SC DEPARTMENT *of*
ENVIRONMENTAL
SERVICES

Bureau of Air Quality
Response to Comments on Air Quality

Valara Holdings High Performance Compute Center
Spartanburg, Spartanburg County, South Carolina
Permit Number CP-50000316 v1.0

The following is the South Carolina Department of Environmental Services, Bureau of Air Quality's (SCDES or Department) response to the comments made during the formal comment period held July 18, 2025, through August 16, 2025, regarding the draft synthetic minor construction permit for Valara Holdings High Performance Compute Center (Valara or facility).

The written Department Decision, permit, statement of basis, this response document, and a letter of notification are located for viewing at the SCDES Columbia office located at 2600 Bull Street, Columbia SC 29201, and on our webpage at https://des.sc.gov/programs/bureau-air-quality/air-quality-department-decisions.

Hard copies of all the above-listed documents and written comments received can be requested by contacting our Freedom of Information Office online at https://des.sc.gov/about-scdes/contact-us/freedom-information-act-requests, by email at foi@des.sc.gov, or by phone at (803) 898-3882.

Written comments were received during the comment period. The Department has reviewed and considered each comment received.

The following is a summary of the changes made to the draft permit by the Department in response to comments received:

- For added clarity, the algorithms to be used to calculate monthly emissions have been added to conditions B.2 and B.3. The language in these conditions has been adjusted accordingly to require the facility to maintain additional specified records necessary to apply these algorithms. It also specifies that the facility should use emission factors derived from most recent source test or the manufacturer's emission factor or AP-42, as applicable, if no source test has been conducted. The explicit requirement to

submit the input values used in the algorithm semiannually has been added to condition B.2 and B.3 as well.

- In addition, the citation to South Carolina Regulation 61-62.1, Section II (E) Synthetic Minor Construction Permits and the explicit requirement that each catalyst bed operate within the established monitoring range have been added to condition B.14 which requires monitoring of the temperature across the catalysts bed during source operation.

- For added clarity, the applicable emission standards of Table 1 of 40 CFR Part 60, Subpart JJJJ have been added to condition B.7 of the permit.

- Condition B.15 has been added to clarify that, for any source test the facility is required to perform pursuant to an applicable standard or permit condition, the owner, operator, or authorized representative must comply with the provisions of S.C. Regulation 61-62.1, Section IV – Source Tests.

- Condition B.16 has been added to prescribe initial and subsequent source testing for formaldehyde.

The following is a summary of the comments received and the Department responses to those comments:

Practical Enforceability

Comments were received asserting that synthetic minor limitations established in the draft permit are blanket emissions limits and are not enforceable as a practical matter. The comments specifically asserted that relevant permit terms did not include sufficient measures for ensuring compliance, such as an hours of operation limitation, limit on fuel combustion, or identification of the specific manner for calculation of emissions, including an emissions factor for the relevant pollutants. There was also concern that the facility could exceed the established limits without detection or accountability.

Response: Both the draft permit and final permit, as updated in response to comments, meet practical enforceability criteria through the use of rolling limits on potential to emit supported by monitoring, recordkeeping, and reporting requirements to calculate emissions and verify compliance.

Specifically, conditions B.1, B.2, and B.3 of both the draft and final permit establish federally enforceable annual tonnage limits for each relevant pollutant to be met on a monthly basis through the calculation of twelve-month rolling sums each month. Such rolling annual

emission limits, together with associated monitoring, recordkeeping, and reporting requirements, are not "blanket limits." Their use is a well-accepted practice in synthetic minor permitting consistent with applicable EPA guidance.

For clarity and to address the commenters' concerns, Conditions B.2 and B.3 of the final permit have been updated to specify the algorithms (formulas/equations) that the facility must use for calculating facility emissions to determine compliance with all synthetic minor emission limits. Calculations pursuant to these algorithms rely on data including hours of operation, control efficiencies, and emission factors. The engines must either be certified to EPA standards or conduct source testing in accordance with 40 CFR 60 Subpart JJJJ. In addition, the final permit (Condition B.16) requires the facility to conduct a source test to establish initial emission factors for formaldehyde within 180 days after startup. The facility is required to use emission factors established in the most recent source test once testing has been conducted. Until source testing has been conducted, the facility will use manufacturer's emission factors or AP-42 factors if the manufacturer has not provided a specific factor for a given HAP. These permit conditions require semi-annual reporting of all calculated emissions, and the facility must maintain all records necessary for determining emissions compliance. Additionally, both the draft and updated final permit (Condition B.14) include other appropriate monitoring and compliance measures in the form of parametric monitoring of control devices (selective catalytic reduction (SCR) and oxidation catalyst (OX)), maintenance requirements, and other recordkeeping and reporting requirements. The facility is required to establish appropriate operational ranges for the temperature across each catalyst bed and monitor and record temperatures accordingly, as well as implement a catalyst management plan to ensure catalyst activity remains within performance specifications. The catalysts are required to be in place and operational whenever processes controlled by it are running, except during periods of malfunction or mechanical failure. Together, the requirements of Conditions B.1, B.2, B.3, B.14, and B.16 establish both appropriate emission limits as well as appropriate monitoring, recordkeeping, and reporting to restrict emissions below major source thresholds and ensure legal and practical enforceability.

The comments assert that the Department must specify the emissions factor for purposes of emissions calculations. As noted above, the algorithm specifies use of either the manufacturer's emission factors or AP-42 emission factors (prior to source testing), or emission factors established pursuant to source testing. The permit's synthetic minor limits remain enforceable notwithstanding that the emission factors to be used are not specifically listed. It is not practicable to list specific emissions factors in a permit where those emission factors are based on source testing and subject to change. Here, the terms of the permit clearly identify the basis for the emission factors to be used. In addition, the Department documented in the statement of basis for the draft permit the initial emission factors proposed. The statement of basis for the final permit also includes the initial emission

factors. The permit is not designed for revisions on a continual basis for occasional emission factor adjustments based on updated source testing or manufacturer data, which are expressly contemplated under the terms under the permit. The input values used in the algorithm will be submitted to the Department semiannually with the monthly calculations and rolling sum totals. It is therefore appropriate and sufficient for purposes of practical enforceability that the permit specifies the algorithm for determining compliance, including the basis for emission factors to be used, without listing emission factors themselves.

In addition, it should be noted that conditions B.5 through B.11 contain the applicable requirements of 40 CFR 60, Subpart JJJJ. Subpart JJJJ's provisions include additional limits on NO_x, CO, and VOCs, as well as associated monitoring, recordkeeping, and other requirements. While not included in the permit for the specific purpose of synthetic minor compliance, these additional enforceable requirements further enhance the facility's ability to verify and maintain compliance with its synthetic minor limits. For further clarity, the Department has added the previously referenced Table 1 of 40 CFR 60 Subpart JJJJ to condition B.7, so the applicable Subpart JJJJ emissions standards will be explicit in the permit.

Pollution Levels and Health-Based Concerns

Comments were received about the level of pollutants that would be generated from the facility as well as general health-based concerns. Comments stated concern that the facility would put public health at risk without enforceable limits on pollution. Comments specifically noted that the projected controlled emissions for formaldehyde were close to the federally enforceable limit of 10.0 tons per year (TPY) and asserted specific health risks from formaldehyde and fine particulate matter exposure due to the perceived absence of enforceable permit limits. Comments further noted estimated emissions of particulate matter and NO_x under the permit and indicated the facility would be the largest source of formaldehyde and NO_x in Spartanburg County, a top five source of PM, and a larger source of emissions than a previous facility that had operated at the site.

Response: A synthetic minor permit is a type of air permit issued by the Department. State and federal air quality regulations allow a facility to establish federally enforceable limits to cap its potential to emit and thereby allow it to operate as a "minor" rather than "major" source of emissions, as defined by applicable federal and state regulations. In the case of Valara, the synthetic minor permit renders Valara a minor source for purposes of both PSD applicability and Title V applicability. The synthetic minor permit does not exempt a facility from complying with the Clean Air Act (CAA) or federal and state regulations.

Federal and state air quality regulations are established to be protective of public health, using scientific data and human health risk assessments. These regulations include standards for ambient air quality, emission limits, control requirements, and operational requirements for industrial facilities. The CAA requires the EPA to establish National Ambient

Air Quality Standards (NAAQS) for six common pollutants ("criteria" pollutants) considered harmful to public health. The EPA is also required to designate areas of the country as nonattainment when monitoring information shows pollutant concentrations exceed (or violate) a set standard. There are no nonattainment areas in South Carolina for any pollutants. State ambient air quality standards have been adopted into regulation within S.C. Regulation 61-62.5, Standard No. 2. Ambient standards have been set for the following pollutants emitted from this project: particulate matter (PM) (which consists of particulate matter less than 10 micrometers in diameter (PM_{10}) and particulate matter less the 2.5 micrometers in diameter ($PM_{2.5}$)), sulfur dioxide (SO_2), NO_x, and CO. Valara's proposed project was evaluated to determine whether the potential emissions would interfere with attainment of ambient air quality standards. An ambient air quality analysis was performed using an EPA-approved air dispersion computer model to simulate how the facility's maximum emissions would be dispersed into the atmosphere surrounding the proposed site. The model demonstrated compliance with all applicable air quality standards at and beyond the property boundary.

Air emissions of non-criteria pollutants called hazardous air pollutants (HAPs) were also reviewed, which included formaldehyde. HAPs are a list 187 pollutants considered hazardous to human health and regulated under the CAA. HAPs are regulated by the EPA under National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations found in 40 CFR Part 61 or 40 CFR Part 63. EPA is required to evaluate the risk of HAPs emissions when establishing NESHAP regulations. The proposed generators will be subject to 40 CFR Part 63 and S.C. Regulation 61-62.63, Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines (Subpart ZZZZ). New engines subject to New Source Performance Standards at 40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (Subpart JJJJ) meet the requirements of Subpart ZZZZ by meeting the requirements under Subpart JJJJ (§ 63.6590(c)).

The Valara facility is subject to Subpart JJJJ. The applicable sections of this subpart are included in the permit under conditions B.5-B.11. As part of this subpart (§ 60.4243) the facility is required to either purchase engines certified to emission standards of the regulation and operate those engines in accordance with manufacturer's emission-related written instructions or purchase non-certified engines and conduct initial performance tests and subsequent performance testing (source testing) to demonstrate compliance with the standards. Operating and maintaining the engines outside of the manufacturer's emission-related written instructions will cause the engines to be considered non-certified engines, which will trigger source testing requirements to demonstrate compliance with the standard.

Air toxics will be emitted from the proposed project. South Carolina Regulation 61-62.5, Standard No. 8, Toxic Air Pollutants (TAP), is a health-based regulation that sets a maximum allowable 24-hour average concentration for listed TAPs designed to be protective of human

health. Listed TAPs in Standard No. 8 include all federally listed HAPs. The 24-hour average concentration listed for formaldehyde is 15.00 µg/m^3. Standard No. 8 does not apply to fuel burning sources which burn only virgin fuel or specification used oil. However, in response to comments received during the comment period, Valara voluntarily provided an air dispersion modeling analysis for formaldehyde for Department review. This air dispersion analysis indicated a maximum allowable 24-hour average concentration for formaldehyde of 2.7 µg/m^3 (18% of the standard).

Valara has requested federally enforceable facility-wide limits on HAPs at less than 10.0 tons per year for any single HAP and less than 25.0 tons per year for total combined HAPs. The final permit requires the facility to conduct source testing for formaldehyde to verify the emissions estimates submitted and establish emission factors to be used in the calculations of the rolling sums. As such, the facility will be required to limit HAP, including formaldehyde, as outlined above in addition to complying with the applicable NESHAP and NSPS.

As discussed in the response under "Practical Enforceability" above, the permit conditions all include appropriate limits and associated monitoring, recordkeeping, and reporting, including a requirement to calculate emissions each month according to the specified algorithm, to verify compliance with the permit's synthetic minor limits. As such, these limits are legally and practically enforceable.

The proposed Valara facility is a different type of facility from that which previously operated at the site. The Department cannot dictate where a new facility desires to locate. Different permitted operations can result in different emissions profiles, but all facilities subject to Department air quality regulations must meet the requirements applicable to them. The air permit decision is based on the permit application received and all applicable air quality regulations. By complying with the limits established within the permit, Valara will comply with state and federal regulations established to be protective of public health and the environment.

Impact on the community

Comments were received concerning the impact the facility's emissions and noise pollution will have on the surrounding community. A comment asserted that the EJScreen tool indicated that the surrounding community is already impacted by other environmental and public health stressors, including public health disparities with respect to life expectancy, heart disease, cancer, and asthma, and adding another source, especially without enforceable limits, would exacerbate these issues.

Response: The Department is committed to protecting the health and environment of all communities in South Carolina and to working closely with communities and permit applicants to address concerns raised during the permitting process. We actively engage with

residents and stakeholders across South Carolina to ensure that all communities have meaningful opportunities to participate in our decision-making. For this permit action, the Department provided a 30-day public notice period to allow community members to submit comments. No requests for a public hearing were received during the notice period.

Air permitting decisions must be based on applicable state and federal regulations and a thorough review of the technical information submitted by the applicant. For this permit, the facility accepted legally and practically enforceable synthetic minor limits that restrict potential emissions. These limits, in addition to other operational, monitoring, recordkeeping, and reporting requirements, are consistent with state and federal air quality regulations. The permit's requirements include, but are not limited to, installation and operation of selective catalytic reduction (SCR) and oxidation (OX) control devices on each generator, which reduce emissions of regulated pollutants. Air dispersion modeling for this permit demonstrated compliance with all applicable ambient air quality standards, which are designed to protect public health and the environment, including sensitive and vulnerable populations.

Finally, it is important to note that federal and state air quality regulations do not address noise. Noise concerns fall under local jurisdiction, and Spartanburg County has adopted a Noise Ordinance. Any noise-related complaints should be directed to county officials.

Identification of the Facility as a Data Center

Comments were received expressing concern over the fact that certain press releases identified this facility as an aerospace and engineering technology company, while the draft permit identifies the facility as a data center.

Response: The same industrial source category applies to facilities that host computing services, those that provide data storage services, or those that manage data for a variety of customers. The identification of the facility as a host of computing services or a data storage center does not change the Department’s evaluation of the proposed project. Either service is colloquially identified by the Department as the function of a data center. The Department evaluates the emission sources that are proposed for construction and whether those sources can meet the applicable state and federal air quality regulations.

The facility identifying itself as a “high performance compute center,” as noted in the statement of basis, is meant to denote that the facility will be used by one organization to manage data whereas a more typical data center is a commercial facility that manages data for a variety of organizations or clients. The facility may manage data for a client, such as an aerospace manufacturing company. As mentioned previously, this information is not relevant to the Department’s evaluation of the proposed project and does not change the facility’s industrial source category. Furthermore, the Department does not have any

involvement in or control over third-party press releases or the accuracy of media articles in general.

Alternative / Renewable Power Generation

A comment was received asserting that data centers typically do not generate employment and are a strain on the local electric grid, and urging consideration of alternative power generation technologies, such as solar, battery storage, and hybrid generation, to reduce environmental impacts.

Response: The Department's air quality permit issuance and the permit's requirements are based on the equipment and operations proposed by the facility in its air permit application. Air permit decisions are based on the applicable air quality regulations and standards in place at the time of the Department's technical review of the permit application. This facility has proposed the use of natural gas generators to provide power for the data center, and the permit application and supporting material show an ability to meet applicable regulatory requirements using the technologies proposed. The Department does not have the authority to dictate the use of alternative technologies. Also, impacts, if any, on employment and the local electric grid are outside of the Department's purview.

General Support or Opposition

Comments were received expressing general opposition to the issuance of the Valara synthetic minor air construction permit.

Response: The Department's technical review of the permit application follows established state and federal regulations aimed at protecting public health and the environment. Permit applicants must show that they can meet these protective standards before an air permit is issued. In their application, Valara has provided all the necessary information to demonstrate that it can comply with all relevant state and federal regulations. The Department cannot make permitting decisions based on public opinions for or against a project. The Department has considered all comments received about the draft construction permit and the facility's ability to meet applicable regulatory requirements, as detailed in the responses above.