxinc.com / mhillebrenner@rouxinc.com.

Sincerely,

ROUX ASSOCIATES, INC.

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