NOTE: THIS IS A COURTESY COPY OF THIS RULE ADOPTION. THE OFFICIAL VERSION WILL BE PUBLISHED IN THE APRIL 4, 2022, NEW JERSEY REGISTER. SHOULD THERE BE ANY DISCREPANCIES BETWEEN THIS TEXT AND THE OFFICIAL VERSION OF THE ADOPTION, THE OFFICIAL VERSION WILL GOVERN.

ENVIRONMENTAL PROTECTION

AIR QUALITY, ENERGY, AND SUSTAINABILITY

DIVISION OF AIR QUALITY

Permit and Reporting Requirements for Fumigants and Other Hazardous Air Pollutants

Adopted Amendments: N.J.A.C. 7:27-8.1, 8.2, 8.4, 8.5, 8.12, 8.18, 8.20, 8.21, 8.28, 16.1, 16.1A, 16.17, 16.22, 17.1, 17.3, 17.5, 17.7, 17.9, 21.1, 21.2, 21.3, 21.4, 7:27-21 Appendix 1, 22.1, 22.3, 22.4, 22.5, 22.6, 22.8, 22.18, 22.19, 22.22, 22.27, 22.30, and 22.35; and 7:27A-3.2 and 3.10

Adopted Repeal: N.J.A.C. 7:27-8.27

Adopted New Rules: N.J.A.C. 7:27-17.10 and 22.36

Proposed: March 1, 2021, at 53 N.J.R. 317(a) (see also 53 N.J.R. 673(a).

Adopted: February 24, 2022, by Shawn M. LaTourette, Commissioner, Department of Environmental Protection.

Filed: February 25, 2022, as R.2022 d.042, **with non-substantial changes** not requiring additional public notice and comment (see N.J.A.C. 1:30-6.3).

Authority: N.J.S.A. 13:1B-3(e), 13:1D-9, and 26:2C-1 et seq., specifically 26:2C-8, 8.11, 9, 9.2, and 9.4.

DEP Docket Number: 02-21-01.

Effective Date: April 4, 2022.

Operative Date: June 3, 2022.

Expiration Dates: Exempt, N.J.A.C. 7:27;

January 22, 2027, N.J.A.C. 7:27A.

The Department is adopting new rules, repeals, and amendments to address air contaminants in New Jersey through its permitting and emissions statement programs. The adopted rules regulate fumigants and fumigant operations based on potential to emit, rather than weight of materials. The adopted rules also regulate two air contaminants-- hydrogen sulfide (H_2S), and sulfuryl fluoride—as State-specific hazardous air pollutants, referred to as New Jersey Hazardous Air Pollutants or NJHAPs. The Department proposed to also regulate 1-Bromopropane (1-BP), otherwise known as n-propyl bromide (n-PB) as an NJHAP; however, as discussed below, Federal action has rendered that unnecessary. The Department is also adding 13 air contaminants to the list of "toxic air pollutants" that a source that is subject to emissions statement requirements must include on its emissions statement.

The adopted new rules clarify the permitting requirements for operations that discharge fumigants over the applicable threshold. The rules prohibit an operation from emitting a fumigant into the outdoor atmosphere, unless the owner has performed a risk assessment that meets the permit requirements. The adopted rules also include penalty provisions.

Lastly, the Department is repealing references to the discontinued Facility-Wide Permit Program and adopting miscellaneous amendments throughout the rules to correct grammar and punctuation, and to enhance clarity and readability.

Summary of Hearing Officer's Recommendation and Agency's Response:

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The Department held a public hearing on this rulemaking on April 8, 2021, at 4:00 P.M., virtually through the Department's video conferencing software, Microsoft Teams. Kenneth Ratzman, Assistant Director, Air Quality, Regulation, and Planning, served as hearing officer. Twelve people provided oral comments. After reviewing the written comments received during the public comment period, the hearing officer recommended that the Department adopt the proposed rules with the non-substantial changes described below in the Summary of Public Comments and Agency Responses and in the Summary of Agency-Initiated Changes. The Department accepts the hearing officer's recommendations.

A record of the public hearing is available for inspection in accordance with applicable law by contacting:

Department of Environmental Protection

Office of Legal Affairs

ATTN: Docket No. 02-21-01

401 East State Street, 7th Floor

Mail Code 401-04L

PO Box 402

Trenton, New Jersey 08625-0402

This adoption document can also be viewed or downloaded from the Department's website at http://www.nj.gov/dep/rules/adoptions.html.

Summary of Public Comments and Agency Responses:

The Department accepted comments on the notice of proposal through June 1, 2021. The following provided timely written and/or oral comments:

1. Ronald Anastasio, Somerset Raritan Valley Sewerage Authority
2. Ronald Anastasio, Association of Environmental Authorities
3. Karl Berryman, Hoosick Forest Products
4. Ronald Brown, Chilean Fruit Exporters Association (ASOEX)
5. Peter J. Canal, Bayshore Regional Sewerage Authority
6. Ray Cantor, New Jersey Business and Industry Association
7. Margaret Carmeli, Association of Environmental Authorities and Offit Kurman
8. Al Celestino, Armenia Coffee Corp.
9. Gary Conover, Association of Environmental Authorities and New Jersey Chapter of the Solid Waste Association of North America
10. James Cosgrove, Rockaway Valley Regional Sewerage Authority
11. Senator Joseph P. Cryan, Middlesex County Utilities Authority
12. Norman Dias, AEROS Environmental LLC
13. Norman Dias, Patriot Hardwoods
14. Norman Dias, AEROS Environmental LLC, Patriot Hardwoods, Inc., and American Log Export Coalition
15. Michael Egenton, New Jersey Chamber of Commerce
16. David Farrell, ICE Futures U.S., Inc.

17. Jim Fredericks, National Pest Management Association

18. Jim Fredericks, National Pest Management Association, and Leonard Douglen, New Jersey Pest Management Association

19. Peggy Gallos, Association of Environmental Authorities

20. Anthony Gencarelli, Rahway Valley Sewerage Authority

21. Bernard Gilbert, Canyon Timber International

22. James Gilmer, Gilmer Pest Control

23. Toby Hanna, ERM

24. Dennis Hart, Keep Jobs in New Jersey

25. Dennis Hart, Chemistry Council of New Jersey

26. Joann Held, Air Toxics Analysis Services

27. Tracy Heinzman, Methyl Bromide Industry Panel

28. Thomas P. Hogan, Cocoa Merchants Association of America

29. Eric Holt, Cocoa Merchants Association of America

30. Peter Inskeep, Gloucester Terminals LLC

31. Heather Kern and Tim McPherson, Douglas Products

32. Ryan Krause, South Monmouth Regional Sewerage Authority

33. Thomas A. Lausten, Passaic Valley Sewerage Commission

34. Alison Marwitz, Ecolab, Inc.

35. Michael McGuinness, NAIOP New Jersey, the Commercial Real Estate Development Association

36. Dale Nellor, North American Millers' Association, and Jess McCluer, National Grain and Feed Association

37. William O'Sullivan

38. Ted G. Peck, V, Tri-State Hardwoods

39. Pamela Peckman, Industrial Fumigant Company, LLC

40. Donald A. Pisano, Green Coffee Association, Inc.

41. Richard Pope, Hazen and Sawyer

42. Jean Public

43. Christina M. Renna, Chamber of Commerce, Southern New Jersey

44. Dennis Rochford, Maritime Exchange for the Delaware River

45. Anthony Russo, Commerce and Industry Association of New Jersey

46. Alfonso Silva Navarro, Government of Chile, Ambassador to the United States

47. Shannon Sked, Western Fumigation

48. Paige Smoyer, National Confectioners Association

49. Gerald Sweeney, Vanguard Pest Control Company, Inc.

50. Megan Steele and Jeff Tittel, Sierra Club New Jersey Chapter

51. Michael Trupin, Trinity Consultants and New Jersey Chapter of the Solid Waste Association of North America

52. Ken Vaz, Babco Foods International

53. Chris Wible, J.C. Ehrlich/Rentokil

54. The following submitted identical form comments:

Actty Enterprises Inc.

American Coffee Corp.

American Lumber Company

Atlantic (U.S.A.) LLC

Auro D. Leaf LLC

Bailla Lumber Co, LLP

Bamboo Supply Company

Vera Braun, Coffee America USA Corp.

Brauner International Corp.

Casey Overseas Corp.

Caturra Coffee Corp.

Charles A. Redden, Inc.

Circulus CHB, Inc.

Clearfreight Inc.

Continental Forwarding, Inc.

Continental Terminals Inc.

Copper Moon Coffee

Crescent Ridge Farms

Victor Cruz, Logical Solution Services

D. Coluccio & Sons Inc.

D.B. Group America Ltd.

Danzer Veneer Americas Inc.

DeMonchy Natural Products, Inc.

Dobson Forest Products

Fala Shipping, Inc.

French Food Exports

Gammon Technical Products, Inc.

Gateway International LLC

Goldman Holdings, Inc.

Hermes International Logistics

House of Pulses, Inc.

Imexsys Inc.

Independent Ocean Services, Inc.

Jake International

Jan International Forwarding

Jan Packaging, Inc.

JW Transport, LLC

KAL Flavors Inc.

Kamino Air Import Corp.

KIC Chemicals Inc.

King City Containers Ltd

King City Forwarding USA, Inc.

Klein & Sons Logging Inc.

KPM Spice Corp.

Keith La Flamme, Emo Trans, LLC

Lancaster Leaf Tobacco Co.

Timothy Marshall

Max Van Pels Inc.

Metro Commodities Inc.

Miami Freight & Shipping

Miami Global Lines

Carlos Miranda, C. Miranda Transport LLC

Mountain Top Floors, Inc.

Eyal Nahomouich, Gaia Produce

NMT USA, Inc.

North American Hardwood LLC

Nugget International, Inc.

NYP Corp.

Old Mack's

Optima Foods Inc.

Optimo Consolidators Int'l

Pangaea Forest and Natural Resources, LLC

Paragon Coffee Trading Company L.P.

Pest Inc.

Pinnacle Int'l Freight

Pinpoint Global Logistics

PRM International

Radhaswamani Inc.

Rob Ramirez, Gaia Produce

Ryeco LLC

Salish Timber Products, LLC

Sankaj, LLC

Mary Sarrantonio, The Hemisphere Group

Seeds of India, LLC

Smartlink (U.S.A.), Inc.

Sterling Customhouse Broker, Inc.

Stile Associates, Ltd.

CJ Styrk, TMX Shipping Co.

T.H. Weiss, Inc.

TMX Shipping Co., Inc.

Richard J. Trocciola, Gorgio Gori USA, Inc.

Troy Container Line, Ltd.

Uncommon Carrier, Inc.

Vincent Vaiano, Mersant International Ltd.

Via Global Logistics, Inc.

Wm E. Martin & Sons Co., Inc.

Tam Ching Wo, NSPA Enterprise, LLC

Worldwide Central Freight

Wuhl Shafman

Melany Zepada, AJ Trucco, Inc.

The comments received and the Department's responses are summarized below. The number(s) in parentheses after each comment corresponds to the commenter numbers above and indicate(s) the person(s) who submitted the comment. General comments are presented first, followed by the comments specific to each industry that the adopted rules regulate.

General

Comment Period

1. COMMENT: The Department should stay the rulemaking or, alternatively, extend the comment period from 30 to 90 days. The proposed rules are significant in nature and require a significant amount of time and effort to respond. Commenters need adequate time to fully understand the implications of the rulemaking to their and their customers' operations in the State and to develop their comments. (3, 6, 12, 13, 17, 21, 25, 34, 38, and 45)

2. COMMENT: The proposed amendments for permit and reporting threshold requirements for fumigants have the potential to severely impact the ability of pest management professionals to effectively use fumigants to protect public health, food, and property. The

proposed rules will likely have widespread and unintended negative impacts on industry, commerce, and food protection in the State. A 30-day extension is requested due to the highly technical nature of the rulemaking and the wide variety of impacted industries that rely on fumigation services. An extension will allow for a more robust set of comments and greater diversity of perspectives from impacted stakeholders, to help guide the Department's rulemaking decision. (17)

3. COMMENT: The proposed rules will substantially affect members of the tri-state maritime industry. An extension will allow time to fully consider the implications of the rulemaking, which are far greater in scope and complexity than the Department may realize. Adopting new rules too quickly may result in the neglect of maritime-specific considerations and result in unintended consequences. (44)

4. COMMENT: Given the breadth and technical complexity of the proposed rules, an extension until July 29, 2021, is requested. The current comment period is not adequate to develop comprehensive, meaningful comments that will help ensure that the rules do not result in broad and negative impacts on industry, commerce, and food protection across New Jersey. Among other aspects, the proposed rules would add several regulatory categories of air contaminants to the regulatory scheme (fumigants, Group III TXS, and NJHAPs), and sulfuryl fluoride is proposed for inclusion in all of these groups. The rulemaking also introduces several regulatory mechanisms that previously have not been applied to fumigant regulation in New Jersey, including the potential to emit measurement and state-of-the-art technology standards.

Impacted stakeholders must assess the scope and propriety of each of the new regulatory categories to which sulfuryl fluoride is proposed to be added. (31)

5. COMMENT: While the extension of the comment period is appreciated, the additional 30 days did not provide stakeholders with a "reasonable opportunity to submit data, views, comments, or arguments" as required by State law. N.J.S.A. 52:14B-4(a)3. (31)

6. COMMENT: The Department did not provide proper notice of the proposed rules. Additionally, the Department's notice did not include information about H_2S or the proposed changes that would impact wastewater treatment plants. The comment period, even with the extension, does not provide sufficient time to understand the proposed rules and their impact. The Department should extend the comment period an additional 180 days. (10)

7. COMMENT: Additional time is requested to allow adequate time to review the proposed rules. (14 and 23)

RESPONSE TO COMMENTS 1 THROUGH 7: The Department properly noticed the rulemaking and provided a 60-day public comment period, consistent with the requirements of the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. (APA). The Department extended the comment period for an additional 32 days until June 1, 2021, in response to the number of extension requests it received. The Department held a public hearing, at which 12 people testified. In addition to publishing the notice of proposal in the New Jersey Register, the Department provided additional notice of the rulemaking on its website, to media outlets maintaining a press office to cover the State House Complex, to other media outlets throughout the State, and by email to the Department's rulemaking listserv, and also publicized the

rulemaking by press release. Further, the Department conducted stakeholder outreach in developing this rulemaking, as explained in the Response to Comments 8 through 30. The Department considered, and included, some of the suggestions and recommendations of the stakeholders as part of the amendments and new rules that were proposed on March 1, 2021. In addition, as indicated above, a total of 143 comments by individuals and entities were submitted, which are summarized and addressed in this notice of adoption. Therefore, there was ample opportunity for interested parties to review and provide comments.

Stakeholder Process

8. COMMENT: The Department should withdraw the proposed rules and collect scientific and economic data needed to support a new fumigation regulation, as well as input from the business sectors that will be directly and indirectly affected. These include businesses in New Jersey that deal with the import of cocoa beans, as well as the processing and manufacture of cocoa products throughout the region and the country. (48)

9. COMMENT: The Department did not engage the stakeholder community in developing the rules. Fumigators and the industries they serve understand the unique challenges of fumigation operations in the State. Protecting human health and the environment is a hallmark of the pest control industry, and the fumigation industry stands ready to begin a dialogue with the Department on common-sense regulation. However, the rules in their current form are unworkable. The Department should withdraw the rules and work with stakeholders to

determine a path forward to address the Department's concerns while protecting food, the environment, and jobs in the State. (18 and 53)

10. COMMENT: Further input from all parties is needed to identify real versus perceived problems and how to properly solve them. (39)

11. COMMENT: The Department should withdraw the proposed rules and work with affected stakeholders to develop a more appropriate regulatory program for fumigations. (8, 22, and 52)

12. COMMENT: The Department proposed the rules without its usual stakeholder process. The rules pertaining to fumigation are overly broad and would set up a complicated, overly burdensome, and unworkable permitting program for everything from port activity to commodities in bakeries and office buildings. The Department already has a pesticide program and is now moving pesticide regulation to the air permitting program. The Department should collect and consider additional information from the regulated community, perhaps through stakeholder meetings, before finalizing regulations and standards. The Department should withdraw the proposed rules and engage stakeholders according to its usual practice, so that the Department can understand how the fumigation industry works and develop rules that are environmentally health protective while keeping industry and jobs in the State. (29)

13. COMMENT: The proposed rules would have benefitted significantly if the Department obtained input from interested stakeholders to understand what is necessary and feasible in different situations where fumigants are used, such as agricultural operations, import/export of produce, logs, and other commodities, and pest infestations at manufacturing facilities, warehouses, and restaurants. This stakeholder input should have been sought before

publication of the notice of proposal, in accordance with Executive Order No. 63 (2019) (EO No. 63). (43)

14. COMMENT: The Department should withdraw the proposed rules and initiate a stakeholder process, to best serve the Department and all stakeholders. A stakeholder process will inform the Department about the fumigation industry and various use scenarios, such as how often fumigation might be needed at facilities without a permit and how often a food processing business might require fumigation in connection with an approved United States Department of Agriculture (USDA) food safety plan. (31)

15. COMMENT: The Department did not follow its normal stakeholder process for the proposed rules. As a result, there are various technical errors, missing information, and a significant lack of understanding from the Department of the substantial negative impacts and unintended consequences on almost all businesses in the State. For example, the proposed rules would hamper the State's efforts in eradicating the invasive Spotted Lanternfly infestation. It is evident from the proposed rules and the hearing testimony that the Department does not fully understand how the various impacted industries operate in the State and is not aware of other State and Federal regulatory agencies involved in overseeing public and environmental safety during the necessary fumigation of commodities, food processing facilities, timber, clothing, perishable food, and other products. The proposed rules are not the most efficient or appropriate way to regulate fumigants. Any permitting or reporting threshold must be based on sound science and the permitting structure must be practical and recognize differences in fumigation types. A stakeholder process with transparent and open-minded

dialogue will help determine how best to address the Department's concerns while also protecting the import/export markets, the food supply, and jobs in the State. Absent this stakeholder process, New Jersey faces losing, at the very least, a great deal of port business to other states, in addition to food processing businesses and commodities industries. (6, 15, 24, 25, and 45)

16. COMMENT: The Department proposed rules without any outreach to the industries that will realize significant business impacts. The proposed rules will impede the ability to provide food through the supply chain. The Department should withdraw the proposed rules and solicit input from stakeholders before proceeding with any further proposals. (40)

17. COMMENT: Pursuant to EO No. 63, before issuing a rule proposal, State agencies "should engage with affected communities and provide opportunities for various groups to work in partnership with the State in crafting solutions." EO No. 63 § 3(a). EO No. 63 further notes that when "a proposed rule is new or makes significant and/or expansive changes to existing rules, the benefit from extensive pre-proposal stakeholder outreach will be even greater." *Id.* § 3(c). However, the Department held only one stakeholder meeting in January 2019, which did not address the full scope of the proposed rules. The Department did not engage with stakeholders and failed to understand the industries proposed to be regulated. Meaningful engagement with stakeholders prior to rule proposal is critical to ensure that the Department can gather information about the problem it believes exists and the industries it proposes to regulate, so that it can tailor its rule proposal to be effective without being overly burdensome.

The Department should retract the rules and engage in a robust stakeholder process before re-proposal. (27 and 31)

18. COMMENT: The Department should rescind the proposed rules, given the drastic changes they contemplate. The Department should work with members of the regulated public to craft language that resolves New Jersey's concerns and allows for continued safe application of fumigants needed to protect the environment from invasive pests, without unnecessarily jeopardizing the supply of goods moving in and out of the State, which could cause severe economic peril and limit choices for consumers. (44)

19. COMMENT: The Department never performed any stakeholder outreach concerning its intent to designate several chemicals, including sulfuryl fluoride, as an inaugural class of NJHAPs. The Department did engage with stakeholders concerning risk screening values for sulfuryl fluoride, but the Department then committed to removing sulfuryl fluoride risk screening values from its risk screening worksheet. The Department did so in an apparent concession that its reliance on a subsequently re-evaluated California analysis was misplaced. After removing the previously proposed values, the Department committed to re-propose new values for public comment after California and other "recognized government or academic entities" provided updated analyses. This sporadic outreach is not a substitute for a comprehensive stakeholder outreach effort in which stakeholders would have the opportunity to meaningfully influence the scope of the proposed rules prior to proposal. (31)

20. COMMENT: The Department held just one stakeholder meeting in January 2019, before proposing the rules. The proposed rules would impose unworkable, unnecessary, and overly

burdensome conditions and reflect the lack of stakeholder engagement. Whether intentional or not, the rule proposal would have far-reaching impacts, which calls for a much more robust and inclusive stakeholder process to gather input from all affected industries. (35)

21. COMMENT: The Department issued the proposed rules without discussion with professionals in impacted industries, including the food production sector, bakeries, commodities brokers, port cargo handlers, and the fumigation industry. It also appears that the New Jersey Department of Agriculture (NJDA) and the Department's pesticide control program were not consulted in recent discussions during drafting of the proposed rules. Municipal utility authorities were also caught off guard, as numerous municipalities testified in opposition at the public hearing. Not one stakeholder testified in support of the proposed rules. The Department held only one stakeholder meeting, which did not include all impacted industries. During the stakeholder meeting, the Department discussed the following: its consideration of adding H_2S, sulfuryl fluoride, and n-PB to the list of hazardous air pollutants and toxic substances; its plan to amend N.J.A.C. 7:27-27 and 27A to clarify air permit applicability for fumigation operations and to further evaluate appropriate protective measures; and its consideration of requiring the reporting of additional substances on emission statements. The Department did not mention or convey any intent to define "fumigant" as proposed. Written comments were submitted to the Department, expressing concerns regarding the absence of a real public health issue as the Department was unable to articulate a reasoned basis for adding the three substances to its hazardous air pollutant/toxic substance lists or demonstrate that current rules are inadequate. Concerns raised about the Department's potential fumigation

regulation included the lack of flexibility with expedited timeframes, the lack of emergency exemptions, and the substantial business disruption that will result with no benefit to public health or the environment. The feedback to the Department also included the fact that there are no peer-reviewed studies validating any existing public health concern and that these industries already operate in compliance with extensive regulations by the Department, the United States Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), and the USDA that protect public health and safety during fumigant use. A stakeholder process is needed to help determine how best to address the Department's concerns while protecting businesses, food supply, and jobs in the State. (6, 15, 25, and 45)

22. COMMENT: It is important that the Department identify all interested parties, such as port operators, fumigators, unions, and the surrounding community, in advance and consider their observations when proposing rules of this kind. This would give parties sufficient time to take mitigation actions and adopt necessary measures. (4)

23. COMMENT: Federal Food and Drug Administration (FDA) regulations implementing the Food Safety Modernization Act (FSMA) elevated the importance of pest control. For instance, manufacturers and distributers of food, feed ingredients, animal feed, and pet food are subject to the current good manufacturing practice regulations, which establish specific requirements associated with the control of insects and other pests. In addition, subsequent facilities in the supply chain are required to comply with these FSMA regulations for the products they source, store, handle, and manufacture; these facilities have imposed additional contractual requirements on their suppliers, including those providing raw grains, so they can meet food

safety and purity standards. Having access to safe, effective, and cost-efficient fumigants are critically important in preventing insect infestation at grain, feed, processing, and milling facilities. The Department should withdraw the proposed rules and work with the pest control and grain industries to address the Department's concerns while ensuring the tools remain available to maintain high sanitary and food safety standards that are a priority to the industry and benefit to consumers. (36)

24. COMMENT: By failing to engage the regulated community and all interested parties in a formal stakeholder process before issuing the rules pertaining to fumigation, the Department has not "engage[d] with affected communities, and provided[d] opportunities for various groups to work in partnership with the State in crafting solutions" as required by EO No. 63. (28 and 48)

25. COMMENT: The Department diverged, in this rulemaking, from its history of working directly with parties and industries directly impacted by developing regulatory actions through stakeholder groups and outreach. The Department did not engage in such stakeholder process for this rulemaking. This is particularly concerning because: (1) wastewater treatment plant operators are preeminently experienced in H_2S issues related to wastewater treatment; and (2) the proposed rulemaking has a potentially significant impact on the ratepaying public. Moreover, the rulemaking is not supported by sound technical data and underestimates the significant financial impacts to small, publicly funded facilities and to the State's residents and ratepayers. The Department should remove the H_2S portion of this proposed rulemaking until a

wastewater treatment plant stakeholder group can be formed to develop recommendations for regulations specific to the industry. (1 and 5)

26. COMMENT: Based on the comments presented during the public hearing, it is clear that there are many industries that would be severely impacted by the proposed rules. It appears the Department did not adequately assess the economic impact the proposed rulemaking would have on the affected industries. (32)

27. COMMENT: The Department should remove H_2S from the rulemaking and meet with wastewater stakeholders to further evaluate the feasibility and impact of the proposed rules. Regulating H_2S as a hazardous air pollutant will have a significant negative impact on the wastewater community, yet the community was nearly unaware of the proposed rules. The Department might have met the statutory requirements when it issued the public notice of proposal, but it did not seek input from wastewater stakeholders. (2 and 23)

28. COMMENT: There was a lapse between when the wastewater and solid waste industry was aware of this rulemaking and the notice of proposal. The industry has decades of experience operating the types of facilities that would be subject to the H_2S limits. Industry stakeholders are available to dialogue with the Department and provide input and expertise as part of the rulemaking. The Department should engage in an active and broad-based stakeholder process with the wastewater and solid industry and other affected community members. (7 and 23)

29. COMMENT: The Department should withdraw the proposed rules pertaining to H_2S and initiate a true stakeholder process to engage the wastewater treatment industry. If the Department still determines it is necessary to regulate H_2S, the Department, in its rulemaking,

should provide sufficient time for the wastewater industry to understand the impact of the proposed changes and the associated cost. (10)

30. COMMENT: The Department should seek input from stakeholders and reconsider its rulemaking. (11 and 23)

RESPONSE TO COMMENTS 8 THROUGH 30: Stakeholder outreach is important and the receipt of relevant information from affected communities is critical to the development of well-informed rulemaking and can be accomplished through multiple avenues, including both public stakeholder meetings and public comment periods. The Department determines how to best balance these modes of outreach based on the level of engagement of interested parties. Accordingly, consistent with the principles set forth at EO No. 63, the Department held a stakeholder meeting on January 17, 2019, to which industry and other stakeholders were invited. The Department sent invitations to stakeholders most likely to be affected by or interested in the rulemaking, including many who subsequently submitted formal comments on the proposal. Topics included commodity fumigation, consideration of adding substances (H_2S, sulfuryl fluoride, and n-propyl bromide) to the list of hazardous air pollutants at N.J.A.C. 7:27-17, and consideration of requiring reporting of additional substances on emission statements. See https://www.nj.gov/dep/workgroups/docs/air-20190117-invite.pdf. Twenty representatives of environmental groups, the fumigation industry, the wastewater treatment industry, business and commodity industry, and county and municipal authorities attended. Information about the meeting is available at https://www.njdepcalendar.com/calendar/events/index.php?com=detail&eID=608. The

Department additionally discussed the rulemaking during its regular meeting with the Industrial Stakeholder Group. See https://www.nj.gov/dep/aqpp/downloads/isg/2119RuleUpdate.pdf. The Industrial Stakeholders Group is composed primarily of representatives of regulated industries to meet with Department's air quality permitting and enforcement staff, to discuss ways of promoting effective and consistent permits that are protective of the environment and consider the concerns of the regulated community. See https://www.nj.gov/dep/aqpp/isg.html#:~:text=WHAT%20IS%20THE%20ISG%3F%20The%20Industrial%20Stakeholders%20Group,quality%20enforcement%20staff%20and%20representatives%20of%20regulated%20industries.

As explained in the Response to Comments 1 through 7, the Department extended the public comment period on the proposed rules until June 1, 2021, which gave interested parties a total of 92 days to submit comments. A total of 143 comments by individuals and entities were submitted, which are summarized and addressed in this notice of adoption. Therefore, there was ample opportunity for interested parties to review and provide comments.

With respect to fumigation regulation, as explained in the notice of proposal Summary, the Department commenced this rulemaking as a result of the Department's outreach, evaluation, and enforcement initiative, upon finding that that many fumigation operations were taking place without the requisite air permits. See 53 N.J.R. 318-319. In developing the rules, the Department's Division of Air Quality also consulted with the Bureau of Pesticide Compliance. While the Department's initial outreach was significant, upon receipt of written comments urging certain modifications, as explained in the Response to Comment 50 and 54

through 58, the Department is modifying the rules on adoption to ensure that the rules encompass only those activities that the Department intended to regulate, as expressed in the notice of proposal Summary, and to provide some flexibility. See the Response to Comments 60, 61, and 62 and 63 and 64 regarding the permitting and reporting thresholds.

With respect to H_2S regulation, while much of the discussion at the stakeholder meeting was focused on landfills, the discussion was open to all sources. As explained in the Response to Comments 184 and 193 through 202 and in the notice of proposal's Economic Impact, the new H_2S reporting threshold does not change the existing definitions of significant, insignificant, and exempt sources. Therefore, the Department does not anticipate that the adopted regulations related to H_2S will result in a significant economic impact to wastewater treatment plants because most sources at these facilities are likely to be insignificant or exempt from air permitting pursuant to existing N.J.A.C. 7:27-8.2(d)4 and 7:27-22.1, Definitions, Insignificant Source operation, par. 1. The new H_2S reporting threshold does not change the existing definitions of significant, insignificant, and exempt sources. With regard to state-of-the-art (SOTA) analyses, as explained in the Response to Comment 190, the SOTA threshold for H_2S remains the same; consequently, only a new or modified source must include a SOTA analysis with its permit application

31. COMMENT: If the Department does not wish to rescind the notice of proposal, the Department should engage in stakeholder processes once the comment period is closed. If the Department then determines that the notice of proposal needs to be modified in any

substantive manner, it can utilize the process authorized in the APA to make substantial changes upon adoption. This process would allow the Department to the keep the notice of proposal in place, put forth the changes it wants in a new rulemaking, and adopt a final rulemaking that incorporates the initial rule as modified by the new changes. The APA allows the Department an additional six months to adopt the final rule, thus allowing up to 18 months from the initial publication date of the notice of proposal. (6)

RESPONSE: As set forth in the Response to Comments 8 through 30, the Department conducted a stakeholder process in advance of the formal rulemaking proposal and, subsequent to publication of the notice of proposal, in accordance with the APA, held a hearing and provided an extended written public comment period. After the close of public comments on this rulemaking, the Department held a listening session at the request of stakeholders, which was limited to the concerns that the stakeholders raised in their formal oral or written comments during the public comment period. The Department made it clear that it would not consider any of the stakeholders' statements made at that session as public comments to be included in the rulemaking record. The Department does not believe that substantial changes to the proposed rules on adoption are warranted, nor does it believe that further stakeholder meetings are necessary. Nevertheless, the Department is making certain non-substantial modifications to the proposed rules on adoption to better meet its intent and to be responsive of certain concerns raised during the public comment period.

Fumigation

General

32. COMMENT: The proposed rules regulating fumigation operations are unnecessary, overly burdensome, and unreasonable. (52 and 54)

33. COMMENT: The proposed rules will change how New Jersey regulates fumigants and fumigation operations in a manner that is not consistent with other states. The changes will harm business and put customers of these businesses at a great competitive disadvantage compared to businesses in other states. This will result in businesses and good paying jobs leaving New Jersey. Requiring a permit for every fumigation operation, including small fumigations of a container or two at a time as if they are major stationary sources, is plainly unreasonable and unnecessary. (2 and, 40)

34. COMMENT: The Department's proposed rules to further regulate fumigation, including the imposition of unnecessary and unreasonable permitting requirements for even the smallest of fumigation activities, should not be adopted. (8 and 36)

35. COMMENT: The proposed rules are broad, unnecessary, and impose unrealistic standards that far exceed existing Federal regulations and will economically harm the grain, feed, processing, and milling industry and consumers. (36)

36. COMMENT: The Department proposes to impose a stringent one-size-fits-all approach to regulating fumigation activities in a manner that will significantly and adversely impact an important industry sector. The Department does so without asserting any environmental or ecological harm from sulfuryl fluoride fumigation activities, citing any negative health consequences of current sulfuryl fluoride fumigation activities in the State, or addressing the

relative risk associated with the proliferation of the targeted pests as a potential result of restricting fumigation activities under the rulemaking. (28 and 48)

37. COMMENT: The proposed rules will adversely affect fumigation operations in the State. Because other states do not impose the same requirements, cargo shipments may be diverted, which will damage local jobs and related commercial activities that have been developed to meet consumer needs for imported fruit products. The Department should suspend the rules and work with interested parties to address and resolve the Department's concerns in the public interest. (4)

38. COMMENT: The Department's efforts to improve the permitting system for the fumigation industry are appreciated as the existing program has been cumbersome and inadequate for the majority of fumigations conducted in the State. Significant revisions are needed to properly address the current regulatory limitation. However, the proposed rules are flawed in scope, concept, timing, and details. The Department failed to provide any legitimate support for its claims regarding the need for the proposed "special" regulatory treatment of fumigation activities and instead, based its proposal on opinions and unsupported general claims. The Department should withdraw the proposed rules and work with the affected industries to develop a sound, reasonable permitting program for fumigations. The parties must work together to develop a final product that resolves the Department's concerns and provides for the continued safe performance of fumigations in the State in a way that will not have unnecessary adverse impacts on the State and regional economy. (49)

39. COMMENT: Fumigation services are utilized to treat logs before export. The proposed rules to regulate methyl bromide and sulfuryl fluoride, which are the general fumigants used, would destroy the log exporting business, which creates hundreds of direct and indirect jobs and moves millions of dollars of products around the world. The Department should consider technologies that can be applied to recapture these harmful gases. (14)

RESPONSE TO COMMENTS 32 THROUGH 39: As explained in the notice of proposal Summary, the Department is amending its rules for fumigation operations as a result of the Department's outreach, evaluation, and enforcement initiative. 53 N.J.R. at 318-319. The existing rules' use of a pounds per hour input threshold was confusing for regulated entities and difficult for the Department to enforce, causing a threat to the public health, safety, and welfare of nearby communities, many of which are defined as overburdened communities under the Environmental Justice Law, N.J.S.A. 13:1D-157. See the Response to Comments 60, 61, and 62, 94 and 95, and 105 through 110 regarding the health risk posed by sulfuryl fluoride, methyl bromide, and phosphine.

As an example, one operation at Gloucester Terminal fumigated grapes with methyl bromide and vented emissions at ground level. The fumigation operation commenced without a permit. As a result of the Department's investigation and the facility's subsequent submission of a permit application, the Department evaluated the off-site risk impacts. Specifically, the Department evaluated the impacts of the methyl bromide emissions at the property line, utilizing three scenarios based on actual operations. The hazard quotient is an estimate of the potential for a detrimental non-cancer health effect from exposure to a chemical. See Technical

Manual 1003, Guidance on Preparing a Risk Assessment for Air Contaminant Emissions, https://www.state.nj.us/dep/aqpp/techman.html. A hazard quotient of less than one is considered a level at which health impacts are negligible.

Under the first scenario, methyl bromide was discharged at a rate of 1,200 pounds per hour from Building 1. Under the second scenario, methyl bromide was discharged at a rate of 800 pounds per hour from Building 2. Under the third scenario, both buildings, at the respective discharge rates, emitted methyl bromide simultaneously. Under each scenario, the annual and one-hour methyl bromide hazard quotient far exceeded one, meaning the facility was causing adverse health impacts off-site. The facility, in fact, was operating with emissions three magnitudes above the negligible level. The facility mitigated its impacts by installing and venting emissions through a 70-foot stack.

With the new potential to emit threshold for permit applicability and clarification of the regulatory requirements applicable to fumigation operations, the Department expects to improve compliance with permit requirements and protect public health, safety, and welfare from the toxic pollutants used to fumigate commodities and industrial structures. See 53 N.J.R. at 317-19. In the notice of proposal Summary, the Department explained the health impacts of each fumigant, including sulfuryl fluoride. *Id*. at 317-319, 326-327.

As explained in the Response to Comments 50 and 54 through 58, the Department is modifying aspects of the rules upon adoption, which will limit the rules' applicability to only those sources that the Department intended to regulate and provide appropriate flexibility. The rules related to fumigation do not exceed Federal standards because there are no Federal

standards and requirements addressing the emission of air contaminants to the ambient air as addressed by the new rules. See 53 N.J.R. at 331.

40. COMMENT: There is a need for consistency in regulating fumigants. Although regional agencies are working towards that goal, as evidenced and discussed in the Mid-Atlantic Regional Air Management Association (MARAMA) White Paper (mentioned in the notice of proposal Summary at 53 N.J.R. 318-19), the regional group has not reached out to industry or other third-party scientists to verify the science behind good working solutions. To strengthen knowledge and come up with good solutions, further input from all parties is needed to identify real as opposed to perceived problems and how to properly solve them. (39)

41. COMMENT: The Department states that it is working with neighboring states because regional coordination is necessary. The proposed rules are so unnecessarily and unreasonably burdensome that many businesses in the State would have no choice but to relocate to neighboring states that offer a far more reasonable regulatory framework for fumigations. The Department must be very careful when proposing to establish strict measures on fumigations that go far beyond what other states have in place. (47)

RESPONSE TO COMMENTS 40 AND 41: As the Department explained, in the notice of proposal Summary, that MARAMA is a voluntary, non-profit association of 10 state and local air pollution control agencies. 53 N.J.R. at 318. In April 2019, MARAMA released a Fumigation White Paper that summarized how fumigation is regulated by each contributing state's environmental regulatory agency. *Id*. at 318-319. Maryland, as an example, regulates fumigation operations,

including those that use sulfuryl fluoride, and requires fumigators to meet its ambient impact requirement demonstrating that the pollutant concentration does not exceed established threshold and risk-based screening levels. *Id*. at 319. Philadelphia also requires fumigation processes to obtain a permit for their operations and is evaluating whether to require risk evaluation similar to the Department's requirements. See https://www.phila.gov/media/20190320105302/IP-Application-for-FumigationProcesses_2019.pdf#:~:text=You%20may%20only%20use%20this%20permit%20application%20for,the%20hourly%20limit%20but%20not%20the%20annual%20limit. (City of Philadelphia, Air Management Services, Installation Permit Application for Fumigation Processes). As another example, North Carolina regulates log fumigation operations that use a HAP or toxic air pollutant as a fumigant. See https://deq.nc.gov/news/press-releases/2020/11/02/releasenew-state-rules-regulating-methyl-bromide-use-log-fumigation-take-effect (North Carolina press release regarding regulation of methyl bromide for log fumigation).

As explained in the Response to Comments 8 through 30, the Department conducted appropriate stakeholdering for this rulemaking. Consistent regulation of fumigation operations in the region is necessary to protect public health, safety, and welfare, and the Department has worked with EPA Region 2 and other Eastern seaboard states to promote a consistent and protective approach to regulating commodity fumigation operations. As part of this effort, the Department determined that an important step is to clarify its own rules applicable to fumigation operations, which resulted in the present rulemaking.

42. COMMENT: The proposed rules do not provide clarity of the new conditions or requirements that the fumigation industry will have to face in order to implement the treatments required by the environmental authority, and the times to carry out the necessary adaptations. (46)

43. COMMENT: The standards, deadlines, and permitting process proposed in the rules are not clear, which could delay fumigation operations and result in shipment loss and obstacles to the import market. (4)

RESPONSE TO COMMENTS 42 AND 43: As explained in the notice of proposal Summary, to clarify the regulatory requirements for fumigation operations the Department is amending its rules to include a potential to emit permit applicability threshold for fumigation operations. 53 N.J.R. at 319. Any fumigation of a commodity or industrial structure, as defined, with a potential to emit a fumigant at a rate greater than 0.1 pounds (45.4 grams) per hour is a significant source and requires a permit. N.J.A.C. 7:27-8.2(c)22 and 22.1, definition of significant source operation, paragraph 21. These source operations must comply with N.J.A.C. 7:27-17.10, Discharge of fumigants. The discharge of a fumigant is prohibited, unless the required risk assessment is done and meets the criteria for issuance of a permit. The exception is for emergency fumigation operations, as provided at N.J.A.C. 7:27-8.2(g) and 22.36. See the Response to Comments 96 through 101 and 102, 103, and 104, regarding implementation.

44. COMMENT: Building on regional work done by MARAMA and others to evaluate current fumigation practices and identify best practices, the Department has developed a thorough and comprehensive approach to controlling these practices, which, for too long, have been functioning without routine oversight. Treating fumigation operations as the air pollution sources that they truly are, by requiring vertical stacks, risk assessment, and comprehensive permits is long overdue, especially considering the proximity of many of these operations to environmental justice (EJ) communities where residents may already be disproportionately impacted. (26)

RESPONSE: The Department acknowledges the commenter's support for the adopted rules.

45. COMMENT: The Department should engage with the U.S. Department of Agriculture (USDA) to discuss the scope of fumigation required and the oversight being provided by the USDA. As part of that discussion, the Department could determine whether any of its concerns regarding fumigation could be addressed through the USDA's requirements and oversight. (30)

RESPONSE: As explained in the Response to Comments 138 through 150, the Department's intention in promulgating air pollution control rules for fumigation operations is to ensure that emissions of the regulated fumigants do not cause off-site health impacts. The Department's existing rules require the owner or operator of a fumigation operation subject to its rules to apply for an air pollution control permit, which addresses the individual risk of each operation. As explained in the Response to Comments 32 through 39, the Department is amending its rules through this rulemaking to ensure better compliance after the Department found that

facilities were conducting fumigation operations without the required permits. The example provided in the Response to Comments 32 through 39 shows the risk that fumigation operations may pose.

As explained in the Response to Comments 8 through 30, in developing the rules, the Department's Division of Air Quality consulted with the Bureau of Pesticide Compliance. See also the Response to Comments 138 through 150, regarding the USDA Treatment Manual and buffer zones. As part of the implementation process of these rules, the Department intends to engage with other relevant regulatory bodies to ensure appropriate coordination and information sharing.

46. COMMENT: Methyl bromide and sulfuryl fluoride should be outlawed in the State. (42)

RESPONSE: Fumigation services are a necessity. Therefore, the Department is amending its rules to ensure that fumigation operations obtain permits where required and to improve compliance with permit requirements to ensure the protection of public health, safety and welfare, and the environment, as explained in the Response to Comments 32 through 39.

Scope of rules

General

47. COMMENT: The Department's one-size-fits-all approach to fumigation operations suggests a lack of understanding regarding the frequency and constraints associated with different fumigation operations. The overly broad definitions and the application of requirements based

on these definitions do not consider the different uses and situations involved in these operations. (28, 43, and 48)

48. COMMENT: The proposed rulemaking for fumigation operations is overly broad and would impose unrealistically strict requirements on almost all fumigation activities in the State. The proposed rules would change how the State regulates fumigants and fumigation operations in a manner inconsistent with other states, creating inconsistency, confusion, and undue burden. The proposed new requirements would place many additional and unnecessary constraints on the confectionery industry, which will harm cocoa bean merchants and cocoa suppliers and downstream chocolate manufacturing operations. If the Department proceeds with this rulemaking, further input and consideration should be given to how the requirements apply to various types of fumigation and fumigation operations. (48)

49. COMMENT: Fumigants are used in a broad range of applications, such as agricultural operations, import/export of produce, logs, and other commodities, and pest infestations at manufacturing facilities, warehouses, and restaurants. Each of these applications involves different constraints with different exposure and risk factors. However, the proposed rules apply the same assumptions and restrictions to all of these applications, such as the vertical stack and state-of-the-art requirements, even when they do not fit the circumstances. (43)

RESPONSE TO COMMENTS 47, 48, AND 49: As explained in the Response to Comments 60, 61, and 62, under the rules that would apply in the absence of the adopted rules, a permit was required if the combined weight of all raw materials used, which included the fumigant and the commodity, exceeded 50 pounds in any one hour. The rules that would apply in the absence of

the adopted rules do not include an emergency exemption. Due to the lack of compliance, as explained in the Response to Comments 32 through 39, the Department is amending its rules to clarify the requirements for fumigation operations. As explained in the Response to Comment 50, the Department's intent is to address fumigation of commodities and industrial structures that store or transfer these commodities. The Department's intent is also to focus on fumigants, not pesticides generally. Therefore, as explained in the Response to Comments 54 through 58, the Department is modifying the definitions of "fumigant," "fumigation," "fumigation operation," and "industrial structure" at N.J.A.C. 7:27-8.1 and 22.1 on adoption to ensure the definitions reflect the Department's intent.

Individual permit application review as provided by the adopted rules allows owners and operators to address site- and operation-specific issues and mitigate the off-site risk associated with the respective fumigation operation. Additionally, as explained in the Response to Comments 65, 66, 67, and 68, the Department is not adopting the stack requirement and is modifying N.J.A.C. 7:27-17.10 upon adoption, accordingly.

Definitions of fumigation, fumigation operation, and industrial structure

50. COMMENT: The proposed rules raise questions about whether fumigation and/or pesticide application operations, such as in office buildings, would be subject to the requirements of air permitting when contracting for pesticide and fumigation services. This rule proposal appears to focus on substances used in industrial fumigation operations (warehouses and commodity storage facilities located in Newark, Elizabeth, and Camden). However, by adding certain

fumigants and other air contaminants to the list of hazardous air pollutants, the proposed rules appear to apply more broadly and could be read to apply even to commercial fumigation applications using any regulated pesticide or fumigant because the proposed rules' definitions appears to include all fumigants. (35)

RESPONSE: The Department's focus of and intent in this rulemaking is the regulation of bulk commodity and industrial building fumigation. The Department's explanation of commodity fumigation pertained to commodities that are routinely fumigated as they are imported to, or exported from, the United States. 53 N.J.R. at 317. The Department described methyl bromide as a fumigant used to treat domestically sourced logs before export and to treat commodities, such as grapes, asparagus, logs, and other imported goods. *Ibid*. The Department similarly described sulfuryl fluoride as a fumigant used to treat for commodities, such as cereal grains, dried fruits, tree nuts, cocoa beans, and coffee beans, as well as to control pest infestations in structures and shipping containers. *Ibid*. The Department described phosphine as a fumigant for grains, animal feed, and leaf-stored tobacco. *Id*. at 318.

The Department explained in the notice of proposal Summary that "the fumigation of a commodity or industrial structure is proposed to be subject to the permitting requirements at the proposed potential to emit threshold." 53 N.J.R. at 319. The Department proposed to define "industrial structure" broadly because of the various structures in which fumigation could occur. The Department, at the same time, also expressly excluded from the definition "a private residence or commercial office in which fumigation occurs."

Based on the comments received, the Department is modifying several definitions upon adoption to ensure that their scope matches the Department's intent. The Department is modifying the definition of "'fumigation' or 'fumigation operation'" upon adoption to mean the use of a fumigant in a sealed, enclosed space to prevent, control, or eliminate pests in stored or in-transit commodities by treating the commodity or commodity storage or transport space. See N.J.A.C. 7:27-8.1 and 22.1. The Department is also modifying the definition of "industrial structure" upon adoption to delete the terms "structure or equipment," and instead refer to an enclosed space, including a warehouse, container, bin, silo, trailer, storage facility, commodity pallet, any type of fumigation chamber, such as under a tarpaulin, or manufacturing or processing equipment, in which fumigation occurs as a significant source operation. The Department is including "or commercial building" to the definition's express exclusion of private residences and commercial offices, to further clarify the intended scope of the rules. See N.J.A.C. 7:27-8.1 and 22.1.

51. COMMENT: Based on the proposed definitions of "fumigant," "fumigation," "fumigation operation," and "industrial structure," the proposed rules apply to the commercial application of any fumigant or pesticide. However, what is appropriate for a building in which fumigation occurs regularly may not be appropriate for the fumigation of one pallet, or for the occasional fumigation of a barn or silo at a farm or of a restaurant. Yet the proposed rules apply the same requirements and potentially the same expense for all of these scenarios. (6, 15, 25, 43, and 45)

52. COMMENT: The proposed definition of "industrial structure" is overly broad and fails to recognize the differences inherent in fumigating different types of structures and the different approaches based on particular circumstances. The proposed definition includes very different types of structures and equipment, ranging from buildings and warehouses to isolated rooms and manufacturing and processing equipment, to individual pallets and containers. These different types of structures may trigger the need for fumigation for different reasons, including Federal import requirements or the one-time discovery of an isolated infestation. The types of requirements and precautions that are appropriate for these types of structures will likely be dependent on site-specific factors. For example, the stack requirement may be appropriate and economically justified for large scale regular fumigations but is likely not justified for a one-time fumigation of a single pallet. While a significant investment in stacks, ductwork, and blowers may make sense if fumigation occurs regularly at a facility, it would not appear to be justified or economically feasible for facilities that only need to be fumigated infrequently or when pest infestations are discovered. It is also not clear that a vertical stack above the height of a pallet is necessarily a good idea and could potentially create more concentrated exposures in workers' breathing zones. Moreover, imposing the cost of tall stacks and blowers for a couple of pallets does not seem warranted. At a minimum, this definition should likely be broken down into more than one term to account for the different types of structures and the varying degree of requirements and controls that should apply to them. Additionally, businesses or warehouses that do not regularly require fumigation but have occasional pest infestations may not have yet focused on the rulemaking but could be significantly impacted by

it. The timing needed to obtain permits could have serious negative repercussions for any food facilities that are experiencing pest infestations. The fumigation rulemaking should be withdrawn so that all interested stakeholders can participate in the analysis and determination of the appropriate requirements applicable to the fumigation of different structures. (28 and 48)

53. COMMENT: The proposed definitions of “fumigant,” “fumigation,” and “fumigation operation” will result in the same requirements applying to all different types of fumigation operations in the State. The definitions are too broad and would result in the regulation of thousands of pesticides, other than the three that are intended to be focused on in the rulemaking. The definition of “industrial structure” is also overly broad and fails to recognize the inherent differences in fumigating various types of structures. The proposed definition has the potential to implicate almost every building in the State that is not residential. Different types of structures may require fumigation for different reasons, such as following Federal import requirements or eliminating one-off pest infestation(s) in a facility. The proposed rules make no distinctions among different types of fumigation operations and do not recognize that the appropriate release parameters can be dependent on several site-specific circumstances, such as volume of fumigant, distance to property line(s), location of receptors, and other important factors. The use of these broad definitions and the establishment of requirements for them in a one-size-fits all approach in the rulemaking, demonstrates that the Department has not considered all the different scenarios and uses involved in fumigation operations, and that there is an overall lack of understanding regarding the frequency and constraints

associated with various types of fumigation operations. If the Department proceeds with this rulemaking, these definitions should be refined to be more specific to account for distinctions and applicability, as discussed. Further input and consideration should be given to how the requirements apply to various types of fumigation and fumigation operations. (48)

RESPONSE TO COMMENTS 51, 52, AND 53: Because the proposed definition of "industrial structure" could be interpreted more broadly than the Department intends, the Department is modifying the definition on adoption as explained in the Response to Comment 50. The Department also recognizes that whether, and how, a fumigation operation obtains a permit will depend on site-specific factors. However, the common denominator for all fumigation operations that meet the applicable threshold is that they must show that the operation results in negligible off-site risk to public health.

Based on Department observations through site visits, fumigants are generally emitted at ground level, directly into the environment, which results in high off-site concentrations. In addition, as explained in the notice of proposal Summary, many of these operations are located in residential areas. See 53 N.J.R. at 318. The Department analyzed short-term ground-level emissions of sulfuryl fluoride, methyl bromide, and phosphine. The following tables show the highest modeled emission rates (pound per hour or lb/hr) that result negligible risk (a hazard quotient of one or below) as a function of distance to property line (feet or ft) utilizing the applicable reference concentration (microgram per cubic meter or $\mu g/m^3$).

Table 1: Emission Rate (lb/hr) Presenting Negligible Risk for Ground-Level Discharge as a Function of Distance to Property Line – Sulfuryl Flouride (24-hour Reference Concentration: 1,700 µg/m^3)

Emission Rate (lb/hr)	Distance to Property Line (ft)
0.0064	10
0.026	20
0.058	30
0.10	40
0.15	50
0.55	100
1.09	150
1.75	200

Table 2: Emission Rate (lb/hr) Presenting Negligible Risk for Ground-Level Discharge as a Function of Distance to Property Line – Methyl Bromide (1-hour Reference Concentration: 3,900 µg/m^3)

Emission Rate (lb/hr)	Distance to Property Line (ft)
0.0048	10
0.019	20
0.039	30
0.063	40
0.094	50
0.28	100
0.51	150
0.81	200

Table 3: Emission Rate (lb/hr) Presenting Negligible Risk for Ground-Level Discharge as a Function of Distance to Property Line – Phosphine (24-hour Reference Concentration: 69.5 µg/m^3)

Emission Rate (lb/hr)	Distance to Property Line (ft)
0.00026	10
0.0011	20
0.0025	30
0.0042	40

0.0063	50
0.022	100
0.046	150
0.074	200

Additional modeling analyses demonstrated that higher stack heights resulted in lower hazard quotients. Modeling analyses for all three fumigants demonstrated that both the long-term (annual) and short-term (one-hour and 24-hour) hazard quotients decrease with stack height. A hazard quotient of one is considered a negligible risk (both short-term and long-term).

Annual methyl bromide emissions were modeled with an emission rate of five tons per year (tpy), and at a 250-foot distance from the property line, with a reference concentration of five $\mu g/m^3$. The hazard quotients were as follows:

Table 4: Methyl Bromide – Hazard Quotient vs. Stack Height (Annual)

Hazard Quotient	**Stack Height**
4	10
2.5	20
1.8	30
1.3	40
0.75	50

The short-term (one-hour) emissions of methyl bromide were modeled at an emission rate of 25 lb/hr, at a 250-foot distance to the property line, with a reference concentration of 3,900 $\mu g/m^3$. The short-term (24-hour) hazard quotients were as follows:

Table 5: Methyl Bromide – Hazard Quotient vs. Stack Height (Short-term)

Hazard Quotient	**Stack Height**
2.1	10

1.7	20
1.2	30
0.8	40
0.6	50

Annual sulfuryl fluoride emissions were modeled with an emission rate of three tpy, at a 250-foot distance to the property line, with a reference concentration of 60 µg/m^3. The hazard quotients were as follows:

Table 6: Sulfuryl Fluoride – Hazard Quotient vs. Stack Height (Annual)

Hazard Quotient	**Stack Height**
5.39	15
4.18	20
2.83	30
2.34	40
1.89	50
1.79	60
1.69	70
1.51	80
1.25	90
0.98	100

Short-term (24-hour) sulfuryl fluoride emissions were modeled with an emission rate of 25 lb/hour at a 250-foot distance to the property line, with a reference concentration of 1,700 µg/m^3. The short-term hazard quotient was below one for all of the stack heights that were modeled. The short-term hazard quotients were as follows:

Table 7: Sulfuryl Fluoride – Hazard Quotient vs. Stack Height (Short-term)

Hazard Quotient	**Stack Height**
0.34	15
0.28	20

0.21	30
0.15	40
0.12	50
0.12	60
0.13	70
0.12	80
0.1	90

Annual phosphine emissions were modeled with an emission rate of three tpy at a 350-foot distance to the property line, with a reference concentration of 0.3 µg/m^3. A very tall stack was needed to reach a hazard quotient of one. The hazard quotients were as follows:

Table 8: Phosphine – Hazard Quotient vs. Stack Height (Annual)

Hazard Quotient	Stack Height
20	10
8	50
1.8	100
1	150
0.75	175

Short-term (24-hour) phosphine emissions were modeled with an emission rate of three lb/hr at a 350-foot distance to the property line, with a reference concentration of 70 µg/m^3. Even with a very low emission rate and a distance far from the property line, a very tall stack was needed to reach a hazard quotient of one. The hazard quotients were as follows:

Table 9: Phosphine – Hazard Quotient vs. Stack Height (Short-Term)

Hazard Quotient	Stack Height
12	15
4.6	50
2.7	100
1.1	175
0.97	180

0.86	190
0.75	200

As explained in the Response to Comments 65, 66, 67, and 68, the Department is not adopting the stack requirement and modifying N.J.A.C. 7:27-17.10, accordingly. As explained in the Response to Comments 96 through 101, the Department is allowing eight months from the effective date of the rules (the date the adopted rules are published in the New Jersey Register) for owners and operators to submit their applications.

Definition of fumigant

54. COMMENT: The proposed rules include broad definitions that improperly result in the same requirements applying to different types of fumigation operations. The proposed rules at N.J.A.C. 7:27-8.1, 17.1, and 22.1 define "fumigant" to include "a chemical registered with the EPA as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)." This definition of fumigant suggests that the proposed rules may apply to entitles that have not received adequate notice of the rulemaking. There are over 4,000 active ingredients registered with the EPA under FIFRA and over 1,700 chemicals registered. However, the rulemaking discusses only three chemicals and does not explain or justify why additional permitting and reporting requirements are necessary for all pesticides. While the proposed rules focus on three fumigants, the breadth of the new requirements is significant, potentially applying to the majority of commercial applications of fumigant. The scope of the rules is, thus, greater than described in the rulemaking. If the Department intended to focus on three fumigants discussed in the rulemaking, these terms should be defined, accordingly. If the Department intended to

address all fumigants registered pursuant to FIFRA, the rulemaking is inadequate because it did not discuss the need or impacts of such regulation. (28 and 48)

55. COMMENT: The proposed definition of "fumigant" includes any "chemical registered with the EPA as a pesticide under [FIFRA]." See proposed N.J.A.C. 7:27-8.1 and 22.1. While the notice of proposal summary discusses only three fumigants, it is clear from the definitions, as currently drafted, that the requirements have a much broader reach than described. (43)

56. COMMENT: The proposed definition of "fumigant" is vastly overbroad, bringing into regulation many more substances than initially the Department said it was contemplating and regulating significantly more activities and locations. The Department does not fully appreciate the complexity of industry practice in this area when it proposed this rule with this definition. The rule will have a substantial impact on the pesticide industry, on businesses in need of fumigation, and on the State's economy. (6)

57. COMMENT: The proposed rules define "fumigant," "fumigation," and "industrial structure" in an overly broad way that will implicate almost every building in New Jersey that is not residential. If the Department's intent is to focus on methyl bromide, sulfuryl fluoride, and phosphine, this should be stated vs. the currently proposed definition of "fumigant" as any "pesticide" registered pursuant to FIFRA. (6, 15, 25, and 45)

58. COMMENT: The definition of "fumigant" would open the door to regulating thousands or tens of thousands of chemicals, many of which are benign, not hazardous air pollutants or toxic. The definition would include chemicals that are used every day. By defining fumigant that broadly, the Department is pulling a wide universe of chemicals into the permitting process

including a health risk assessment, when there is no health risk associated with many of these chemicals. It is unclear whether the Department intended to define fumigant with such broad implications, or if it intended to target the specific fumigants discussed. (23)

RESPONSE TO COMMENTS 54 THROUGH 58: Although the proposed definition of "fumigant" referred to a chemical registered with EPA as a pesticide pursuant to FIFRA, the proposed definition of "fumigation" or "fumigation operation" limited the scope of the rules to "the action of introducing a fumigant in the gaseous state ..." The Department's proposed definition of "fumigation" or "fumigation operation" in conjunction with the proposed definition of "fumigant" reflected the Department's intent to focus on fumigants introduced in a gaseous state, not to all pesticides registered pursuant to FIFRA. However, by referring to chemicals registered with the EPA as a pesticide, the proposed definition of "fumigant" could be interpreted to cover pollutants more broadly than the Department intended. The Department is, therefore, modifying the definition upon adoption to mean a pesticide registered with the EPA pursuant to the FIFRA "that is a vapor or gas, or forms a vapor or gas upon application, and whose pesticidal action is through the vapor or gaseous state." N.J.A.C. 7:27-8.1, 17.1, and 22.1. This definition closely tracks the definition of fumigant in the Department's Pesticide Control Code, N.J.A.C. 7:30-1.2, and is consistent with the Department's intended scope of the rules.

The rules establish a permit applicability threshold based on the operation's potential to emit. N.J.A.C. 7:27-8.2(c)22 and 22.1, significant source operation definition, paragraph 22. The

Department focused on the three fumigants most used in the State, as explained in the notice of proposal Summary. 53 N.J.R. at 317-19. However, as with the applicability threshold (based on pounds per hour of raw materials) that would apply in the absence of the adopted rules, the permit requirements apply when any fumigant is used and the operation meets the applicability threshold based on potential to emit. In this respect, the breadth of the rules is no greater than the rules prior to the amendments. As for the reporting thresholds, only sulfuryl fluoride, methyl bromide, and phosphine are included as Group III TXS at N.J.A.C. 7:27-17.3. See Summary of Agency-Initiated Changes.

Permit applicability and requirements

Potential to emit threshold

59. COMMENT: Although it sounds logical to base permit applicability for fumigation on potential to emit, most emitters do not know their potential to emit. For this reason, permit applicability is usually based, and should be based, on a production rate or raw material usage that is related to potential to emit but easily determined. This approach gets the emitter in the permit process front door and ensures that air pollution control is implemented, if needed. It is important that fumigators and inspectors can readily determine if a permit is needed. Then, the Department can assist the applicant with potential to emit and actual emissions determinations as needed on applications for larger operations. How will the average potential applicant determine potential to emit? Is there guidance with clear procedures on determining permit applicability based on potential to emit? If there is no guidance and it is not clear how

to determine emission rates, could this allow an owner or operator to claim that the operation does not meet the potential to emit threshold for permit applicability? How will the Department avoid the EPA dilemma in determining applicability under the Prevention of Significant Deterioration (PSD) program, where determining applicability based on emissions is unclear, time-consuming, expensive, difficult to enforce, and generally frustrating? (37)

RESPONSE: Fumigation operations in the State are generally occurring without the use of emission control devices. Fumigation facility compliance (submission of a permit application) was problematic with the 50 lb/hr raw material threshold, which was an input-based permit applicability threshold. The Department determined that using a potential to emit applicability threshold, which is output-based, is more transparent, appropriate, and consistent with how other operations are regulated, and allows owners and operators to better evaluate their operations and determine if a permit is needed.

If fumigation is occurring without a control device or treatment, all fumigant used will be released to the atmosphere during aeration. In such a case, a facility's potential to emit will be assumed to be equivalent to the facility's fumigant usage. Once a control device is installed, or other operational measures are put in place, a facility will estimate the potential to emit by applying the removal or destruction efficiency of the control device that is guaranteed by the manufacturer. With the low reporting threshold, fumigation facilities will still need to document potential treatment technology and associated emissions reduction in the permit application. Evaluating manufacturer specifications and using engineering judgment is part of the permit review process.

Fumigants must be used according to their label and Federal regulation. The owner and operator of a fumigation operation must know the amount of fumigant used during each operation and the duration of each aeration event. A simple calculation will allow the owner or operator to determine the average hourly emission rate. Therefore, the Department does not believe guidance is necessary, nor is the comparison to the PSD program appropriate.

60. COMMENT: The Department has failed to provide any explanation or support for its proposed permitting threshold of 0.1 lb/hr for fumigation activities. The new permitting threshold of 0.1 lb/hr is a significant change from the Department's permitting and enforcement approach over the past several years, which relied on the "catch-all" 50 lb/hr threshold set forth at N.J.A.C. 7:27-8.2(c)19. The proposed emission threshold is also a departure from the typical approach for Subchapters 8 and 22 significant source permitting applicability, which is most often based on the size or capacity of equipment used in a source category, rather than a very low potential to emit. The Department has not cited to any scientific reason for having concerns at facilities with such low emissions. The proposed 0.1 lb/hr potential to emit permitting threshold encompasses virtually all fumigation operations and is unworkable. The Department has provided no technical basis for this rulemaking. The proposed permitting threshold is arbitrary, unsupported, and renders the proposed rulemaking overly broad and unnecessarily stringent. (28 and 48)

61. COMMENT: The proposed new permitting threshold for fumigation operations is so low that every single fumigation activity would require an expensive and time-consuming permit application. (36)

62. COMMENT: It is unclear why the proposed trigger level for requiring a permit was changed from currently applicable level of 50 lb/hr of a fumigant, such as sulfuryl fluoride to the extremely low trigger of 0.1 pounds per hour potential to emit. The proposed new permitting threshold is so low that every single fumigation activity would require an expensive and time-consuming permit application. These permitting requirements would be in direct conflict with the food safety needs and practices of many of the customers of the affected industries. The requirements would also have a significant adverse impact on both the industries themselves and downstream businesses, and even consumers. (39)

RESPONSE TO COMMENTS 60, 61, AND 62: As explained in the Response to Comments 32 through 39, the Department determined to amend its rules based on its outreach and enforcement initiative, which showed fumigation occurring without a permit and emitting fumigants at rates that threatened public health. One reason for the lack of compliance was that many of the regulated community incorrectly interpreted the permit applicability threshold at prior N.J.A.C. 7:27-8.2(c)19 and 22.1 (significant source operation definition) to mean that a permit was required only if the fumigant used exceeded 50 pounds in any one hour. The rules refer to “all raw materials used” and provide that in determining the weight of the raw materials used, the weight of the following are excluded: air, water, containers, if the container is not consumed as part of the equipment operation, and paper, metal, or plastic that

is twisted, bent, or folded in the equipment, if the twisting, bending, or folding does not cause visible emissions or air pollution. N.J.A.C. 7:27-8.2(c)19 and 22.1. Thus, the commodity itself was included in determining the weight of raw materials.

The Department has revised its rules to remove sources where the raw material is not important in terms of the emissions associated with the source operation but instead to regulate the source operation by category. For example, the Department amended its rules to establish a specific source category for welding equipment if the weight of the welding rod or welding wire used in the process is greater than 12 pounds in any calendar day. N.J.A.C. 7:27-8.2(c)20; see 33 N.J.R. 3290(a), 3292 (Sept. 17, 2001). The Department explained in the rulemaking that under the existing rules, "the Department requires a permit and certificate for welding equipment if the weight of the raw material involved (that is, the combined weight of the welding rod or wire and the weight of what is being welded) is greater than 50 pounds per hour." 33 N.J.R. at 3292. The Department amended the rules because it determined that the amount of welding rod or wire used in the process is the primary determining factor of whether the equipment should be considered a significant source.

For fumigation operations, the Department similarly determined that fumigation operations should be regulated as its own source operation category. The amended rules' potential to emit applicability threshold will allow the Department to assess and lower the risks of fumigation activities where they would have otherwise caused a significant health risk. As explained in the Response to Comments 65, 66, 67, and 68, an individual permit takes into

account site-specific factors and through the risk assessment process, allows an owner or operator to mitigate risk (if shown necessary) based on specific site and operational factors.

As explained in the notice of proposal Summary, the 0.1 pounds (45.4 grams) per hour potential to emit threshold for fumigants is consistent with the existing potential to emit threshold for chemicals currently defined as toxic substances. 53 N.J.R. at 319. Since the reference concentrations of the Group I TXS are comparable to the three fumigants listed as Group III TXS, the Department concluded that it would be appropriate for these fumigants to have the same permit applicability threshold level (0.1 lb/hr of emissions) as the TXS already regulated.

To demonstrate, Table 10 below presents the reference concentrations of the fumigants subject to the new threshold. Table 11 below presents the reference concentrations of the Group I TXS in Table 1 at N.J.A.C. 7:27-17.3. All reference concentrations, except those for sulfuryl fluoride, in Tables 10 and 11 were derived from "Toxicity Values for Inhalation Exposure, June, 2020." (https://www.nj.gov/dep/aqpp/downloads/risk/ToxAll2020.pdf.). The lower the reference concentration for an air contaminant, the higher the hazard quotient and potential health risk. See Technical Manual 1003, Section 2.2.3.

Table 10: Fumigants, Group III TXS, Reference Concentrations

Air Contaminant	**Chronic micrograms/cubic meter (µg/m^3)**	**Acute (Averaging Time) µg/m^3**
Phosphine	0.3	70 (24-hour)
Methyl Bromide	5	3,900 (1-hour)
Sulfuryl Fluoride	50*	3,130 (24-hour)**

*See Sulfuryl Fluoride-Addendum to the 2006 Risk Characterization Document Update of the Toxicology and Reference Concentrations -Final May, 2020, Human Health Assessment Branch, Department of Pesticide Regulation, California Environmental Protection Agency- Addendum (link: www.cdpr.ca.gov/docs/risk/rcd/sulfuryl-fluoride_addendum.pdf)

** See *ibid*. See also Sulfuryl Fluoride-Draft Risk Assessment in Support of Registration Review Part I: Occupational and Residential Exposure" prepared by EPA in April 2021 (EPA, 2021).

Table 11: Group I Toxic Substances, Reference Concentrations

Air Contaminant	**Chronic µg/m³**	**Acute (Averaging Time) µg/m³**
Benzene (Benzol)	3	27 (1-hour)
Carbon Tetrachloride	40	1,900 (1-hour)
Chloroform (Trichloromethane)	300	150 (1-hour)
Dioxane (1,4-Diethylene dioxide; 1,4-Dioxane)	30	3,000 (1-hour)
Ethylene dibromide (1,2-Dibromorethane)	0.8	N/A
Ethylene dichloride (1,2-Dichloroethane)	400	N/A
Tetrachloroethylene (Perchloroethylene)	40	20,000 (1-hour)
Trichloroethylene (Trichloroethene)	2	2 (24-hour)

As shown in Tables 10 and 11, chloroform and ethylene dichloride, both Group I TXS, have chronic reference concentrations which are higher and, therefore, less harmful, than the three fumigants. In addition, carbon tetrachloride and tetrachloroethylene have higher lifetime

reference concentrations than phosphine and methyl bromide. The short-term, one-hour methyl bromide reference concentration of 3,900 µg/m^3 is of the same magnitude as that of dioxane's 3,000 µg/m^3 and is significantly lower than those of tetrachloroethylene and trichloroethylene.

Reporting threshold

63. COMMENT: The Department has failed to provide any explanation or support for its proposed reporting threshold of 0.01 lb/hr for fumigation activities. The Department has provided no technical basis for imposing the extremely low reporting threshold of 0.01lb/hr for sulfuryl fluoride, which is the low threshold typically applied to air toxics and HAPs that have been well studied and are well understood. The proposed reporting threshold is arbitrary, unsupported, and renders the proposed rules overly broad and unnecessarily stringent. (28 and 48)

64. COMMENT: The Department provided no support for is statement that it "conducted an analysis in order to determine the maximum pounds per hour that would result in a negligible risk at the facility fence line" related to its proposed 0.01 lb/hr reporting threshold for fumigants. 53 N.J.R. at 321. (47)

RESPONSE TO COMMENTS 63 AND 64: As explained in the notice of proposal Summary, for TXS listed at N.J.A.C. 7:27-17, a health-protective hourly reporting threshold of 0.01 lb/hr applies. Given the toxicity of these air contaminants, the adopted threshold is a more protective metric for assessing risk than the pounds per year reporting threshold established for HAPs that are

not TXS. 43 N.J.R. at 320. Since the reference concentrations of the Group I TXS are comparable to the three fumigants listed, as explained in the Response to Comments 60, 61, and 62, the Department concluded that it would be appropriate for these fumigants to have the same reporting threshold level (0.01 lb/hr of emissions) as the TXS already regulated.

The determination of short-term exposure health impacts is important because many fumigation activities occur near residential areas, the proposed discharge point of the fumigants may be at or near ground level, and off-site concentrations may be impacted by downwash effects. Downwash is the influence of the presence of a building or structure on the flow and turbulence and, thus, the decreased dispersion of a plume in the vicinity. These factors, in addition to high toxicity levels, supports the 0.01 lb/hr reporting threshold for the three fumigants. The 0.01 lb/hr reporting threshold for methyl bromide, sulfuryl fluoride, and phosphine will allow the Department to conduct the necessary health risk assessments for fumigation activities. See the Response to Comments 60, 61, and 62 regarding the potential to emit threshold, explaining the Department's rationale for regulating the three fumigants, sulfuryl fluoride, methyl bromide, and phosphine, as Group III TXS.

Stack requirement

65. COMMENT: The across-the-board vertical stack requirement should be removed. This requirement disregards whether a risk assessment shows the need for a stack. A risk assessment could show that a stack is not needed to meet the fence line reference concentration. This requirement would also apply for a facility that wished to install later-

developed state-of-the-art technology without a stack. In these examples, there would be no reason to require the facility to install a stack. (31)

66. COMMENT: Regulation to protect public health from local air toxics is important. However, the proposed rules include requirements that are impossible for some facilities to comply with, such as the requirement for vertical stacks. (23)

67. COMMENT: The Department has not performed critical evaluations that are necessary to determine whether a stack is necessary in all instances to prevent an unacceptable risk that would be addressed through the use of a stack. Nor has the Department provided an explanation for its proposal to treat a risk analysis for a fumigation differently from the analysis required for every other type of industrial emission in the State. A permit application for a fumigation should undergo the same review as any other application. Mitigating measures such as an elevated stack for emissions should be required only if determined necessary by the risk assessment. The Department has offered no support for its rationale or basis for this onerous and costly requirement. The Department's assertion that it would be difficult or impossible to reduce health risks without a stack is unsupported and conflicts with the APA and EO No. 63. (47)

68. COMMENT: The Department has not adequately considered whether the use of a stack is necessary to address risk. Additionally, the Department has not provided any analysis, other than conclusory statements, that the use of a vertical stack is technically feasible or appropriate, given the varied nature of fumigation activities. The proposed rules do not distinguish among different types of fumigation operations and do not recognize that the

appropriate release parameters may depend on a number of site-specific circumstances, such as volume of fumigant, distance to property line, location of receptors, and other factors. The proposed rules also do not appear to allow the Department to utilize discretion with respect to stacks and other controls as part of the permitting process. The proposed rules impose requirements related to the discharge and control of fumigants without any consideration or analysis of the risk to human health and the environment. Specifically, the Department requires, at proposed N.J.A.C. 7:27-17.10(a)1, that all fumigants be discharged upward through a vertical stack that extends above the highest point of the container, roofline, or structure. The Department should first allow a facility to determine whether its fumigation activity poses an unacceptable risk and to consider all available mitigation options before categorically requiring the facility to install a vertical stack. (28 and 48)

RESPONSE TO COMMENTS 65, 66, 67, AND 68: The Department proposed a general vertical stack requirement based on the Department's determination that a vertical stack would likely be needed to reduce health risks to a negligible level. See 53 N.J.R. at 319. Although the Department proposed a stack requirement because it was likely needed to pass the risk assessment, the key concern is to ensure that risks are adequately reduced, which an owner or operator could demonstrate without a vertical stack. The Department is, therefore, modifying the rules, upon adoption, to rely on a risk assessment to determine whether a vertical stack is required. The rules, as modified upon adoption, will provide owners and operators flexibility to address risk, particularly as technology evolves, which could obviate the need for a vertical stack to reduce risk to a negligible level.

The modified rules are also consistent with the Department's regulation of HAPs. In 2018, the Department amended N.J.A.C. 7:27-17.4, Discharge of toxic substances, to do away with a specific stack height requirement. 49 N.J.R. 2373(a); 50 N.J.R. 454(a). Instead, the Department relies on a health risk assessment, as in the adopted rules. The Department determined in 2018 that in light of the risk assessment procedure, it was not necessary for the rules to require a specific stack height. Depending on the results of a risk assessment, a higher or lower stack height (or no stack) may be protective. The risk assessment procedure gives facilities the flexibility to reduce risk and maintain health protections in the most cost effective and technically efficient way. 49 N.J.R. at 2382.

A health impact risk assessment accounts for site-specific factors, such as amount of fumigant used, distance to property line, location of receptors, and other factors. Further, the Department recognizes that technology may advance to significantly reduce or eliminate emissions, such that a vertical stack is not necessary to reduce risk to a negligible level. Thus, the risk assessment will determine what discharge mechanisms and controls are needed for a fumigation operation, based on the circumstances. The requirements for the risk assessment are at N.J.A.C. 7:27-17.10(b), with technical guidance provided by Technical Manual 1003. The essential requirement is a risk assessment that meets the criteria for a permit, as provided at N.J.A.C. 7:27-8.5, and pursuant to N.J.A.C. 7:27-17.10. The Department is, therefore, not adopting the stack requirement and is modifying N.J.A.C. 7:27-17.10 upon adoption, accordingly.

69. COMMENT: In support of the proposed vertical stack requirement, the Department asserts that it determined, unless emissions are directed through a vertical stack, it would be difficult to reduce risks from fumigation operations to an acceptable level. 53 N.J.R. at 319. It is not clear how the Department could have made such a determination for sulfuryl fluoride, given that the Department has not proposed reference concentrations for sulfuryl fluoride against which to compare modeled results. For this reason alone, the stack requirement is arbitrary and capricious. (31)

RESPONSE: As explained in the Response to Comments 65, 66, 67, and 68, the Department is not adopting the stack requirement and is modifying N.J.A.C. 7:27-17.10, accordingly. See the Response to Comments 85, 86, 87, and 88 and 90, 91, 92, and 93 regarding the sulfuryl fluoride reference concentration.

State-of-the-art requirement

70. COMMENT: In imposing SOTA requirements, the Department must consider whether such technology is "available." The Air Pollution Control Act, N.J.S.A. 26:2C-1 et seq. (APCA), requires the technology constituting advances in the art of air pollution, or SOTA, to have been demonstrated as being reliable and available. N.J.S.A. 26:2C-9.2c(1)(d). The concept of "available" technology has long underpinned analysis by both the EPA and the Department, as to whether certain air pollution control technology meets the criteria of "Best Available Control Technology" or "Reasonably Available Control Technology." In evaluating the availability of an air pollution control technology, the EPA does not expect an applicant to have to learn how to

apply the technology to a totally new and dissimilar source type and recognizes that application of a control technology should not require a change in the design of the source. EPA NSR Manual, dated October 1990, at B.13 and B.19. Similarly, New Jersey, in its evaluation of reasonably available control technology, looks at whether the technology is reasonably available taking into consideration technological and economic feasibility. See N.J.A.C. 7:27-16.17(d)2 and 17.4.

Consistent with how the EPA has viewed the concept of "available" technology for the past 30 years, existing facilities that would become subject to regulation under the rulemaking should not become newly subject to a control requirement that may require redesign of their facilities or the application of novel control technology. The Department should not impose state-of-the-art requirements on existing facilities, many of which have operated in the State for decades. Under the proposed rules, many fumigation operations would be subject to air permitting for the first time. Many of these operations involve existing facilities that have operated for decades. The Department should withdraw the SOTA requirement or clarify that state-of-the-art requirements will not apply to newly permitted operations, because they are not newly constructed, modified, or reconstructed sources subject to SOTA, pursuant to N.J.A.C. 7:27-8.12 or 22.35. (28 and 48)

RESPONSE: As explained in the Response to Comments 96 through 101, the Department does not intend, through this rulemaking, to expand the scope of its permitting program for fumigation operations. The Department's intent is to clarify the rules applicable to fumigation operations, which are already subject to permitting.

Pursuant to existing N.J.A.C. 7:27-8.12(a)2 and 22.35(a), if an application proposes construction, installation, reconstruction, or modification of equipment and control apparatus that is a significant source and meets the applicable SOTA threshold, the application must document SOTA for the source. The Department did not propose to amend the SOTA thresholds for methyl bromide, which is a HAP and a volatile organic compound (VOC), and phosphine, which is a HAP. The adopted amendments add a SOTA threshold for sulfuryl fluoride. The existing language at N.J.A.C. 7:27-8.11(a)2 and 22.35(a) makes clear what sources are subject to SOTA.

71. COMMENT: The Department proposes to require an applicant to document advances in the art of air pollution control, without consideration of whether any unacceptable risk remains after the use of a vertical stack. In the case of sulfuryl fluoride, a control technology requirement is not needed to meet any State implementation plan or Federal requirements relating to emissions of criteria pollutants or HAPs, and the Department has not identified any negative environmental or ecological effects from the use of sulfuryl fluoride. Accordingly, the application of a control technology requirement can only be justified as a means of reducing risk. As included in the proposed rules, the application of SOTA assumes that such risk mitigation is needed in all cases. This assumption is inappropriate without the proper analysis. The Department should withdraw the proposed rules and undertake further analysis as to the level of risk posed by sulfuryl fluoride fumigant emissions, including the level of air pollution

control being used to address any risks posed, and ascertain whether the outcome of EPA's FIFRA evaluation will address those risks. (28 and 48)

RESPONSE: The APCA requires the application of SOTA for constructed, reconstructed, or modified equipment and control apparatus. N.J.S.A. 26:2C-9.2. Accordingly, as explained in the Response to Comment 70, SOTA requirements apply when the construction, installation, reconstruction, or modification of equipment and control apparatus that is a significant source meets the applicable SOTA threshold. N.J.A.C. 7:27-8.12(a)2 and 22.35(a). The SOTA requirement is separate from the risk assessment required pursuant to N.J.A.C. 7:27-17.10 for a fumigation source operation that meets the applicability threshold or the definition of a significant source operation.

72. COMMENT: The Department did not conduct the appropriate analysis to support requiring the application of SOTA. The Department proposes to impose a SOTA requirement for the emission of certain fumigants, including sulfuryl fluoride, which are not currently subject to any Federal air quality standard, without going through the appropriate procedures. The APCA requires the Department to periodically publish, with an opportunity for public comment, the technology, methods, and performance levels with respect to air pollution control to be used by applicants for demonstrating advances in the art of pollution control through a technical manual. See N.J.S.A. 26:2C-9.2.c(4). The statute implicitly contemplates that there should be some technical basis and analysis that supports a SOTA requirement. The Department also recognized the technical and industry-specific nature of SOTA requirements when it created the

SOTA workgroup, made up on representatives of industries, businesses, environmental organizations, and Department staff, to assist in the development of the technical manuals.

Instead of going through the process set forth in the statute, the Department proposes to precipitously impose a SOTA requirement for fumigants, including sulfuryl fluoride, contrary to the APCA's implied intent. The APCA makes clear that new SOTA standards will only apply to applications submitted after the final publication of the amended technical manual. See N.J.S.A. 26:2C-9.2c(4)(b). The Department proposes, however, an operative date for the new SOTA requirements for fumigants, including sulfuryl fluoride, as 60 days after the effective date of the rules (the date the adopted rules are published in the New Jersey Register). Therefore, the Department is requiring an applicant to comply with SOTA without going through the appropriate process to amend its technical manual and identify the appropriate SOTA standards for fumigants, including sulfuryl fluoride. The Department has not provided any information that any control technologies exist that have been demonstrated in practice to control sulfuryl fluoride emissions. (28 and 48)

73. COMMENT: Before the Department implements overarching control requirements, it should issue information requests and collect relevant technical and economic information to make reasonable conclusions regarding the availability and technical and economic feasibility of control technologies for the different types and scales of fumigation. Thereafter, technical manuals required pursuant to the APCA should be issued, commented upon, and finalized. The cost and burden of collecting and analyzing this information should not be shifted to individual members of the regulated community. (30)

RESPONSE TO COMMENTS 72 AND 73: The Department may require SOTA for a source operation without issuing a technical manual. Pursuant to the APCA, "[n]ewly constructed, reconstructed, or modified equipment and control apparatus shall incorporate advances in the art of air pollution control as developed for the kind and amount of air contaminant emitted as provided in this subsection [c]." N.J.S.A. 26:2C-9.2.c. SOTA applies if the equipment has a potential to emit a HAP greater than or equal to the threshold specified at N.J.A.C. 7:27-17.9(b), or has a potential to emit any other air contaminant, other than CO_2, greater than or equal to five tons per year. See N.J.S.A. 26:2C-9.2.c(1); N.J.A.C. 7:27-8.12 and 22.35. The APCA provides specific SOTA requirements for different air contaminants, for example, an air contaminant subject to the prevention of significant deterioration program, an air contaminant subject to a significant emissions increase of a non-attainment air contaminant in a non-attainment area, a hazardous air pollutant, or any other air contaminant. *Ibid*.

For other air contaminants, SOTA means "up-to-date technology and methods, reflected in equipment, control apparatus, and procedures, that when applied to an emission source shall reasonably minimize air contaminant emissions." *Ibid*. As mandated by the APCA, "[t]he technology shall have been demonstrated for similar air contaminant discharge parameters to be reliable and shall be available at reasonable cost commensurate with the reduction in air contaminant emissions." *Ibid*. The Department's general SOTA manual explains how an applicant can document advances in the art of air pollution control. See State of the Art (SOTA) Manual (July 1997), Sec. 1.4, at https://www.state.nj.us/dep/aqpp/downloads/sota/sota0.pdf. The Department's technical manuals provide guidance to applicants on preparing an air quality

modeling protocol (Technical Manual 1002, at https://www.state.nj.us/dep/aqpp/downloads/techman/1002.pdf) and a risk assessment (Technical Manual 1003, at https://www.state.nj.us/dep/aqpp/downloads/techman/1003.pdf).

If the Department has published a technical manual for a particular source operation, then any application that demonstrates compliance with that technical manual will be considered to meet SOTA control requirements for the source operations covered by the technical manual. N.J.S.A. 26:2C-9.2.c(4)(b). However, the use of the technical manual remains optional. An applicant may propose a case-by-case determination for a specific source operation, instead of relying on a technical manual. N.J.S.A. 26:2C-9.2.c(4)(c).

As explained in the general SOTA manual, a case-by-case SOTA determination analysis uses a "top down" approach. State of the Art (SOTA) Manual (July 1997), https://www.state.nj.us/dep/aqpp/downloads/sota/sota0.pdf. This approach allows an applicant to take into consideration technical infeasibility, comparable environmental impacts, economic impacts, and energy impacts. See *id*., Section 1.5.

In the Economic Impact statement, the Department explained the anticipated economic impact of controlling emissions. 53 N.J.R. at 328-329. See also the Response to Comments 111 through 130 regarding the sufficiency of the Economic Impact statement.

Emergency fumigation provisions

74. COMMENT: The proposed rules would impose extensive requirements and time to obtain a permit for all fumigation operations. To address some of these concerns, the Department

proposed emergency fumigation provisions, which fail to appreciate the real-life "emergency" situations that are encountered by New Jersey businesses. These situations necessitate immediate fumigation. The emergency provisions, however, impose requirements that will significantly limit the ability to use these provisions and could endanger the viability of certain businesses. For example, to meet the emergency fumigation provisions, a State or Federal authority must require the fumigation. However, a food warehouse or restaurant may need to immediately fumigate, even though no State or Federal requirements apply, yet be unable to do so, putting the business at risk. Moreover, even if a State or Federal requirement applies, the requirement to use a stack extending beyond the roofline may be too onerous or expensive for the fumigation of a single pallet or container and delay the necessary fumigation. Finally, the condition that no other fumigation operation has occurred in the past five years would unnecessarily limit the use of the emergency fumigation provision, leaving facilities with no recourse, but to apply for a permit and allow the infestation to take over while the applicant waits for its permits. The rules should recognize and provide a solution for these situations. (43)

75. COMMENT: The proposed emergency fumigation operation provisions should be expanded. One of the conditions for this exemption to apply is that the fumigation is required by a State or Federal authority on an emergency basis. N.J.A.C. 7:27-8.2(g) and 22.36. However, there is no such thing as a USDA or FDA "emergency" that would trigger this provision. These Federal agencies require fumigation as a precondition to entry into the country for imported goods or pursuant to a USDA-approved plan for certain food processing

operations. They do not declare an "emergency." The Department should clarify the rule if the Department meant that the emergency fumigation exemption applies, so long as the fumigation is in furtherance of any Federal requirement or regulatory scheme. Such clarification would make the proposed rules more reasonable, but not more workable. The five-year limitation is also problematic. The Department did not explain the basis for proposing five years, instead of another time period, which makes the proposed interval a prohibited "regulatory guess." *In re Amendments and New Regulations at N.J.A.C. 7:27-27.1*, 392 *N.J. Super.* 117 (App. Div.), *certif. denied*, 192 *N.J.* 295 (2007). The Department conceded that public safety can be adequately protected provided that concentrations are monitored at the fence line to ensure they do not exceed the "monitored concentration level limit established in the fumigant label." See N.J.A.C. 7:27-8.2(g)5 and 22.36(a)5. The Department cannot, and does not, contend that the chronic (annual) reference concentration would be of any concern for fumigation operations that occur sporadically. Only acute exposure is a realistic concern for operations occurring with the degree of irregularity that would be the case for an emergency program, even if occurring much more frequently than once every five years.

Reproposal would allow the Department to consider programs successfully employed in other states, such as Virginia's Qualified Fumigation Facilities rule. See Va. Code § 10.1-1308.01, Qualified fumigation facilities. Virginia's rule is effectively a general permit that allows facilities to fumigate without a dedicated permit provided certain conditions are met. Virginia's program does not include an artificial limit on the interval at which qualifying fumigations can occur, nor does it require a Federal or state declaration of emergency. If the Department does

not repropose this portion of the rules, the Department should at least reconsider the five-year limit and clarify the scope of the provision requiring an emergency declaration. (31)

76. COMMENT: The disqualification of a facility at which fumigation has occurred during the prior five years renders the exemption potentially useless as it fails to recognize that emergency fumigations, as the name would suggest, may arise under a variety of unanticipated and unavoidable circumstances, such as the discovery of pests and the immediate need to eradicate it for the safety of imported commodities or the community. Under the proposed narrow and arbitrary threshold for what constitutes an emergency fumigation, any industrial structure, which may include restaurants based on the Department's broad definition, would only be allowed to fumigate once every five years, and only if such fumigation is required by a State or Federal authority, or go through a lengthy and expensive permitting process. In the case of a restaurant or similar establishment, the fumigation may not be "required" by a State or Federal authority, but the establishment should be permitted to address the discovery of pests to ensure the continued operation of their business. Thus, the proposed rulemaking's emergency fumigation provisions endanger businesses' ability to safely operate. Moreover, the fact that a facility might have had to fumigate in the past five years does not necessarily translate to that facility being on notice that it will require a permit going forward. It also ignores the realities of the import business and the notice involved in such importation. The imposition of a five-year timeframe for disqualification is simply arbitrary. The stack requirement is also infeasible because it assumes that a stack may be erected in an emergency situation, and also fails to consider that a stack may not be necessary or appropriate for every fumigation activity. The

Department must provide a more meaningful and workable exemption for emergency fumigations, developed in consultation with key stakeholders. (28 and 48)

RESPONSE TO COMMENTS 74, 75, AND 76: As explained in the Response to Comment 50, the Department's intent in promulgating the new rules is to cover fumigation of bulk commodities and industrial facilities. The adopted rules for fumigation operations do not apply to restaurants or commercial businesses.

The Department included emergency fumigation provisions in response to stakeholder feedback that a State or Federal authority may require fumigation on an emergency basis. The Department recognizes there may be circumstances beyond a fumigation operation's control that require fumigation, before a permit may be obtained. Given the toxicity of the fumigants regulated, the Department included requirements, such as the stack requirement, to minimize the risk posed by the emergency operations. However, the Department is modifying N.J.A.C. 7:27-8.2(g)4 and 22.36(a)4 upon adoption to delete the phrase "to a height above the ground." This phrase may cause confusion because a stack that extends above the highest point of the container/roofline necessarily extends "to a height above the ground." Note that the stack requirement for emergency operations is distinct from the proposed vertical stack requirement that the Department is modifying upon adoption, discussed in the Response to Comments 65, 66, 67, and 68.

The adopted rules limit the availability of the emergency exemption to avoid potentially creating a loophole that would enable a facility to repeatedly declare the need for emergency fumigation, thereby avoiding the permitting and control requirements. Moreover, owners and

operators of facilities or operations where fumigation regularly occurs, whether seasonally, annually, or other schedule, should be on notice that a permit is required. Thus, the owner or operator would not need to invoke the emergency fumigation provision on a regular basis. Instead, the owner or operator should have a permit that would cover all fumigation needed during the permit period.

The Department's air permitting program generally issues five-year permits. See N.J.A.C. 7:27-8.7(c) and 22.3(i). Therefore, the Department used a five-year period as the frequency trigger for requiring a permit. The emergency fumigation provisions are intended to be for unexpected situations. An owner or operator that meets the conditions of, and proceeds with, an emergency fumigation is not required to apply for a permit or conduct a risk assessment. Therefore, the Department included conditions to provide a level of protection during these situations. However, if fumigation occurs regularly, though infrequently, at a site, and the operation meets the potential to emit threshold, the owner or operator must apply for, and obtain, a permit.

As explained in the notice of proposal Summary, fumigants cause adverse health effects as a result of acute and chronic exposure. See 53 N.J.R. at 317-318, 326-327. The Department's comparison of the Group III TXS fumigants with the toxic substances included in its existing rules is discussed in the Response to Comments 60, 61, and 62.

77. COMMENT: The Department should clarify that the five-year limitation and requirement for an emergency declaration are not "numeric or narrative standard[s] protective of human

health" so a fumigation operation could potentially take advantage of the Department's waiver rules at N.J.A.C. 7:1B-1.1. (31)

RESPONSE: The Department does not believe it is appropriate to revise the rules as suggested. The Department does not specify which rules may be subject to waiver, as the waiver rules at N.J.A.C. 7:1B "set forth the limited circumstances in which the Department may, in its discretion, waive the strict compliance with any of its rules in a manner consistent with the core missions of the Department to ... protect the public health, safety, and welfare, and the environment." N.J.A.C. 7:1B-1.1. Please see the Response to Comments 81, 82, 83, and 84 regarding potential development of a general permit.

78. COMMENT: The emergency fumigation operation provision requires the operation to include "a stack that extends above the highest point of the container/roofline to a height above the ground and exhausts vertically to remove the fumigant." N.J.A.C. 7:27-8.2(g)4 and 22.36(a)4. This requirement does not say how high above the ground or roofline or container the stack should be. A stack that is flush with the roofline should not be considered a "stack." (26)

RESPONSE: The adopted rules do not specify the height of a vertical stack for emergency fumigation operations; however, the stack must extend above the highest point of the container/roofline. See the Response to Comments 74, 75, and 76 for a discussion of modifications to the stack requirements for emergency operations at adopted N.J.A.C. 7:27-8.2(g)4 and 22.36(a)4.

79. COMMENT: While the concept of an emergency fumigation provision is a good one, the proposed provisions governing emergency fumigation are unworkable as drafted. The precondition that a fumigation be "required" by a State or Federal authority in order to qualify as an "emergency fumigation" is inappropriate and fails to recognize the nature of the regulatory oversight of fumigation of food commodities. The FSMA shifted the focus from responding to foodborne illness to taking proactive steps to prevent it. The FSMA requires, among other things, owners and operators of a facility to identify and evaluate known or reasonably foreseeable hazards associated with the facility, identify and implement preventive controls, monitor the effectiveness of the controls, implement corrective action if those preventive controls are ineffective, and verify that the controls are being used effectively and significantly minimize or prevent the occurrence of identified hazards. 21 U.S.C. § 350g. While the FDA does not specifically require companies to fumigate, companies commonly utilize fumigation to meet these FDA requirements and the hazard of pest infestation. The Department's strict definition of emergency fumigation would potentially prevent owners and operators from taking prompt corrective actions necessary to satisfy the FSMA requirements, because fumigation is not specifically required. (28 and 48)

RESPONSE: The rules would not prevent owners and operators from taking necessary actions to satisfy Federal requirements. The commenters state that companies commonly utilize fumigation to meet Federal requirements and to address the hazard of pest infestation. Owners and operators are, therefore, aware that their business requires fumigation and are,

therefore, on notice that a permit might be necessary. If fumigation (as defined in the adopted rules) regularly occurs at an industrial structure, and the operation meets the rules' potential to emit threshold, then the adopted rules require the owner or operator to have a permit. The emergency fumigation exemption is an exemption to what the rules otherwise require; it is not intended to cover regular fumigation operations that are utilized to meet Federal requirements. To the extent this requires adjustments to existing operations, those adjustments would be necessary to ensure protection of public health, safety, and welfare, and the environment. Therefore, the Department is adopting the emergency fumigation provisions as proposed.

80. COMMENT: The advance notification requirements are overly burdensome and restrictive, which may jeopardize the ability to undertake timely action. (28 and 48)

RESPONSE: The advance notification provisions require an owner or operator to provide the Department with documentation showing that the operation is an emergency fumigation operation, as well as basic information about the fumigation operation, such as the industrial structure and commodity to be fumigated, the fumigant name and estimated quantity to be used, and the name and address of the company that will perform the fumigation. The owner or operator must also provide the exact physical location where the fumigation will be conducted and the distance to the nearest property line, building, structure, and public area. The required information is basic information that owners and operators where fumigation occurs or who conduct fumigation should know as part of their operation.

General Permit for Fumigation Operations

81. COMMENT: The Department should consider developing a general permit for certain types of fumigation. The Department has the authority to issue general permits for certain classes or categories of sources for which the application of standard requirements is determined to be appropriate. See N.J.A.C. 7:27-8.8 and 22.14. General permits offer a significant benefit to both affected sources and the Department because they establish clear and consistent requirements for sources. They also reduce and streamline administrative burdens associated with the Department's review of permit applications. Given the wide range of fumigation activities affected by the rulemaking, the Department should consider whether one or more general permits may be appropriate. Distinguishing criteria could include, without limitation, annual or hourly fumigant usage, type of fumigant, distance to property line, type of commodity or structure, and other factors. (28 and 48)

82. COMMENT: The Department must allow minor fumigation activities to be either exempt from the permitting requirements or to be regulated under a general permit, which is also referred to as a permit by rule. A general permit would provide a generally applicable regulatory compliance process (similar to the EPA label) for small fumigation activities that can be utilized on short notice. An example of an effective and simple permit by rule for certain categories is included in the fumigation permitting program established by the Virginia Department of Environmental Quality in 2011. The Department is encouraged to take a closer look at Virginia's program. (47)

83. COMMENT: The Department has acknowledged that risk levels can be reliably correlated with distance to property lines and that fence line monitoring to the EPA established acute limits can be an adequate safeguard against acute exposure hazards. See proposed N.J.A.C. 7:27-8.2(g)5 and 22.36(a)5. The Department should work with stakeholders to design a functional general permit fumigation program for facilities that do not fumigate on a regular basis. (31)

84. COMMENT: Permit applicability based on production rate or raw material usage rate, rather than potential to emit, is effective and efficient because it enables the use of general permits for common small operations and can avoid case by case review for the majority of operations. (37)

RESPONSE TO COMMENTS 81, 82, 83, and 84: At existing N.J.A.C. 7:27-8.8 and 22.14, general permits and general operating permits are pre-approved permits that do not require technical reviews. Each general permit applies to a specific class of significant sources. If a source belongs to a class of sources that qualify for a general permit and the source owner or operator registers for the general permit and complies with the regulatory requirements, the registration satisfies the requirements for a permit and certificate. The procedural requirements to issue a general permit are at N.J.A.C. 7:27-8.8, particularly, subsection (m). Similarly, each general operating permit applies to a specific class of sources. N.J.A.C. 7:27-22.14. An owner or operator may apply for authorization under a general operating permit to operate any source operation, group of source operations, or facility that meets the applicability criteria in the

general operating permit. Authorization constitutes preconstruction permit approval and may serve as the operating permit for the facility or part of the facility, as applicable.

The Department is considering whether a general permit and a general operating permit are appropriate for fumigation operations. If the Department determines that a general permit and general operating permit are appropriate, then the Department will make use of the stakeholder process, as well as provide the required public notice and an opportunity for comment.

At this time, potential to emit is a more appropriate way to regulate fumigation operations, particularly given the difficulty the Department has encountered in bringing these operations into compliance with the regulatory requirements in place before these amendments. Please see the Response to Comment 59 and 60, 61, and 62, regarding potential to emit. Only fumigation operations that meet the applicability threshold are subject to the permitting requirements.

The Department is familiar with Virginia's permitting program and will keep that program in mind if it determines a general permit and/or general operating permit is appropriate for certain fumigation operations. If the Department establishes a general permit for fumigation operations, the general permit conditions would need to be conservatively protective for risk.

Sulfuryl Fluoride

85. COMMENT: The proposed rules are incomplete and unworkable because the Department did not propose an acceptable fence line concentration for sulfuryl fluoride. In the notice of proposal Summary, the Department indicated that it is waiting for California to finish its analysis and will then use California's number. This means that a facility cannot determine in advance what it would need to do to meet the fence line restriction. Depending on how long California's process takes, the proposed rules could go into effect (requiring permits) without a fence line value to use for modeling. (18, 24, and 53)

86. COMMENT: Under the proposed rules, fumigation operations with the potential to emit more than 0.10 lb/hr of a fumigant, which would essentially cover any fumigation operation, would be required to perform a risk assessment. The assessment uses complex modeling techniques to determine the off-site ambient concentrations, given the operation's unique parameters. To determine the conditions of permit issuance, which could include a required stack height or maximum raw material consumption rates, the Department compares the calculated fence line levels to a reference concentration for the particular fumigant. These reference concentrations are levels at which, subject to substantial factors of safety, humans will not experience adverse effects over a given time frame. The modeling typically looks at the levels at which there will be no effects (again, with a substantial factor of safety) over a 24-hour time period and an annual time period (the "acute" and "chronic" reference concentrations, respectively). However, there is no reference concentration(s) for sulfuryl fluoride, without which the Department cannot legally finalize the proposed rules. Nor can the Department add the concentration(s) without an opportunity for comment. In May 2019, the Department

proposed to adopt reference concentrations identical to those proposed in California at the time. The Department did not finalize the notice of proposal after California questioned its own analysis. The Department now states it will adopt California's updated values when California's review is complete. This approach is indefensible because in the interim, the Department has no regulatory standard by which to evaluate a permit application for a fumigation operation that uses sulfuryl fluoride. A rule without a clear or objectively ascertainable standard may not be upheld. The Department could have made clear that permit requirements for sulfuryl fluoride fumigation operations would not go into effect until after reference concentrations were separately proposed, commented on, and adopted pursuant to a later rulemaking. However, as proposed, the rules would go into effect requiring permits to be issued for compliance with a nonexistent standard for sulfuryl fluoride. The lack of a reference concentration makes it impossible for either the Department or stakeholders to fully analyze the rules' effects. The Department's various regulatory impact statements as they related to sulfuryl fluoride are guesswork, because the Department cannot say what the social, economic, or jobs impacts will be without knowing the conditions that businesses would have to comply with. (31)

87. COMMENT: The Department's imposition of permitting requirements for fumigation operations that use sulfuryl fluoride when no reference concentrations for sulfuryl fluoride have been established in New Jersey shows that the Department has not carefully considered how the proposed requirements will be implemented and that the rulemaking is premature. At this point, the Department has not identified an applicable reference concentration for sulfuryl

fluoride. Thus, the rulemaking puts the regulated community in the position of not knowing what limits will be applied in the proposed permitting process, but being susceptible to denial of permits if a modeled result exceeds the yet-to-be-identified reference concentration. By applying requirements to a substance for which a reference concentration has not been established, the regulated community cannot adequately evaluate the type and scope of controls that might be needed. All of this reveals that the rulemaking is particularly premature when it comes to the use of sulfuryl fluoride. More information is needed before imposing the permitting, operational, and control requirements of the proposed rules pertaining to fumigation. (28 and 48)

88. COMMENT: The rulemaking is in direct violation of the APA and EO No. 63, as it provides the public no opportunity for meaningful comment and review of the proposed adoption of an air quality standard/reference concentration for sulfuryl fluoride that has not even been finalized yet. Despite the fact that the Department is waiting on the State of California to complete its evaluation of sulfuryl fluoride, the Department has proposed reporting, permitting, emission control thresholds, and stringent risk analysis procedures for the use of sulfuryl fluoride. It is literally impossible for the public to evaluate the reasonableness of the proposed regulation of this fumigant when the State has not yet adopted an applicable air quality standard for it. The Department must withdraw this premature attempt to leapfrog the process for the adoption of air quality permitting rules for sulfuryl fluoride and wait until the State can propose an applicable standard. (47 and 49)

RESPONSE TO COMMENTS 85, 86, 87, AND 88: The Department is authorized to regulate fumigation operations with a potential to emit applicability threshold, as well as reporting and SOTA thresholds, without a reference concentration in the Risk Screening Worksheet. A reference concentration is not a regulatory standard. A reference concentration, like a unit risk factor, is used to assess risk. As part of its guidelines, the Department updates its presumptive reference concentrations and unit risk factors, which are derived from well-established Federal and State sources, based on science.

In the notice of proposal Summary, the Department explained that a "reference concentration, which is a quantification of the air contaminant's hazard, is an estimate of a daily inhalation exposure concentration for the human population that is likely to be without an appreciable risk of deleterious non-carcinogenic effects." 53 N.J.R. at 320. The reference concentration value is derived by incorporating uncertainty factors to account for uncertainties in toxicity studies. *Ibid*. When the Department last updated its HAP reporting thresholds, the rulemaking did not include unit risk factors or reference concentrations. See 49 N.J.R. 2373(a). The Department explained that it calculated the amended thresholds "using the latest toxicity data, the normalized air concentration percentiles determined from the modeling results, and the Department's risk benchmarks ..." *Id*. at 2378-2379. As part of the prior rulemaking, and in the notice of proposal Summary for this rulemaking, the Department explained that it derived the toxicity data from EPA's Integrated Risk Information System (IRIS), California Environmental Protection Agency (CalEPA), and the Agency for Toxic Substances and Disease Registry (ATSDR). *Id*. at 2379; 53 N.J.R. at 320. The Department compiles inhalation information available from

these sources into lists of unit risk factors and reference concentrations to guide applicants. See Technical Manual 1003 at p. 9; Toxicity Values for Inhalation Exposure (June 2020), https://www.nj.gov/dep/aqpp/downloads/risk/ToxAll2020.pdf. Technical Manuals are not subject to the APA's rulemaking procedures. N.J.S.A. 13:1D-111.

Pursuant to N.J.A.C. 7:27-17.10, if a fumigation operation is subject to the permitting requirements at N.J.A.C. 7:27-8 or 22, then a risk assessment for the fumigation operation is necessary as part of the permit application. The required risk assessment is consistent with the risk assessment requirements for the emission of other air contaminants subject to an air pollution control permit. As explained in the notice of proposal Summary, the Department uses risk assessments to evaluate potential effects on public health and the environment from facilities seeking permits to emit air contaminants. 53 N.J.R. at 319 to 320. The Department's guidance on risk assessment is available at https://www.nj.gov/dep/aqpp/risk.html.

When an owner or operator is required to do a risk assessment, the owner or operator may utilize the Department's screening tool for toxic air pollutants, known as the Risk Screening Worksheet. See N.J.A.C. 7:27-8.5 and 22.8; Technical Manual 1003 at p.3. As a screening tool, the Risk Screening Worksheet uses "generalized worst-case assumptions and straight forward worksheet calculations to estimate cancer and non-cancer health risks from the inhalation of air toxics listed in a permit application." Technical Manual 1003 at p.3. Among other assumptions, the Risk Screening Worksheet "uses current unit risk factors (URF) and reference concentrations (RfC) based on assumption of continuous chronic exposure to carcinogenic and noncarcinogenic air toxics." *Id*. at p.4.

The worksheet is intended to streamline the risk assessment process, as a refined risk assessment requires an applicant to first submit an atmospheric dispersion modeling protocol in accordance with Technical Manual 1002. An owner or operator who cannot use the worksheet because the assumptions used in the worksheet do not match its operation or who opts not to use the worksheet may propose its own reference concentration and justify its use as part of its refined risk assessment. The Department will review the applicant's risk analysis, including its proposed reference concentration, and determine if the proposed reference concentration is appropriate, that is, based on science and sufficiently protective, and if potential off-site health impacts are negligible.

Where the Department has not included a reference concentration or unit risk factor in its guidelines for a pollutant that a source operation emits, such as sulfuryl fluoride, the Department will inform the applicant of the presumptive value the Department will use in evaluating the permit application. The Department will also inform the applicant of the option of proposing its own value. For existing fumigation operations that use sulfuryl fluoride, the Department informed applicants that based on the recommendation of the Department's Division of Science and Research, risk would be evaluated using the presumptive acute reference concentration of 0.75 ppm. This reference concentration is consistent with California's final addendum for sulfuryl fluoride and the EPA's draft risk assessment of sulfuryl fluoride. See Sulfuryl Fluoride, Final Addendum to the 2006 Risk Characterization Document Update of the Toxicology and Reference Concentrations. California Department of Pesticide Regulation (CalDPR). May 2020. Available at https://www.cdpr.ca.gov/docs/risk/rcd/sulfuryl-

fluoride_addendum.pdf; Sulfuryl Fluoride-Draft Risk Assessment in Support of Registration Review Part I: Occupational and Residential Exposure. April 30, 2021. Health Effects Division. Office of Pesticide Program. U.S. Environmental Protection Agency, Research Triangle Park, NC.

If an owner or operator chooses to conduct a refined risk assessment, the owner or operator has the option of conducting the air quality modeling and submitting the results for review and approval or requesting that the Department conduct the modeling. If the facility opts for the latter, the Department will utilize AERMOD (or an equivalent air quality model) to conduct the risk assessment, consistent with Technical Manual 1003. AERMOD is the EPA-preferred air quality dispersion modeling system developed by the American Meteorological Society/EPA Regulatory Model Improvement Committee (AERMIC). AERMOD incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. The Department will input into AERMOD information, including the maximum hourly and annual air toxic emissions, facility plot plan, stack parameters, and hours of operation, to determine the maximum off-site ambient air toxic concentrations. The Department will calculate annual air contaminant emissions by using the maximum annual number of fumigation events, the length of each fumigation event, and the hourly emission rates.

Once air quality dispersion modeling determines the maximum off-site ambient air toxic concentrations, the Department compares them to any applicable unit risk factors (for carcinogens) and reference concentrations (for noncarcinogens). If modeling shows a potential for a significant health risk, the facility must take necessary actions to lower the risk. Such

actions could include installing controls, increasing stack height, increasing discharge velocity, increasing control efficiency, and decreasing processing rates. N.J.A.C. 7:27-17.10 provides information on how to access the technical manuals that govern the risk assessment.

89. COMMENT: The Department previously acknowledged that a separate proposal is required to enact reference concentrations. See 2020 Risk Screening Worksheet Response to Comments, Response to Comment 8 ("a SF [sulfuryl fluoride] RfC [reference concentration] will be proposed for public review and comment after the Department reviews the CalEPA conclusions as well as any additional information and data published by recognized government or academic entities"). It would have been preferable for the Department to more clearly acknowledge that fact in this rulemaking. Any attempt to tack on reference concentrations without full notice and comment in the future would constitute a "substantial change" and would require reproposal. (31)

RESPONSE: The commenter refers to the Department's response to comments on proposed revisions to the risk screening worksheet. Risk Screening Worksheet Response to Comments (June 2020), https://www.nj.gov/dep/aqpp/RSW%20Response%20to%20Comments.pdf.

As the Department explained in the Risk Screening Worksheet Response to Comments, the Department will issue a public notice and accept public comment on a reference concentration for sulfuryl fluoride when the Department revises the Risk Screening Worksheet to include this reference concentration, but this notice and opportunity for comment is not a formal APA rulemaking process. The Department also explained that the Risk Screening

Worksheet is an optional tool that can be used to demonstrate impacts to the areas surrounding a facility. A facility can propose its own risk evaluation, which could include unit risk factors and reference concentrations that are different from those embedded in the Risk Screening Worksheet. The Department may accept these alternative air toxic factors if they were generated by a recognized organization, such as the EPA, and were based on recently issued data. As noted in Technical Manual 1003, certain sources may not utilize the worksheet based on the assumptions made used when generating the model. See Technical Manual 1003 at p.3.

The Department publishes notice of proposed revisions to technical manuals and allows the public an opportunity to comment before the Department finalizes any revisions. However, technical manuals are not subject to the notice and publication requirements of the APA. See N.J.S.A. 26:2C-9.2.c(4); 13:1D-111. As explained in the Response to Comments 85, 86, 87, and 88 and 179 through 183, Technical Manual 1003 refers to the unit risk factors and reference concentrations that the Department maintains.

90. COMMENT: The Department previously recognized that, when selecting reference concentrations for use in New Jersey, it will be useful to obtain any available "information and data published by recognized government or academic entities." 2020 Risk Screening Worksheet Response to Comments, Response to Comment 8. The EPA is presently undertaking a comprehensive review of sulfuryl fluoride in connection with its registration review process, which will reflect the best presently available science concerning sulfuryl fluoride toxicology.

EPA's review of sulfuryl fluoride was scheduled to be completed in the third quarter (Q3) of 2021 (April – June 2021). See https://www.epa.gov/pesticide-reevaluation/registration-review-schedules. The EPA advises that the Proposed Interim Decision concerning sulfuryl fluoride may not be available until some point in 2022, however.

The Department must use the best available science in crafting its rules. EO No. 63, 51 N.J.R. 521(b), 522 (May 6, 2019). The EPA's scientific expertise is certainly relevant to the selection of appropriate reference concentrations, as the EPA has substantial experience evaluating sulfuryl fluoride data. Dow Chemical developed toxicological data concerning the structural fumigant Vikane before it was first marketed in 1961, even prior to the EPA's creation in 1970. If the Department were to propose a reference concentration before the EPA publishes its updated analysis, such a proposal would be particularly vulnerable to a challenge if the EPA's proposed reference concentrations deviated from the values selected by the Department. While CalEPA and the EPA are likely considering the same general body of scientific literature, the EPA will apply a sounder analysis with respect to selecting appropriate uncertainty factors in view of recent modeling analyses. While the EPA's precise conclusions cannot be predicted, it is expected that, based on the science, the current registration review process for sulfuryl fluoride will result in an acute reference concentration at or above 1.2 part per million (ppm), which is 1.5 to five times higher than the limits currently being discussed by CalEPA (0.25 to 0.75ppm). The most current toxicology data and toxicokinetic models that have been submitted to the EPA will likely show that acute reference concentrations could, in fact, be set higher than that and still be fully protective of human health. The Department should

wait to propose reference concentrations for sulfuryl fluoride until it has the benefit of the EPA's updated analysis. (31)

91. COMMENT: The Department has failed to propose an acceptable fence line concentration for sulfuryl fluoride. The EPA is currently reviewing structural fumigants as part of its required registration review process; a proposed interim decision for fumigants is expected before the end of 2021, and a final decision from the EPA is likely in 2022. The Department should wait for the EPA's science-based analysis to conclude before taking actions that would have such far-reaching and adverse effects. (18)

92. COMMENT: The EPA is in the process of evaluating the level of risk posed by the use of sulfuryl fluoride in fumigations and any additional enhanced protections that are necessary as part of the FIFRA re-registration process. On May 25, 2021, there was a notice in the Federal Register announcing the availability of the EPA's Sulfuryl Fluoride Draft Interim Re-Entry Mitigation Measures and several registration review draft risk assessments for sulfuryl fluoride. 86 Fed. Reg. 28097. While the interim mitigation document focuses on the use of sulfuryl fluoride at residential use sites, the registration review risk assessments being published for public comment have broader application. Following this phase, the EPA is anticipated to release a Proposed Interim Decision presenting the EPA's proposed findings regarding the FIFRA safety standard, and if risk concerns are identified, propose changes to the label. The EPA is the more appropriate agency to determine what controls, if any, are necessary to protect workers, bystanders, and the surrounding community. The Department did not explain why it is necessary to proceed with rules before the EPA has completed its review. (28 and 48)

93. COMMENT: The EPA is currently reviewing structural fumigants as part of its required registration review process. A proposed interim decision for fumigants is expected before the end of 2021, and a final decision is likely in 2022. The Department should wait for the EPA's science-based analysis to conclude before taking actions that would have far-reaching and adverse effects. (24 and 53)

RESPONSE TO COMMENTS 90, 91, 92, AND 93: The EPA announced the availability of its Sulfuryl Fluoride Draft Interim Re-Entry Mitigation Measures and several registration review draft risk assessments for sulfuryl fluoride. 86 Fed. Reg. 28,097 (May 25, 2021). The EPA is conducting its registration review pursuant to FIFRA and its implementing regulations at 40 CFR Part 155, Subpart C. In its notice, the EPA explained that the registration review is its "periodic review of pesticide registrations to ensure that each pesticide continues to satisfy the statutory standard for registration, that is, that the pesticide can perform its intended function without causing unreasonable adverse effects on human health or the environment." *Ibid*. As part of its review, the EPA completed the Sulfuryl Fluoride Draft Interim Re-Entry Mitigation Measures, in response to a 2016 report by the EPA's Office of Inspector General entitled Additional Measures Can Be Taken to Prevent Deaths and Serious Injuries from Residential Fumigations. This report is available at https://www.epa.gov/sites/production/files/2016-12/documents/_epaoig_20161212-17-p-0053.pdf.

The Department reviewed the EPA's Sulfuryl Fluoride -- Draft Risk Assessment in Support of Registration Review Part I: Occupational and Residential Exposure dated April 30, 2021. The EPA draft risk assessment includes human equivalent concentrations that can be

used to calculate reference concentrations. Based on the EPA human equivalent concentrations, the Department estimated the EPA's recommended reference concentrations to be 0.83 ppm (acute) and 0.02 ppm (long-term). The acute value is comparable to the CalEPA range of 0.25 to 0.75. Although the long-term value is double the CalEPA value, the Department will evaluate long-term risk conservatively to protect public health. The Department will continue to follow the progress of CalEPA and the EPA and make a decision based on their conclusions, as well as any additional information and data published by recognized government or academic entities, when the Department proceeds to add a proposed reference concentration for sulfuryl fluoride to its list as part of Technical Manual 1003.

Basis for Regulation

94. COMMENT: The proposed rules rely on California sulfuryl fluoride standards based on a risk assessment that is currently being reevaluated. The only technical support that the Department cites for its conclusions on sulfuryl fluoride is work that is being done on behalf of CalEPA, through its Department of Pesticide Regulation and its Office of Environmental Health Hazard Assessment (OEHHA). While the notice of proposal Summary suggests New Jersey's proposed requirements and thresholds are not impacted by CalEPA's current work, CalEPA is the only authority that is cited for sulfuryl fluoride toxicity. The notice of proposal Summary also states that sulfuryl fluoride is used primarily as a commodity fumigant but neglects to note that California's studies do not involve the fumigation of commercial food commodity operations, which is a main use of sulfuryl fluoride in New Jersey and for which there are already specific

precautions in use. The assertion that the risk assessments being required by the proposed rules are no different than the risk assessments required by similar Federal requirements ignores the fact that the Department's methodology for risk assessments is different and considerably more conservative in its approach. To be more transparent, the Department should cite the specific studies or scientific papers on which it is basing its conclusions indicating the inherent danger of sulfuryl fluoride that they have identified exists, and that New Jersey residents are being adversely affected by fumigation activities and sulfuryl fluoride emissions. Pointed, strong scientific justification and criteria is currently lacking, and the rationalizations for which the proposed standards are based upon are inadequate to move forward with finalization of the regulation. (48)

95. COMMENT: To be a proper transparent exercise of open government, the Department's rulemaking should cite to studies or scientific papers on which the Department is basing its concerns relating to risks posed by emissions of sulfuryl fluoride used, in accordance with its FIFRA label. Historically, where the Department has embarked on regulating air emissions in a manner more stringent than Federal requirements, for example, the mercury rules, it conducted in-depth scientific analyses based on information from within New Jersey prior to taking action. The Department also conducted extensive modeling as part of its reevaluation of the HAP reporting thresholds. Technical Support Document Updating Hazardous Air Pollutant Reporting Thresholds (June 5, 2017). The Department conducted no such scientific or technical analyses here. Instead, the Department seemed to rely on California's pending regulatory effort. Moreover, the EPA is currently evaluating sulfuryl fluoride as part of its reregistration

process. Before the Department imposes new burdensome requirements on several industry sectors in New Jersey, it should first be certain the danger it has identified actually exists and that the basis for its actions is the best available scientific data. At this time, the Department does not have such data and has not identified any reason for taking action on sulfuryl fluoride without the proper input and analysis. (28)

RESPONSE TO COMMENTS 94 AND 95: As required by the APA, the Department provided the basis for its rules pertaining to fumigants and fumigation operations, including the health effects caused by sulfuryl fluoride, phosphine, and methyl bromide, the history of non-compliance with the Department's prior rules regulating fumigation operations, and the need to evaluate the impacts of fumigation operations as part of the permit process. As the Department explained, the Department's report, Fumigant Use in New Jersey – 2016 Survey (2016 Survey), which was prepared by the Department's Office of Pesticide Evaluation and Monitoring, available at https://www.nj.gov/dep/enforcement/pcp/bpo/pem/surveys/fume2016.pdf, found that many commodities are fumigated in warehouses located in and around the densely populated areas of Newark, Elizabeth, and Camden. This finding is consistent with feedback the Department received from stakeholders who conduct fumigations or own commodities that are fumigated. In addition, fumigation is conducted largely in these three New Jersey cities because they all have active ports at which imported and exported commodities must be fumigated before they can be distributed. The rules provide clarity to ensure greater compliance with the

Department's permitting requirements and that emissions do not cause health impacts in adjacent communities. See 53 N.J.R. at 317-319, 326-327.

According to the 2016 survey, methyl bromide and sulfuryl fluoride accounted for 94 percent of the weight of all fumigants applied. Although phosphine is not as commonly used in New Jersey as methyl bromide and sulfuryl fluoride, its use as a rodenticide and as an insecticide for fumigation is well established. The Acute Exposure Guideline Levels (AEGLs) for these three fumigants demonstrate their high toxicity. AEGLs are developed by the National Advisory Committee for Acute Exposure Guideline Levels for Hazardous Substances (NAC/AEGL Committee) and based on toxicologic and other scientific data. The AEGL Program was established to provide guidance for emergency preparedness programs and emergency responders by developing hazard level guidelines for accidental or intentional chemical releases of airborne chemicals. AEGLs represent threshold exposure limits for the general public and are applicable to 11 emergency exposure periods ranging from 10 minutes to eight hours.

Table 12 shows the Acute Exposure Guideline Level (AEGL) values for methyl bromide, sulfuryl fluoride, and phosphine. These values were shared with stakeholders during the rulemaking process.

Table 12: AEGL Values

	Methyl Bromide					Sulfuryl Fluoride					Phosphine				
	10 min	30 min	60 min	4 hour	8 hour	10 min	30 min	60 min	4 hour	8 hour	10 min	30 min	60 min	4 hour	8 hour

AEGL 1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
AEGL 2	940	380	210	67	67	27	27	21	13	6.7	4	4	2	0.5	0.25
AEGL 3	3300	1300	740	230	130	81	81	64	40	20	7.2	7.2	3.6	0.9	0.45

The three AEGL Levels (AEGL-1, AEGL-2 and AEGL-3) are distinguished by varying degrees of severity of toxic effects. AEGL-1 is the airborne concentration (expressed as parts per million or milligrams per cubic meter [ppm or mg/m_3]) of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic, non-sensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure. AEGL-2 is the airborne concentration (expressed as ppm or mg/m^3) of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape. AEGL-3 is the airborne concentration (expressed as ppm or mg/m^3) of a substance above which it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death. See https://www.epa.gov/aegl/phosphine-results-aeglprogram, https://www.epa.gov/aegl/sulfuryl-fluoride-results-aegl-program, https://www.epa.gov/aegl/methyl-bromide-results-aegl-program. Because the available data

indicate very little margin between exposures having no effects and lethal exposures, AEGL-1 values were not derived for methyl bromide, sulfuryl fluoride, and phosphine.

As explained in the notice of proposal Summary, phosphine and methyl bromide are already regulated as HAPs. 53 N.J.R. at 321. The annual reporting and SOTA thresholds did not change with this rulemaking. Regarding sulfuryl fluoride, the Department explained the history of work by CalEPA in researching the health impacts of sulfuryl fluoride. *Id*. at 318. The Department also explained MARAMA's work in evaluating fumigation, *Id*. at 318-319, as well as Maryland's regulation of sulfuryl fluoride as a state-specific toxic air pollutant. *Id*. at 319.

As explained in the Response to Comments 60, 61, and 62, a reference concentration is a quantification of the air contaminant's hazard. The reference concentration value is "an estimate of a daily inhalation exposure concentration for the human population that is likely to be without an appreciable risk of deleterious non-carcinogenic effects." 53 N.J.R. at 320. See Technical Manual 1003. Whether the fumigant is used to fumigate structures or commodities does not affect the reference concentration value as the CalEPA reference concentrations were derived to protect workers, residents, and bystanders.

See the Response to Comments 90, 91, 92 and 93 regarding the EPA's reregistration process of sulfuryl fluoride and the Department's review of the EPA's "Sulfuryl Fluoride -Draft Risk Assessment in Support of Registration Review Part I: Occupational and Residential Exposure" dated April 30, 2021.

Implementation

96. COMMENT: The proposed rules for fumigation operations would go into effect as soon as the rules are adopted. Other provisions, such as N.J.A.C. 7:27-17.3(a), include a grace period. The proposed rules, however, would, upon adoption, immediately prohibit the emission of a fumigant without a permit or stack. This is especially problematic for sulfuryl fluoride because there is no proposed reference concentration for a permittee to use for the risk assessment. The Department should include provisions in the rules to allow a facility not formerly subject to air permitting requirements to continue to operate before installing a stack and/or submitting a permit application. The Department should also clarify that covered sources may continue to operate while a timely submitted permit application is being reviewed. (31)

97. COMMENT: The proposed rules make the reporting and SOTA thresholds for sulfuryl fluoride effective 60 days after publication of the adopted rules in the New Jersey Register. The Department has not adequately considered how best to implement the new fumigation requirements. The 60-day time period is not enough time for covered businesses to comply with all of the new requirements and will potentially subject facilities to an unacceptable risk of enforcement. To provide a clearer path toward compliance for regulated facilities, the Department should provide enough time or a date by which fumigation permit applications would be submitted. The Department should allow at least one year after publication for facilities to submit an application if required by the rules. (28 and 48)

98. COMMENT: The proposed rules offer no accommodations with respect to the timing for submittals of applications for or issuance of fumigation permits separately required pursuant to N.J.A.C. 7:27-8 and 22. As the Department noted in the notice of proposal Summary, the

Department has issued only one permit for a fumigation operation and 13 other applications are currently pending. Based on the proposed permitting threshold, many more permit applications would be required. Given the Department's current backlog of permit applications and the number of applications anticipated as a result of the rules, combined with the complexities of a stack height evaluation, the requirement to conduct a risk assessment, the not yet published and likely to change reference concentration levels for sulfuryl fluoride, and the current lack of control technology or SOTA evaluation, the Department's ability to issue fumigation permits in a timely manner appears remote at best. (28 and 48)

99. COMMENT: The Department failed to enact a permit application shield, which would prevent an applicable permit from expiring during review of a renewal application, if the renewal application is submitted and deemed administratively complete 12 months prior to the expiration date. As a result, pending permits for fumigation activities have been stalled in the process and these facilities have not been able to continue their critical operations without imposition of fines, which is forcing them to consider leaving the State. The proposed rules would require all facilities that meet the potential to emit threshold to apply and obtain a permit within 60 days of the rule adoption. The new low threshold for permits, combined with the broad definitions proposed, suggest the number of permit applications that will result from the rules will be several times more than previously required. Since the Department has not been able to issue a permit for the 13 applications the Department indicated are pending, some for years, it is inconceivable that facilities could complete permit applications, including all of the supporting analyses required, and that the Department could review the applications, risk

assessment, and control technology analyses, all within 60 days. If the rules are adopted, many businesses will be out of compliance within 60 days. (6, 15, 25, and 45)

100. COMMENT: The proposed rules provide an excessively short period (60 days) to adequately assess the current fumigation systems and do not provide real alternatives that will ensure the normal flow for exported products. Exporters from Chile and several countries would not have other fumigation alternatives in the short term that are now necessary for exporting. The Department should develop a work program including those who may be affected by the proposed rules. The program should consider deadlines that gradually incorporate the regulatory changes. The Department should consider multiple stakeholder potential impacts, such as the exporters' vision, the fumigation service providers, carriers, and ports, in order to assess alternatives, gradual enforcement, and ultimately a feasible implementation plan that complies with the State's environmental expectations, protects the phytosanitary heritage of the United States, and avoids impacts to the current market conditions of exported products. The Department should consider the impacts on the State's economy due to restricting imports if alternative fumigation processes are not available in the short term. (46)

101. COMMENT: The Department's estimated costs reveal that facilities would likely incur hundreds of thousands of dollars in additional costs to install stacks, fans, and ductwork, analyze a range of control technologies, acquire, install, maintain, and operate the control technologies and systems, and retain consultants to perform risk assessments, control analyses,

and permit applications. Yet the Department expects facilities to absorb these costs within 60 days of the rule adoption. (43)

RESPONSE TO COMMENTS 96 THROUGH 101: As noted in the Response to Comments 32 through 39, the Department is adopting the rules pertaining to fumigation operations to clarify when a permit is required for these operations. With the adopted rules, the Department's intent is not to expand the scope of its permitting program for these operations, but rather to provide clarity as to the Department's requirements for fumigation operations. In fact, these operations are already subject to permitting, although few have complied with the requirement.

As explained in the Response to Comments 65 through 68, the Department is modifying the rules upon adoption to no longer require a vertical stack. However, the Department acknowledges that it is reasonable to provide owners and operators subject to the fumigation permitting requirements due to meeting the potential-to-emit threshold additional time to submit their permit applications. Therefore, the Department is modifying the rules upon adoption to require an owner or operator of an existing fumigation operation of a commodity or industrial structure that exceeds the permit applicability threshold at N.J.A.C. 7:27-8.2(c)22 or 22.1 (definition of "significant source," paragraph 21), to submit a permit application no later than eight months after publication of the adopted amendments. See adopted N.J.A.C. 7:27-8.4 and 22.4. The additional time should be sufficient for regulated entities to prepare and submit their permit applications in accordance with the rules.

There is no application shield for a facility operating with a pending permit, but the Department will consider whether the facility is working collaboratively with the Department to provide all information necessary to complete the permitting process in determining whether enforcement action is necessary to ensure compliance with the rules' requirements. For minor facilities, a renewal application is not required. The Department mails a renewal invoice four months prior to the expiration date. Invoices may be paid online. When the invoice is paid, the permit is renewed. Major facilities are required to submit Title V renewal applications 12 months prior to the expiration date. The Department sends renewal reminder emails 18 months prior to the expiration date. Second renewal reminders are emailed 15 months prior to the expiration date.

For a discussion of the reference concentration for sulfuryl fluoride and the Risk Screening Worksheet, please see the Response to Comments 85, 86, 87, and 88 and 89. See the Response to Comment 70, 71, and 72 and 73 regarding available control technology and the SOTA requirement.

102. COMMENT: The Department has not historically demonstrated it has sufficient staff and resources to process air permits in a timely manner. In the notice of proposal Summary, the Department stated it has issued only one fumigation permit to date, with 13 applications pending. The Department should engage with stakeholders and repropose the rules, to ensure that applications and reviews are as streamlined as possible. The Department should also

ensure that the required timelines for obtaining permits are reasonable when considering its own capacity to process applications. (6, 15, 25, 31, and 45)

103. COMMENT: Due to the unique operational considerations at each fumigation site, the Department will likely not be able to review and approve the number of applications it would receive if the rules are adopted. (30 and 47)

104. COMMENT: The time involved with the proposed permitting program is extremely problematic. It typically takes at least three to four months to obtain a permit from the Department. This timeline is incompatible with the needs of many businesses to maintain food safety and/or handle the import or export of commodities. For example, the USDA requires fumigation of import shipments found to contain invasive pests to be completed within 24 hours. Export shipments must be fumigated within five days of loading onto a ship. The locations for these import and export activities are dispersed throughout the State and change frequently. The “emergency fumigation” concept is a welcome approach, but the Department’s proposed terms and limitations are too restrictive. The proposed rules would put businesses in the State at an extreme disadvantage to businesses in other states. (49)

RESPONSE TO COMMENTS 102, 103, AND 104: The Department will continue to review permit applications as expeditiously as possible. The Department notes that timely review of permit applications largely depends on the quality and completeness of the permit application. An applicant that fails to provide all necessary information and/or fails to timely respond to the Department’s requests for information only delays the Department’s review. As noted in the Response to Comment 50 and 54 through 58, the new rules are intended to cover the

fumigation of commodities and industrial structures. The Department does not expect the rules to cover operations that are not already required to operate under an air permit.

The Department is available for preapplication meetings with any facility preparing a permit application. A preapplication meeting will establish the necessary contents of the permit application specific to each facility and its operations. This will allow a technical review of the permit application to proceed with minimal obstruction. The preapplication meeting will also help identify the material requirements of any supplemental reviews, such as a SOTA analysis or a risk assessment. If these materials are prepared with complete and accurate information and submitted with the initial application, then the Department will have a streamlined process for reviewing and approving the facility's proposal.

The Department remains, as always, committed to working directly with applicants to address specific operational concerns that could arise as the rules are implemented, and soliciting the feedback of those applicants.

See the Response to Comments 74, 75, and 76, 79, and 80 regarding the emergency fumigation provisions.

Impact Analyses

Social Impact

105. COMMENT: The Department has offered no support for concluding that there are negative health consequences to New Jersey residents from fumigation operations conducted in the State. Fumigation has occurred at facilities in New Jersey for decades. Yet, the

Department does not cite to any incidents or studies indicating that there have been any problems associated with the decades of fumigation operations. The Department only refers to issues experienced "in different parts of the world" and possible unreported off-site impacts.

Despite the dearth of scientific support for concluding that there are any health consequences from current fumigation in New Jersey, the Department asserts the rules will result in improved public health and reduced medical costs (through minimizing risk of lowered productive work hours and lost work days, health care visits, and health care and hospitalization costs) to conclude there is a net benefit from the rulemaking. But there is no evidence to support that fumigation affects any of these things. Notably, the Department does not even assert the rules will in fact reduce any of these health-related items, but simply states they will minimize the risk of incurring such costs. Such hypothetical benefits are not sufficient for determining the expected socio-economic impact of the rule, as envisioned by the Administrative Procedure Act. Nor are such hypothetical benefits consistent with the goals of EO No. 63 and its assertion that governmental decisions should be based on the best available data, including scientific data.

Similarly, the Department has not cited to the scientific studies or papers that support its conclusions to enable the regulated community to determine if the Department's concerns about the health risks associated with each of the fumigants are valid or whether they are based on circumstances not present in New Jersey. For example, while methyl bromide can cause serious health effects, most of the ill health effects associated with it (and documented incidents in other parts of the world) involve exposure to high concentrations. The notice of

proposal Summary specifies that the listed health effects are associated with exposure to high concentrations. There is no reason to believe that current fumigation operations in New Jersey would ever involve risks to the surrounding community of exposure to high concentrations. The Department did not cite one study involving methyl bromide. Similarly, with respect to phosphine, no studies are cited and the serious health effects that are specified are associated with exposure to acute levels. With respect to sulfuryl fluoride, the Department cites only to studies done by California EPA (CalEPA) and acknowledges that CalEPA is in the process of reevaluating the risk associated with sulfuryl fluoride. The Department fails to acknowledge that the EPA is currently in the process of reevaluating the risks posed by sulfuryl fluoride as part of its reregistration under FIFRA. Additionally, because the three fumigants are subject to strict FIFRA requirements, it is necessary to understand that existing Federal requirements would prevent the types of exposures that result in negative health consequences. The Department's failure to cite to studies involving the fumigants prevents any determination regarding whether its conclusions are based on similar circumstances. The Department has failed to satisfy the Administrative Procedure Act and to follow EO No. 63 by not citing the relevant scientific studies. (28, 29, and 43)

106. COMMENT: The Department's social impact statement is required pursuant to N.J.S.A. 52:14B-4(a)(2). However, the Department did not present a meaningful analysis of the social impact of the proposed rules in the State, or on residents and businesses in the State. The Department's analysis hinged on unsupported assertions regarding alleged harms and health effects. The Department also suggested, without support, that regulating methyl bromide will

have a positive social effect because methyl bromide contributes to formation of ground level ozone and PM2.5, which can cause health effects and contribute to climate change. In fact, methyl bromide does not meet the criteria for VOCs and does not contribute to ground-level ozone formation. Taken as a whole, the Department's "analysis" of the social impacts of the rulemaking is nothing more than a hypothesis without any supporting argument, evidence, or data. (27)

107. COMMENT: Fumigation is a proven and effective solution to control pests and is required by Federal governmental authorities in the United States and abroad for the import and export of commodities like cocoa beans, maintenance of a safe food supply through control of pest infestation, and protection of the ecosystem through preventing the spread of invasive species. The safe and effective use of fumigants, such as sulfuryl fluoride, on imported commodities like cocoa beans, is already heavily regulated by the EPA, the USDA, and the U.S. Department of Homeland Security under Customs and Border Patrol (CBP DHS), and within New Jersey through the Department's Bureau of Pesticide Compliance. Fumigation is conducted in accordance with requirements established by EPA under FIFRA.

Sulfuryl fluoride has been used at the direction of the Federal government for over a decade to eradicate infestations of pests present in cocoa beans. Sulfuryl fluoride is applied only by certified applicators in compliance with such requirements. Current application requirements for sulfuryl fluoride include fumigant management practices, application requirements, monitoring protocols and clearance levels that are intended to address any potential risks associated with sulfuryl fluoride use.

While the Department's attentiveness to the health and safety of New Jersey residents is appreciated, the rulemaking makes several conclusive statements about the negative health effects of sulfuryl fluoride but fails to cite to studies or any scientific data that suggests that residents have experienced adverse health effects from current sulfuryl fluoride fumigation activities or that demonstrate the regulatory requirements being proposed are necessary. The rulemaking also improperly cites studies determining negative impacts experienced "in other parts of the world" that are not subject to the current FIFRA label requirements and best management practices, as well as that "exposure to fumigants *may* be causing unreported off-site health impacts." The potential negative health effects from fumigants, particularly sulfuryl fluoride, are already being addressed in accordance with FIFRA, and there is no current science-based evidence to support the conclusion that there are any negative health consequences to New Jersey residents because of current fumigation operations in the State. The Department should cite to studies or scientific papers on which the Department is basing its concerns relating to risks posed by emissions of sulfuryl fluoride used in accordance with its FIFRA label. (48)

108. COMMENT: The Department offers little to no substantive support for its claim that the rules are necessary to protect bystanders and residents from potential exposure to harmful chemicals. The Department relies on unsubstantiated claims and unsupported opinion, not real-world facts and information. Although tens of thousands of fumigations have been completed at locations throughout the State for over 50 years, the Department cannot cite a single incident of a New Jersey resident or bystander that has suffered any injury or adverse

health effect from fumigant exposure in the State. The MARAMA White Paper includes four historic incidents. The alleged harm cited by the Department does not satisfy the APA or EO No. 63. (47 and 49)

109. COMMENT: The Department did not present a meaningful analysis of the social impact of the proposed rules on residents and businesses in the State. Regarding sulfuryl fluoride, the Department did not identify any harms in New Jersey, where fumigation operations are highly regulated and performed by trained professionals. The Department failed to identify any reported health effects that the proposed rules might ameliorate and instead, only listed various medical effects of acute or chronic exposure to excessive fumigant levels. The Department relies on speculation, by asserting that exposure may be causing unreported off-site health effects. The potential for negative health impacts if sulfuryl fluoride is not properly used is why the label directions go to such lengths to ensure that such effects never actually manifest. The Department's suggestion that sulfuryl fluoride regulation would mitigate climate change is also incorrect, as sulfuryl fluoride's contribution is de minimis and it is used on commodities, in part, because of its favorable environmental profile compared to alternatives. (31)

110. COMMENT: In the particular case of methyl bromide, the Department mentions health impacts, without indicating sources nor studies that determine the measure would result in a benefit to people´s health. The same situation is observed when mentioning the impacts on the environment, since it is only detailed that methyl bromide is capable of generating ozone at the ground level and that this would affect plants in their production and damage their leaves.

However, the Department did not make available studies of air pollutant dispersion that would show eventual pollution plumes or environmental damages. The availability of this type of information, as well as the simulations and the different pollutant dispersion models applied are important to understand in detail the impacts to which the rulemaking alludes. Furthermore, scientific and environmental analysis that provides evidence of the effect of methyl bromide fumigation and the other indicated fumigants on the health of the community must be available too, in order to substantiate the rules. For instance, the Department stated that the proposed rules will cause a reduction in medical costs associated with the exposure of New Jersey´s inhabitants to pesticide residues. Is there a technical study in this regard that indicates the current costs? Are there any studies on the exposure of the people of New Jersey to pesticide residues? (46)

RESPONSE TO COMMENTS 105 THROUGH 110: The APA and its implementing regulations require the Department to conduct a social impact analysis that "describes the expected social impact of the proposed rulemaking on the public, particularly on any segments of the public proposed to be regulated, and including any proposed or expected differential impact on different segments of the public." N.J.A.C. 1:30-5.1(c), N.J.S.A. 52:14B-4. The purpose of the social impact statement is to provide interested parties with notice of the impacts that the agency anticipates from the rulemaking, in order that the parties may participate meaningfully in the rulemaking process.

In the notice of proposal Summary and Social Impact statement, the Department explained the health risk associated with fumigation operations. See 53 N.J.R. at 317-319, 326-

327. In humans, acute inhalation exposure to high concentrations of sulfuryl fluoride, a colorless, odorless gas, which is one of the most commonly used fumigants, results in respiratory irritation, pulmonary edema, nausea, abdominal pain, central nervous system depression, numbness in the extremities, muscle twitching, seizures, and even death. Chronic exposure damages the central nervous system and respiratory tract. Direct contact with concentrated sulfuryl fluoride liquid causes tissue damage to eyes, mucous membranes, or skin. At lethal concentrations, sulfuryl fluoride disrupts carbohydrate and lipid metabolism of humans.

Methyl bromide is colorless, has a low odor concentration, and causes both severe health effects and serious environmental impacts. Acute and chronic human exposure to methyl bromide can cause central nervous system and respiratory system failures, including death, eye irritation and watering, nose irritation, throat irritation, headaches, nausea/vomiting, dizziness, and asthma exacerbation. Chronic effects include cancer and damage to the liver, kidney, and central nervous system. Methyl bromide is also a volatile organic compound (VOC) that contributes to the formation of ground-level ozone (ozone) and fine particles (PM2.5), either through condensation or complex reactions with other compounds in the atmosphere. Ozone and PM2.5 contribute to climate change. Moreover, it is well-established that both ozone and fine particles cause significant health effects. Ozone can make it more difficult to breathe deeply and vigorously, inflame and damage airways, and cause chronic obstructive pulmonary disease. The health effects associated with exposure to

PM2.5 are significant, mainly because particles of this size can easily reach into the deepest regions of the lungs.

Phosphine is also colorless and acute inhalation exposure causes headaches, fatigue, burning substernal pain, vomiting, labored breathing, chest tightness, pulmonary edema, and tremors in humans. Chronic exposure may cause nasal cavity and throat inflammation, weakness, dizziness, nausea, jaundice, and liver effects. Exposure to phosphine may cause cardiovascular complications, leading to death within 12 to 24 hours, liver or kidney failure, leading to death in 24 hours, or pulmonary edema, also leading to death.

As the Department explained, in reviewing the social impact of the rules, the Department considered the population of residents adject to fumigation operations. Of the currently permitted facilities and facilities with pending applications, six are in or around environmental justice areas. The number of residents within a one-mile radius of the 13 facilities with pending applications totals 107,330. Of these, 62,150 residents live in or around environmental justice areas. The Department expects the neighboring residents to benefit most from the rules. 53 N.J.R. at 327. As these gases are colorless and odorless, the sensitive population, if affected, would not know the cause. Although the Department explained that it cannot quantify the benefits associated with health improvement, preventing any of the adverse health effects and symptoms of exposure is a benefit. 53 N.J.R. at 327. The Department also expects the rules to provide clarification to the regulated community, which will also have a positive social impact. *Ibid*. The Department carefully considered the

comments, as is the purpose of a comment period, and is satisfied that the Department described the expected social impact of the rulemaking on the public.

See the Response to Comments 32 through 39, where the Department explained it is amending its rules as a result of the Department's outreach, evaluation, and enforcement initiative and provided an example of one fumigation operation.

Economic Impact

111. COMMENT: The notice of proposal Summary and impact statements fail to acknowledge and calculate the considerable additional costs that the rules would impose on a range of businesses. (43)

112. COMMENT: The enormous costs and delays associated with obtaining a permit will have a serious economic impact that cannot be afforded. (8 and 52)

113. COMMENT: The proposed rules would require an air permit for every fumigation activity. The process of obtaining permits can cost tens of thousands of dollars per job. The proposed stack requirement and conservative and stringent permitting requirements would impose substantial costs, logistical challenges, and make compliance impossible. If the rules are adopted, fumigation services would not be able to be utilized, when needed. As proposed, the cost to the food processing, post-harvest commodity, import/export, and countless other valuable businesses in the State would be exorbitant. Nearly every fumigation performed in New Jersey would require expensive modeling (with no clear regulatory endpoint defined in the proposed rule) and costly and sometimes impossible infrastructure changes. (18 and 53)

114. COMMENT: The Department's Economic Impact statement is deficient in several ways. First, the Department did not analyze the economic impact on State governmental bodies, as required. The rules would be an expansive economic impact on governmental bodies, specifically the Department itself because the rules would require an air permit for every fumigation activity, no matter how small. The Department would need significant additional resources to process the hundreds of additional permit applications. Second, the Department stated it anticipates a net economic benefit for the State's residents, who are not the segment of the public to be regulated. The focus of the Department's analysis should be on the businesses involved in fumigation and their downstream customers. The Department's analysis of the economic impact on regulated entities is based on the false expectation that the universe of fumigation operations would not change if the rules go into effect. The rulemaking would change the permitting threshold from 50 lb/hour to a potential to emit threshold of 0.1 lb/hour. The Department's economic analysis is thus incomplete because it failed to analyze the full impact of the rules. The Department finally made no attempt to quantify the costs imposed by several flawed provisions of the rules, including the emergency fumigation exemption, which is so impractical as to be essentially useless. (27)

115. COMMENT: The cost to comply with the proposed rules will likely have to be passed to the consumer, who will see an increased cost for staple food products such as coffee. The proposed rules would require a permit for every fumigation operation with the potential to emit more than 0.1 lb/hour. Obtaining a permit requires air modeling to be performed, which may be time-consuming and cost-prohibitive, especially for small fumigations of a container or

two at a time. This is unworkable for the food industry and how food products, such as green coffee is managed in the food supply chain. (40)

116. COMMENT: There are serious concerns for New Jersey ports. The proposed rules would seem to require an air quality permit for every fumigation activity, even the fumigation of a single commodity container. Obtaining an air permit from the Department is a costly and lengthy process, and the import/export industry cannot operate on such extensive lead times and margins of cost, along with many of the other emergency fumigation requests that are associated with ensuring a safe food supply. Further, the rules mandate the use of a vertical stack (chimney) for every fumigation. This mandate places an unreasonable burden on building owners and the cargo storage facilities in our port regions (additional cost of $20,000 or more for portable stacks and $100,000 or more for installation of a permanent stack and associated ventilation system). In fact, as proposed, virtually every facility in the State could be subject to this mandate. (35)

117. COMMENT: The maritime and related businesses support many port jobs and many of the businesses will be substantially affected by the proposed rules, if adopted. Fumigation is required by governmental authorities for the import/export of a number of commodities. Fumigations have been performed as an integral part of the import/export industry for decades without a single reported injury to bystanders. This perfect safety record is largely due to the fact that fumigations are already strictly regulated by the EPA. The fumigation mandates outlined in the proposed rules, which include requiring a permit for fumigating a single commodity container and the unnecessary requirement of an elevated stack during fumigation

aerations, are completely incompatible with the import/export industry, which cannot operate on such extensive lead times and margins of cost. These business-prohibitive requirements and their inherent limitations would be so severe that maritime and related businesses would lose the ability to utilize fumigation services as a component of their health and safety programs, and many downstream port businesses, not to mention regional consumers, would be adversely affected as well. (44)

118. COMMENT: The Department vastly underestimated the number and categories of businesses and industries that rely on fumigation services in the State. Fumigations play a vital role in protecting food manufacturing, processing, storage, and distribution facilities from food destroying pests. There are hundreds of large and small businesses that periodically require fumigations for pest control after other pest control measures have failed. Fumigations also play an important role in the protection of the environment by fumigating shipments received at ports that contain invasive species that pose a serious threat to the nation's forests, agriculture, and biosphere. Similarly, fumigations play a critical role in the State's export economy as certain commodities must be fumigated prior to shipment overseas. Fumigations are periodically required for the safe and healthy operation of many other businesses in the State, including restaurants, hotels, and other residential and commercial structures. Despite the critical need for fumigations by so many businesses in the State, the proposed rules, as drafted, appear to be intended to effectively eliminate the availability of fumigations as an option for pest control for these businesses. The Department must understand that businesses and industries periodically require a fumigation treatment because they need it for pest

control. It is not an expense that a business selects haphazardly. Fumigations provide a critical and necessary tool for many businesses to keep their operations running in compliance with applicable health and safety standards. The severe financial burdens and time-wasting regulatory hurdles due to the proposed rules, which go far beyond what other states have in place, would put these New Jersey businesses at a substantial competitive disadvantage to businesses in neighboring states with a more reasonable regulatory framework for fumigation. These businesses would be forced to either relocate to another state or incur excessive, unnecessary, and unreasonable costs to maintain their operations properly. (47)

119. COMMENT: The Department significantly understated the estimated costs for retaining consultants to perform risk assessments and completing a permit application. The Department also significantly understated the estimated costs for designing, purchasing, and installing vertical stacks, blowers, and support systems. These actual costs are approximately $600,000 and the actual cost to install a new stack and supporting foundation is over $1.3 million. The Department’s high-end estimate of $200,000 for design, purchase, and installation of a vertical stack, blower, and support systems for larger facilities is vastly understated. The increased requirements and costs associated with the proposed rules have the potential to make the commenter’s customers move their business to ports in other states that do not have the same requirements. Certain ports from other states are using New Jersey's regulatory requirements as part of their marketing efforts to attract business away from New Jersey. To estimate the impact of the proposed rules on its port terminal, the commenter used an economic impact model that is a recognized standard in the industry and relied on by hundreds of ports to

estimate the economic impacts of seaport activity. As indicated in this study, which was previously provided to the Department in a different context, the loss of imported fruit and other perishables subject to fumigation at the Gloucester Marine Terminal has the potential to have significant negative economic impacts, including the loss of 1,660 direct, induced, and indirect jobs; lost personal income and local consumption of over $142,000,000; lost business revenue of approximately $93,000,000; lost State and local taxes of $17,500,000; and lost local purchases of approximately $35,000,000. Other ports in the State will be imposed on by the proposed rules. The same economic impact model used to estimate the jobs and economic impacts to the commenter's port terminal could be used to estimate the impacts to all of the State's ports where fumigation occurs. Although the Department suggested that it is making efforts to encourage other mid-Atlantic states to adopt similar requirements, no such initiatives have been proposed. The State will lose business at its ports as a result of these rules. Once a port loses a customer or import cargo, it is hard to recover that customer or cargo, which adversely impacts the entire region. (30)

120. COMMENT: The Department's initial focus for fumigation regulation was on limited usage in the port areas where certain products are imported and then fumigated. The Department was also aware that these fumigations practices were long-standing, consistent with industry practice, and the standards used in port areas in the region and nationally. Because of concerns with banning or regulating a practice in the State without commensurate regulations in neighboring ports, the Department had expressed its intention to seek uniform regulations in a large geographical region so as not to drive out importers from the State's ports to other ports

in the region. Despite acknowledging in the notice of proposal Summary that the Department has had discussions with regional regulators on this topic, it has decided to move ahead with a New Jersey only regulation despite the obvious absence of a regional agreement. The proposed rules will overregulate the State's port activities and have a significant harmful impact on the State's ports and import businesses, driving up food and other product costs. The economic analysis does not adequately acknowledge these economic impacts but simply says there will be a positive economic impact. The Economic Impact statement is inconsistent with the APA's requirements. (6)

121. COMMENT: The Department asserted that there is a net economic benefit based on qualitative analysis assuming health improvements and minimizing lost workdays, health care and hospitalization costs, etc., without referencing any supporting data that demonstrates there are currently negative health impacts and/or costs to New Jersey residents associated with current fumigation practices. The Department has not demonstrated any effort to identify and quantitatively assess the benefits and costs associated with this rulemaking, such as how increased costs will affect covered businesses or whether such increased costs will result in the loss of business and jobs, and, therefore, the Department has not met its obligations pursuant to the APA. N.J.S.A. 52:14B-4(a)(2); N.J.A.C. 1:30-5.1(c)2. The increased costs to comply with the requirements of this rulemaking associated with stacks, associated blowers, potential control technology, and permitting and reporting requirements, will in turn impact the cost of importing cocoa beans, resulting in potential loss of business for ports, cocoa warehouse facilities, chocolate processors and manufacturers, and other direct and indirect jobs associated

with the cocoa industry. The ports of New Jersey and Pennsylvania are primary entry points for cocoa beans into the U.S. market. Cocoa beans have consistently been a top 25 imported commodity in the State. In 2020, $635 million dollars' worth of cocoa beans were imported into New Jersey. Rulemakings, such as this one, that place undue burdens on the industry could result in the increased cost of importing cocoa beans, which has the potential to impact strategic import and logistic decisions being made by chocolate manufacturers. This could significantly affect the U.S. cocoa processing industry in negative ways that have not yet fully been considered, and for which no justification has been provided. The Department failed to consider these potential impacts and has not sought to gather relevant information from affected stakeholders across the entire cocoa supply chain. The Department should, therefore, withdraw the rulemaking and collect all relevant information about the potential economic and jobs impact from its proposed requirements before concluding what requirements should be imposed, to ensure a more level, consistent, and uniform approach. (48)

122. COMMENT: The Department failed to conduct the type of economic and job impact analysis that is required by the APA but offers only conclusory and unsupported claims. The Department must engage with the public to gather substantially more information on this important aspect of the rulemaking effort. (47)

123. COMMENT: New Jersey is a key state for the supply chains of coffee and cocoa, and the local infrastructure is critical for the functioning of these global futures markets. Since 2018 New Jersey is one of four U.S. states with Exchange licensed cocoa warehouses (along with Maryland, Virginia, and Pennsylvania). During that time period New Jersey on average has

hosted 49 percent of the licensed storage capacity, and stored an even greater share (66 percent) of the inventory certified for Exchange delivery. In coffee, the Port of New York (which encompasses warehousing locations solely in New Jersey), is the par storage location upon which the delivered price of all future contracts is based. The efficiency and stability of the New Jersey cocoa and coffee supply chain impacts not only local participation, but all firms throughout the U.S. and globally who utilize these critical futures markets to manage their risk.

The orderly functioning of the cocoa and coffee futures and options markets is dependent on a healthy warehousing industry and inventories with predictable quality which can be made readily available for delivery. The ability to use the futures contract to make and take delivery is critical in ensuring that the Exchange price converges to commercial value at expiration of each futures contract; absent that convergence, the futures contract can dislocate from commercial values and, should that occur, the futures contract is no longer an effective price risk hedging tool for manufacturers and other market participants.

A critical part of the storage management program for cocoa and coffee inventories is an effective pest management program to protect the beans and products from insects and other pests. Effective pest management protects agricultural commodities from infestation, while also providing protection to U.S. grown crops and forests from invasive pests that may arrive in imported commodities, such as fire ants and the spotted lanternfly. The proposed rules present uncertainty that the industry can comply with the permitting requirements in a timely and cost-effective manner while still effectively controlling the risk of infestation. A disruption to New Jersey's key storage infrastructure, or an inability to safeguard key

agricultural inventories from infestation, would insert tremendous uncertainty into the global market for cocoa and coffee. This price uncertainty and resulting volatility in the marketplace would restrict the ability to control risk associated with ingredient costs and could impact the viability of many food-processing firms in New Jersey, the U.S., and globally. Inevitably, interruptions to the operating infrastructure in New Jersey will force market participants to shift to warehouse providers in nearby states with the ability to safeguard the commodities on familiar terms and costs. Even worse, a prolonged disruption could cause the New Jersey food processors and manufacturers themselves to consider alternative locations to secure the long-term viability of their supply chain. The Department should withdraw the rulemaking and re-engage stakeholders in a process to adequately analyze the economic impact and develop the technical requirements to achieve the Department's air safety objectives while minimizing the burden on long-standing New Jersey businesses. (16)

124. COMMENT: The Department’s Economic Impact and Jobs Impact statements are inadequate and inaccurate. The proposed rules, specifically the extremely low potential to emit permitting threshold and vertical stack requirement, will have a significant impact on the many different types of industries and commerce that rely on fumigation as a critical component of their pest control programs. The proposed rules will result in the fumigation and warehousing industry leaving New Jersey first, followed by the industries and businesses, such as processing operations and manufacturing facilities, that fumigators enable to function. Whether fumigators leave the State or stay, the cost of fumigation will increase considerably for the manufacturing industry and, as a result, they may not be able to continue operating here. The

Department proposes to impose requirements that are truly unattainable for many companies in various situations. The requirements will add to the challenges that many companies already face in New Jersey and hamper efforts to bring investment and product lines into the State. Companies and facilities in the State compete with each other and those out-of-State and abroad. New Jersey needs to keep these critical companies that provide essential services. Investment and product lines are what drive job growth, a valuable asset to any community. Investing in existing facilities should be encouraged rather than discouraged because communities benefit from modernized operations, as well as the construction and permanent jobs created by new local investment. The Department has not pointed to any actual concerns or negative impacts from the existing business operations that the proposed rules are intended to correct. (6, 15, 25, and 45)

125. COMMENT: The Department did not properly consider the additional costs and threat to businesses in New Jersey that the proposed rules will cause. Many more businesses than the 13 pending applications mentioned by the Department would be subject to the proposed rules. The low potential to emit threshold and broad definition of fumigant would impact a wide range of small and large businesses, including ports, warehouses that store food or agricultural products, restaurants, manufacturers of food products, processors of food and agricultural products, and farms. The Department did no analysis to determine if any of these businesses can absorb the considerable additional expenses to meet the proposed rules, in violation of the APA. The increased costs could result in businesses relocating to other states or reducing the number of employees. The impacted industries and businesses are important economic drivers

for southern New Jersey and involve thousands of direct and indirect jobs. The APA requires that the Department engage in a real jobs analysis. Based on the limited information available and the extent and importance of the affected businesses, the costs could outweigh the benefits. The Department however proposed the rules without considering the economic impact. The Department should withdraw the rules until it conducts the required socio-economic and jobs impact analysis. (43)

126. COMMENT: The Department's assessment of the expected costs to sulfuryl fluoride applicators and the businesses that rely on them is based on the indefensible assumption that the universe of fumigation operations subject to permit requirements under the existing rules, which require a permit if the actual raw material usage rate is 50 lb/hour, and the proposed rules, which would require a permit if the operation has a potential to emit 0.1 lb/hour, will be approximately the same. Many sulfuryl fluoride fumigation operations in the State currently operate below the 50 lb/hour limit, but almost all have the potential to emit more than 0.1 lb/hour. Although the Department attempted to quantify the costs imposed by the stack requirement, the requirement itself makes no sense because it assumes that stacks will be required to meet fence line limits. The Department also did not include reference concentrations, which makes it impossible to properly assess the economic impacts of the proposed rules. The Department's statement of a net economic benefit for the residents also ignores the intended focus of the Economic Impact statement, which is to describe the expected costs, revenues, and other economic impact on the regulated public and governmental bodies of the State. (31)

127. COMMENT: Fumigations play a vital role in protecting food manufacturing, processing, storage, and distribution facilities from food destroying pests. Fumigations also play an important role in protecting the environment by fumigating shipments received at ports that contain invasive species that pose a serious threat to the nation's forests, agriculture, and biosphere. Fumigations are critical to many other activities in the State, such as for museums and art restorers to control wood and fabric destroying insects in irreplaceable art objects and for residents and the hospitality industry to eliminate bed bug infestation. The Department vastly underestimated the number of businesses and industries that rely on fumigation services in the State. No other chemical or process can substitute for fumigants. The proposed rules would have significant adverse impacts on substantial sections of the State's economy and would put New Jersey businesses at a substantial competitive disadvantage to neighboring states. The costs, delays, and disruptions to food industries and internal trade are unacceptable. The proposed rules could cause companies that rely on fumigation services as part of their food safety plans to move operations to other states with much less burdensome policies. Similarly, importers and exporters will be forced to ship or receive products from ports other than in New Jersey. The proposed rules would result in the loss of a significant number of jobs and businesses in the State. (49)

128. COMMENT: The Department has failed to conduct the type of economic impact analysis required by the APA. The Department's conclusory statements anticipating a net economic benefit does not comply with the APA. The Department did not attempt to establish that there are any less productive work hours, lost work days, health care visits, or health

care/hospitalization costs due to any fumigation. Moreover, while the Department acknowledged that it cannot estimate the monetary benefits associated with the purported health improvements it referenced, it did not discuss the economic impacts associated with the increased costs that the rulemaking will impose on all types of businesses. These type of costs and impacts can be estimated, and should be, before the Department concludes there is a "net economic benefit." The Department's failure to do so violates the APA. In addition, the estimated costs that the Department did include appear to be significantly understated. For example, for installation of stacks, blowers and support systems, there is no rationale for asserting that the cost for "smaller facilities" will only be $13,000, while the cost for "larger facilities" will be $200,000. Since the proposed rules require the stack to be above the roofline, the height of the roofline and not the size of the operation may have the biggest effect on the costs incurred. The Department did not monetize the cost of controls that might be required as a result of this rulemaking, which could be even greater than the costs specified. The increased costs associated with stacks, associated blowers and ductwork, potential control technology requirements, and permitting and reporting requirements will impact the cost of importing cocoa beans, resulting in potential loss of business for ports, cocoa warehouse facilities, chocolate processors and manufacturers, and all the direct and indirect jobs associated with these industry sectors and businesses. Even if the costs are accurate, the Department's numbers suggest that facilities will need to incur potentially hundreds of thousands in costs, no matter how often fumigation occurs at a facility or at what volumes, given the extremely low permitting threshold. There has been no analysis of the cost structure for regulated businesses,

including ports, warehouses, and manufacturers, to determine the impact these costs will have on these businesses, and whether such increased costs will cause such business to go elsewhere or shut down. The rulemaking will result in some business leaving the State. (28, 29, and 48)

129. COMMENT: It is important to have an economic analysis assessing the impacts of not being able to have an alternative fumigation process in the short term and, on the other hand, the agricultural analysis of the impacts of not to having a fumigation process to protect the phytosanitary heritage of the United States. (46)

130. COMMENT: The USDA requires fresh produce exports from Chile to the United States to be shipped with a phytosanitary certification. Of the total fruit exported, almost 50 percent is exported with fumigation, of which almost 75 percent is fumigated in facilities on the East Coast. Most of this fruit is fumigated with methyl bromide as a mandatory entry condition established by the USDA, Animal Plant Health Inspection Service (APHIS). As long as there are no viable phytosanitary options or alternatives to methyl bromide fumigation, as required by the USDA-APHIS, the Department must consider all potential impacts of the proposed rules, which will have a significant impact on Chilean agricultural exports. (4)

RESPONSE TO COMMENTS 111 THROUGH 130: The APA and its implementing rules require the Department to conduct an economic impact analysis that "describes the expected costs, revenues, and other economic impact upon governmental bodies of the State, and particularly any segments of the public proposed to be regulated." N.J.A.C. 1:30-5.1(c), N.J.S.A. 52:14B-4.

The purpose of the Economic Impact statement is to provide interested parties with notice of the impacts that the agency anticipates from the rulemaking, in order that the parties may participate meaningfully in the rulemaking process. Actual costs are difficult to predict because they will vary from facility to facility, based on numerous variables.

As explained in the notice of proposal Summary, the Department examined the cost for a range of fumigation operations anticipated to be covered by the rulemaking. See 53 N.J.R. at 327-329. The smallest scale facilities in this analysis were single shipping containers with temporary stacks, and the largest scale of the fumigation operations were facilities with permanent stacks extending upwards of 120 feet above the height of adjacent buildings. The economic analysis for each of these fumigation operations considered the additional costs that could be required to comply with the rules. The costs included incurred capital and operating costs associated with building or process modifications at facilities with no measures in place for elevated and vertical aeration of fumigants. The Department also considered the cost of permitting these operations, including initial application fees and supplemental fees, such as second level risk assessment procedures. The Department developed Technical Manual 1003 and risk screening worksheet to assist facilities with a cost-effective way to evaluate risk, without individual modeling. However, an applicant may choose to do its own modeling to demonstrate negligible risk.

The permitting and risk assessment requirements for fumigation activities are not new. As explained in the Economic Impact statement, the Department's existing rules include permit application fees and fees for the Department to evaluate a facility's risk assessment protocol.

53 N.J.R. at 329. The Department acknowledges the concerns that the rules may impact businesses at the State's ports. However, as explained in the Response to Comments 32 through 39, the Department determined, as a result of its outreach, evaluation, and enforcement initiative, the rules are necessary to protect public health. Clarity will help regulated entities to understand the permitting requirements and plan their business models, accordingly. Where appropriate, the Department included flexibility, such as additional compliance time, see, for example, the Response to Comments 96 through 101, and has modified the rules on adoption to ensure that the rules are not broader than the intended scope of the rules, which should address some of the commenters' concerns. See, for example, the Response to Comment 50 regarding applicability of the rules and Comments 65, 66, 67, and 68 regarding the stack requirement. The rules also include an emergency exemption, which was not included in the prior rules for fumigation operations. The Department is also considering a general permit and will engage stakeholders, as explained in the Response to Comments 81, 82, 83, and 84.

The Department does not expect additional costs to the Department as a result of the amended rules, which clarify the regulatory requirements for fumigation operations.

Please see the Response to Comments 8 through 30 regarding stakeholder engagement. Please see the Response to Comments 131, 132, and 133 regarding the Jobs Impact statement.

Jobs Impact

131. COMMENT: The Department is required to assess the number of jobs "to be generated or lost" if the rules were to take effect. N.J.S.A. 52:14B-4. The Department did not attempt to seriously review the potential jobs impact of the proposed rules. With respect to fumigation, the Department asserts that the permit requirements will not affect job creation or retention because "fumigation operations have already had to ensure compliance with the Department's permitting rules." 53 N.J.R. at 331. The Department has no basis for this statement as it relates to sulfuryl fluoride, because the permit threshold would be reduced by 99.8 percent. This change would effectively require every sulfuryl fluoride applicator to obtain a permit and, to the extent that applicators work at sites owned by third parties, each such site would be required to perform a risk assessment and apply for a permit. This is expected to have a substantial negative effect on job retention in New Jersey, regardless of the reference concentrations the Department may later propose for sulfuryl fluoride. Performing a risk assessment and waiting to obtain site-specific permits is simply not practical or economical for many smaller-scale fumigations that are currently performed at client facilities, even before consideration of other operational changes necessitated by the rule. Some of these fumigations could potentially be relocated to larger dedicated fumigation facilities but doing so of course has attendant costs. Jobs may be lost with application companies that presently perform on-site fumigation services. Jobs may also be lost at customer businesses who choose to relocate out of New Jersey, or out of the United States entirely, because they can no longer obtain needed fumigation services in New Jersey without the expense of moving commodities

to and from dedicated fumigation facilities, or at customer businesses that are not capable of complying with the requirements for structural modifications. Port operations in particular require ready and reliable access to fumigation services. If these are not available, importers and exporters will take steps to ensure that they do not lose shipments to pests, even if that means using other ports to move their products. If this occurs, there will be substantial follow-on effects, because other industries that serve the port traffic will relocate as well, even if those industries are not direct consumers of fumigation services. (31)

132. COMMENT: The Department failed to conduct the type of jobs impact analysis required by the APA. An estimate from 2018 indicated there are in the neighborhood of 25,700 direct and indirect jobs in New Jersey associated with the manufacture of chocolate and other confectionery products. See https://candyusa.com/powerofsweet/ (National Confectioners Association's analysis of the jobs and economic impact associated with the manufacture of chocolate and other confectionery products in New Jersey using John Dunham & Associates 2018, New York, NY *210 Analytics, Global Trade Atlas). This estimate did not include the jobs at ports, which will bear the brunt of a lot of these costs and also involve thousands of direct and indirect jobs. The ports of New Jersey and Pennsylvania are primary entry points for cocoa beans into the U.S. market. Cocoa imported to New Jersey also affects jobs in Pennsylvania, where important processors and manufacturers are located, potentially impacting over 55,000 additional jobs. Increasing the cost of importing cocoa beans has the potential to significantly impact strategic import and logistic decisions being made by chocolate manufacturers, including whether to import cocoa beans or semi-finished products, with wide-ranging

repercussions on entire segments of the cocoa industry that have not been considered and for which no support has been provided. The Department failed entirely to consider such impacts and has not sought to gather relevant information from stakeholders within the cocoa industry. The Department's assertion that the rulemaking impacts facilities already subject to fumigation permitting requirements is inaccurate and fails to recognize the additional costs not presumed to apply. The Department only recently interpreted the 50 lb/hour raw material threshold to cover fumigation activities, when fumigation occurred for decades in the State without having been subject to permitting. Nonetheless, the Department undertook enforcement activities based on its interpretation and fumigators engaged in good faith conversations with the Department around the implementation of that threshold, with many low volume fumigation activities allowed to proceed without a permit based on their hourly usage of fumigant. Now, with no justification for changing that threshold, and no analysis of the significantly expanded scope of the permitting requirement, the Department seeks to change its permitting requirements on facilities with the potential to emit 0.1 pounds per hour. The potential universe of facilities that would now require a permit for the first time is significant and potentially includes warehouses and other facilities that require fumigation on an irregular basis to address pest infestations. Moreover, it has not previously been presumed that stacks or control technologies would be required for sulfuryl fluoride fumigations. The costs associated with these items are significant and obviously have the potential to affect jobs, which has not been considered by the Department. Although the Department states it is working with other state agencies in the region, the Department included no mechanism to ensure that fumigation

operations do not relocate. The likely consequence of this rulemaking will be increased burden on New Jersey businesses and the likelihood that business will move to other states without these costly requirements. There is also the risk that the increased costs being imposed on the import of cocoa beans could force U.S. companies to forego the import of cocoa beans altogether and instead import semi-finished products, which could significantly affect the entire processing portion of the industry and the current contours of international trade and cocoa supply chains. To ensure a level playing field, the Department should rely on Federal requirements. Before the Department implements requirements that have the potential to cause significant repercussions for an entire industry, which impacts have not been evaluated or even considered by the Department, the Department should withdraw this rulemaking and collect all the relevant information before concluding what requirements should be imposed. (28 and 48)

133. COMMENT: The Department did not conduct a serious review of the potential jobs impact of the rulemaking, in violation of the APA's requirement. The rules would expand the scope of the permitting requirements. Moreover, the emergency fumigation procedure proposed is impractical and practically useless. The rules would effectively require every methyl bromide applicator to obtain a permit and, to the extent that applicators work at sites owned by third parties, each such site would be required to perform a risk assessment and apply for a permit. These disruptions will have a substantial negative effect on job retention in New Jersey. The potential effects the Department should have studied, but did not, include: jobs that may be lost with application companies that presently perform on-site fumigation services; jobs that

may be lost at customer businesses who choose to relocate out of New Jersey because they can obtain needed fumigation services without the needless expense of moving commodities to and from dedicated fumigation facilities; and jobs that may be lost at customer businesses that are not capable of complying with the requirements for structural modifications. Port operations are particularly dependent on the availability of fumigation services. Faced with a potential disruption in access to fumigation required to comply with applicable regulations, importers and exporters will be forced to move their products to other locations. A loss of import and export business will harm other industries, as industries that serve the port traffic will relocate as well, even if those industries are not direct consumers of fumigation services. The Department failed to consider any of these effects in its rulemaking and thereby failed to provide an analysis that would allow members of the public and the regulated community to comment in an informed and intelligent fashion. The Jobs Impact statement is, therefore, fatally flawed. (27)

RESPONSE TO COMMENTS 131, 132, AND 133: The APA and its implementing rules require the Department to include a "jobs impact statement which shall include an assessment of the number of jobs to be generated or lost if the proposed rule takes effect." N.J.A.C. 1:30-5.1(c), N.J.S.A. 52:14B-4. The purpose of the Jobs Impact statement is to provide interested parties with notice of the impacts that the agency anticipates from the rulemaking, in order that the parties may participate meaningfully in the rulemaking process.

As explained in the Response to Comments 32 through 39, the Department undertook this rulemaking to clarify the regulatory requirements for fumigation operations to increase

compliance and protect public health. In the notice of proposal Summary, the Department explained that it does not expect increased compliance obligations beyond what is already required of fumigation operations and, therefore, anticipated that the adopted fumigation rules will have little or no effect on job retention or creation in the State. 53 N.J.R. at 331.

As explained in the Response to Comments 111 through 130, the Department acknowledges the concerns that the rules may impact businesses at the State's ports. However, the Department cannot predict the choices businesses will make. To the extent the rules provide the expected clarity, jobs may be created as the regulated community addresses the applicable permitting requirements, which could necessitate hiring consultants and staff to install pollution controls and determine if operational changes would be appropriate. Businesses may decide to reduce/change operations, which could result in job losses. Please see the Response to Comments 111 through 130 for other measures that the Department has taken, and will take, to reduce the impact of the adopted rules on businesses while still protecting public health.

Please see the Response to Comments 138 through 150 regarding EPA regulation.

Agricultural Impacts

134. COMMENT: The Department was required to include a statement "setting forth the nature and extent of the impact of the proposed rule on the agricultural industry" in New Jersey." N.J.S.A. 4:1C-10.3. This statement is supposed to inform the State Agriculture Development Committee (SADC) of the potential effects of the rule, such that the SADC can determine whether the proposed rules "may have a significant adverse impact on the

agricultural industry," and if so, initiate consultation with the agency prior to the adoption of the rule. *Ibid*. This consultation is to take place during the comment period when the only proposal-specific information available to the SADC is the Department's Agricultural Impact Statement. The Department's short statement fails to capture the risks to New Jersey agriculture that come with restricting access to reliable fumigation services. Sulfuryl fluoride is used to fumigate numerous commodities post-harvest, either to control unexpected pest pressures or to comply with international export requirements, and quality control processes/standards established by the FDA (for example, FSMA) and by purchasers who do their own quality control audits of food processing facilities whose products they purchase. Increasing the cost of fumigation would increase costs borne by growers in New Jersey. These growers would then have to absorb these extra costs or pass them along to customers, which would make their products less competitive. Even growers in New Jersey that currently do not require fumigation services could be impacted if, in the future, novel pests emerge that would require fumigation to occur more rapidly than the permit process could accommodate. This highlights the need for the Department to work with stakeholders to devise rational emergency fumigation regulations. (31)

135. COMMENT: Under the APA, the Department must provide an agricultural impact statement to inform the SADC of the potential effects of the rules, such that the SADC can determine whether the proposed rules "may have a significant adverse impact on the agricultural industry," and if so, initiate consultation with the agency prior to the adoption of the rules. This consultation is to take place during the comment period when the only

proposal-specific information available to the SADC will be the Department's own analysis. There is no indication that this analysis has been developed in a manner that will allow the SADC to carry out its statutorily required responsibilities. This is particularly troubling with respect to the provisions related to methyl bromide, which is used as part of the agriculture value chain in a manner directly affected by the proposed rules. In its short statement, the Department asserts that the proposed rules will have a minimal impact on agriculture in New Jersey by "reducing the damage that these air contaminants can cause to crops, as discussed in the Environmental Impact above." The reference to the "discuss[ion] … above" appears to be to the Department's assertion that ground-level ozone resulting from methyl bromide use reduces crop yields. However, this analysis is wrong, as explained in prior comments, because the premise that methyl bromide contributes to ground-level ozone is incorrect. The Department fails to analyze, with any specificity, the relationship between potential ground-level ozone formation at port facilities and agricultural production in New Jersey. More broadly, the purported Agricultural Impact Statement completely fails to capture the risks to New Jersey agriculture that come with restricting access to reliable fumigation services. These risks include, at least, the possibility of introduction of novel pests into New Jersey and the U.S. resulting from insufficient access to fumigation services when and where they are needed, along with the risk that growers in New Jersey may not be able to export their crops to desired markets if fumigation services are not available. (27)

RESPONSE TO COMMENTS 134 AND 135: The APA and its implementing rules require the agency to include an Agriculture Industry Impact Statement that explains the nature and extent

of the impact of the proposed rules on the agricultural industry. N.J.S.A. 52:14B-4; N.J.A.C. 1:30-5.1. See also N.J.S.A. 4:1C-10.3. The SADC is responsible for reviewing proposed rules to determine the impact on the agriculture industry and to notify the agency if it determines that the proposed rules will have significant adverse impact on the agriculture industry of the State. N.J.S.A. 4:1C-10.3. If the SADC notifies the agency, the agency shall consult with the SADC prior to adoption of the rules. *Ibid*. The SADC did not notify the Department of any such determination.

As explained in the Response to Comments 32 through 39, the rules clarify the permitting requirements for fumigation operations. The purpose of the Agricultural Impact Statement is to provide interested parties with notice of the impacts that the agency anticipates from the rulemaking, in order that the parties may participate meaningfully in the rulemaking process.

Pursuant to N.J.A.C. 7:27-8.2(d), storage tanks, reservoirs, containers, or bins used on any farm for the storage of agricultural commodities produced by or consumed in the farm's operations are not a significant source, and are, therefore, excluded from the requirements of Subchapter 8, even if the source is listed at N.J.A.C. 7:27-8.2(c). Subchapter 22 has the same exemption for these sources. See N.J.A.C. 7:27-22.1, definition of exempt activity. Therefore, while there could potentially be some increased cost to the agricultural industry generally, the Department is unable to predict whether agricultural costs will actually change for farm

operations, as there are many variables and factors that are beyond the scope of this rulemaking.

Regulatory Flexibility

136. COMMENT: The New Jersey Regulatory Flexibility Act requires the Department to use "approaches which will accomplish the objectives of applicable statutes while minimizing any adverse economic impact of the proposed rule on small businesses of different types and of differing sizes." N.J.S.A. 52:14B-18. This statutory mandate requires agencies to use approaches such as: (1) establishing reporting requirements that take into account the resources available to small businesses; (2) using performance standards rather than design standards; and (3) exempting small businesses, which are businesses with fewer than 100 full-time employees, from the rules to the extent that doing so does not endanger the public. *Ibid*; N.J.S.A. 52:14B-17. The Department must estimate the impacts on small business and discuss how the agency intends to minimize these impacts. N.J.S.A. 52:14B-17. Many sulfuryl fluoride and methyl bromide applicators and their customers are small businesses. The Department acknowledged that small businesses will be impacted, but did not use approaches that will minimize impacts, as statutorily required. Even if, as the Department stated, the dangers posed by fumigants cannot be correlated to business size, the Department must still consider how the risk could be addressed in different ways that take the size of the regulated entity into account. The Department tacitly acknowledges that small businesses could be provided with relief from some of the requirements by stating that it will work with a small business to reduce risk in the most cost-effective way. However, this does not satisfy the Department's obligation to

consider what allowances it can make while developing and proposing a rule. The Department cannot merely allude to the possibility of relief that it might offer after the rules are adopted and small businesses are scrambling to comply. The Department's inability to put forward reasonable options for small businesses is a direct result of its failure to coordinate with such businesses before proposing the rules and should be remedied by withdrawal, consultation, and reproposal. (27 and 31)

137. COMMENT: As acknowledged in the State's Regulatory Flexibility Act, N.J.S.A. 52:14B-18, performance standards are generally preferable to design standards. Performance standards allows each business to find the best solution for its facility or operations, rather than mandating a one-size-fits-all approach that may not work well, or may be practically impossible, for some facilities. Properly selected and applied reference concentrations are a readily available performance standard and businesses should have flexibility to determine how to meet them. The across-the-board stack requirement exceeds the Department's authority because the Department has not actually concluded that it is not possible to protect public health without installing stacks. (31)

RESPONSE TO COMMENTS 136 AND 137: The APA requires the Department to consider the impact on small businesses and to utilize "approaches which will accomplish the objectives of applicable statutes while minimizing any adverse economic impact of the proposed rule on small businesses of different types and of differing sizes." N.J.S.A. 52:14B-18. The APCA's objective is to prevent, control, and prohibit air pollution throughout the State. N.J.S.A. 26:2C-8. The Department explained that the proposed rules do not exempt small businesses from the

reporting, recordkeeping, or other compliance requirements because of the risk posed by fumigants and unregulated fumigation operations. 53 N.J.R. at 332. The Department discussed the compliance requirements and costs in the notice of proposal Summary and Economic Impact statement.

As explained in the notice of proposal Summary, the Department has issued technical guidance in Technical Manual 1003 and a risk screening worksheet for applicants to utilize, if they wish to do so, which helps streamline the risk assessment process. As explained in the Response to Comments 65, 66, 67, and 68, the Department is not adopting the vertical stack requirement. The risk assessment requirement is not a design standard, but rather, allows the owner or operator to adjust operational and other parameters, if necessary for the operation to show no off-site impact.

Additionally, as explained in the Response to Comments 102, 103, and 104, the Department is available to provide preapplication meetings for any facility preparing a permit application. A preapplication meeting will establish the necessary contents of the permit application specific to each facility and its operations. This will allow a technical review of the permit application to proceed with minimal obstruction. The preapplication meeting will also help to establish the material requirements of any supplemental reviews, such as a SOTA analysis or a risk assessment. If these materials are prepared with complete and accurate information and submitted with the initial application, then the Department will have a streamlined process for reviewing and approving the facility's proposal. Technical Manual 1003 and the Risk Screening Worksheet are also available tools for small businesses.

See the Response to Comments 8 through 30 for a discussion of stakeholder engagement prior to the publication of the notice of proposal.

Federal Regulation: FIFRA and EPA Regulation

138. COMMENT: When used properly according to Federal EPA labeling, fumigants provide critical tools for mitigating stored product pests safely. It is very important that fumigant tools continue to be readily available for maintaining food safety and that regulations governing their use do not eliminate their use. Current EPA/FIFRA registered fumigant labeling is subject to a very rigorous application and approval process with regards to safety and health practices. Fumigant labels are also subject to periodic and ongoing re-registration reviews to ensure continued product safety. For example, phosphine formulations underwent significant labeling changes around 2003, when the use of a Fumigation Management Plan (FMP) was first implemented to help strengthen safety procedures used by State Certified Pesticide Applicators in the field. All three fumigants either have completed, or soon will complete, the review process again, which always includes strong label language that addresses good fumigant practices and safe use of fumigants for workers and bystanders. Federal EPA labeling is the law and pesticide applicators are required to follow label requirements and associated best industry practices explicitly. All three fumigants are classified by the EPA as Restricted Use Pesticides, so they have additional safety procedures in place that restrict availability and who can legally use them. When fumigants are used according to label directions, they can be used safely. There are very few instances of fumigation activities causing health damage to bystanders and, in fact, the examples of such harm cited in the MARAMA White Paper were the result of grossly

negligent fumigant application in direct violation of the EPA label and industry practices. The Department has failed to show any harm from current fumigation activities in the State and has provided no support whatsoever for the proposed rules' intent to go well beyond existing State and Federal standards. (39)

139. COMMENT: The fumigation industry has a remarkable safety record because fumigation is already heavily regulated under FIFRA, the Food Safety and Modernization Act, and the Department's Pesticide Control program. These existing rules are designed to ensure that employees, workers, bystanders, and nearby residents are not exposed to any unsafe levels of fumigants. The EPA's assessment of whether a product meets the required safety standard is based on a significant number of toxicological and other studies and involves extensive risk assessments that evaluate the potential exposure to humans and the environment from the use of the product. As part of the risk assessment process, the EPA sets exposure limits, including requirements regarding buffer zones and clearance levels, to ensure that workers and bystanders are not exposed to levels that would affect human health. The exposure limits are enforced through the label's instructions for use that applicators must follow. The Department has not explained why new restrictions that go beyond these existing regulatory programs are needed. The rules will only unnecessarily complicate existing regulations and unreasonably limit the availability of fumigations to businesses in the State, in violation of EO No. 63. (47 and 49)

140. COMMENT: Fumigation is a proven and effective solution to control pests and is required by governmental authorities in the United States and abroad for the import/export of

commodities, maintenance of a safe food supply through control of pest infestations and protecting ecosystems by preventing the spread of invasive species. The safe and effective use of fumigants is already heavily regulated by the EPA, the USDA, and the U.S. Department of Homeland Security under Customs and Border Patrol, and within New Jersey through the NJDEP Bureau of Pesticide Compliance. Nonetheless, the proposed rule's new mandates place additional and unnecessary constraints on the fumigation industry. (40 and 53)

141. COMMENT: The use of fumigants in the green coffee industry ensures safe food with rapid disinfection of pests that adulterate food and allows for green coffee commodity trade to be compliant with the Federal FSMA. These operations are conducted pursuant to the label, which ensures that they are carried out safely. (40)

142. COMMENT: Sanitation and pest control have always been critical for food safety and are a priority for the grain, feed, processing, and milling industry. Fumigants are an important tool in the implementation of good management practices when handling, processing, and transporting grain and milled grain products. The use of fumigants is already heavily regulated by the EPA, the USDA, the U.S. Department of Homeland Security under Customs and Border Patrol, and the Department's Bureau of Pesticide Compliance. Under existing EPA regulations, a Fumigant Management Plan (FMP) is already required for each fumigation site and the FMP is required to contain details addressing site characteristics, employee and bystander safety, sealing of the structure or container, application of the fumigant, post-fumigation site monitoring, aeration, and post-fumigation measures. It is unclear what additional safeguards

the proposed individual permits provide that are not already addressed through current FMP requirements. (36)

143. COMMENT: A robust regulatory framework already exists to protect human health and the environment from the risk associated with all pesticides (including fumigants). The use of fumigants is subject to comprehensive regulatory scrutiny by the EPA, the USDA, APHIS, and the Department's Bureau of Pesticide Compliance. FIFRA is the statutory framework that gives the EPA the authority to regulate the use, sale, and distribution of pesticides in the United States. This framework sets out specific guidelines on how pesticides are evaluated by the EPA through the FIFRA registration process. Under FIFRA, a pesticide manufacturer obtains permission from the EPA to sell, distribute, or use a pesticide, and the EPA sets the conditions of use for a pesticide and certifies that it will not cause "unreasonable harm to human health or the environment." The EPA has extensive and specific human health and environmental impact standards, and registrants estimate it takes up to 12 years between creation and approval of a pesticide. For a pesticide to be approved, each prospective registrant must provide, to the EPA, a proposed label (which describes the conditions of use) and close to 100 studies showing that the product causes no unreasonable adverse effects to human health or the environment when used according to label instructions. EPA registrations are granted for 15-year periods before requiring registration review but can be reassessed at any time. Once a pesticide is registered, a state's lead regulatory agency (in New Jersey, the Department) serves as a co-regulator with the EPA, assuring inhabitants and businesses of that state that the pesticide is safe and placing any additional restrictions on the conditions of use. It is illegal to use a pesticide that has not

been properly evaluated and approved by both the EPA and the lead regulatory authority in a state where the pesticide is being sold, distributed, or used. The EPA requires fumigant product labels to bear detailed directions for use. Federal law requires users to follow all label instructions, including, but not limited to, specific instructions for storage, handling, application, disposal, and safety. The EPA- and Department-registered labels already include science-based requirements for extensive safety measures intended to protect workers, bystanders, and the public from exposures. In its 2006 Reevaluation Decision for methyl bromide, the EPA explicitly stated that its approach, requiring safety planning on fumigant labels, was intended to mitigate negative exposures, both acute and chronic, to workers and bystanders, including surrounding communities. Because there is already a robust, comprehensive, and effective regulatory framework in place to protect applicators and bystanders from risk, there is no critical safety need for the Department's proposed duplicative regulatory process. (18 and 53)

144. COMMENT: Fumigants are already subject to extensive Federal regulation, which accounts for and guards against human health and environmental impacts. It is illegal to use fumigants in a manner inconsistent with their Federally approved labeling, which is written to ensure protection of workers and bystanders based on the best available science. The Department took an impermissibly narrow and formalistic view of its obligation to consider Federal standards, circumventing the statutory and executive directives to avoid needlessly duplicative or restrictive regulation. The EPA's requirements for fumigation, as enacted by revisions to the legally binding sulfuryl fluoride labels, obviously do address the conditions under which sulfuryl fluoride can be emitted to the ambient air. The EPA's maintenance of sulfuryl fluoride's

registration reflects the EPA's regulatory conclusion that the use of "sulfuryl fluoride as labeled … will not pose unreasonable risks or adverse effects to humans or the environment." The EPA, Reregistration Eligibility Document, Facts Sulfuryl Fluoride, EPA-738-F-93-012 (September 1993). The Department's assertion that there are no comparable Federal standards to the proposed NJHAP designation of sulfuryl fluoride is also incorrect. The Federal government has made the legislative determination that sulfuryl fluoride is not a chemical that needs to be regulated as a Federal HAP and, therefore, subjected to the attendant reporting and SOTA thresholds. 42 U.S.C. § 7412. The Federal government opted instead to ensure worker and bystander safety through the comprehensive regulation of sulfuryl fluoride as a pesticide by the EPA. If the Department exceeds Federal requirements, it must articulate and substantiate that need in accordance with the APA. (31)

145. COMMENT: The APA and EO No. 63 require the Department to include a Federal standards statement. The Department concedes that fumigation operations are regulated by Federal standards, but then asserts these requirements do not address air contaminant emissions. This argument is flawed. EPA requirements for fumigation, as enacted by revisions to the legally binding methyl bromide labels, do address the conditions under which methyl bromide can be emitted to the ambient air. The Department failed to mention the EPA's extensive regulation under FIFRA or explain why it is insufficient to protect New Jersey citizens.

Methyl bromide is a broad-spectrum fumigant pesticide that can be used to control a wide range of pests. In New Jersey, methyl bromide is used primarily for fumigating imported commodities for quarantine pests. Receipt of, storage, and transport of commodities at New

Jersey's ports is a critical piece of the State's economy. Many businesses in New Jersey rely on methyl bromide to comply with USDA requirements for quarantine pest control related to imports and exports.

Methyl bromide has been registered under FIFRA for over 40 years. The sale, distribution, and use of methyl bromide is strictly controlled by the EPA. When the EPA registers a pesticide, it must determine that the use of the product will not cause "unreasonable adverse effects on human health or the environment." To make that determination, the EPA considers an extensive set of health and safety data, conducts various risk assessments and reviews the proposed product labeling to ensure that the labeling contains the proper precautions, directions for use and other parameters, such as buffer zones and requirements for re-entry to protect both human health and the environment. The EPA's evaluation considers the potential for both occupational and non-occupational (bystander) exposure. Even after a pesticide is registered, the EPA is required by law to periodically review and evaluate it to reconfirm its initial finding regarding potential risks to human health and the environment. During this reevaluation process, the EPA reviews existing and new data, conducts updated risk assessments, and refines the approved labeling and conditions of use as necessary to mitigate potential risks of exposure.

The EPA has extensively reviewed the efficacy and safety of methyl bromide. Numerous health and safety studies have been conducted and submitted to the EPA to assist in its review. The potential bystander exposures from fumigation that the Department cites as the reason for regulating air emissions from fumigation operations have expressly been addressed and

mitigated by the EPA as part of its reevaluations and revisions to methyl bromide product labeling within the last 10 years. Those revisions imposed targeted and mandatory application procedures and risk mitigation measures to protect bystanders. The product labels are binding and legally enforceable requirements. It is a violation of Federal law to use a pesticide product in a manner inconsistent with its labeling. The Department failed to take the EPA's regulation into account in this rulemaking. (27)

146. COMMENT: The Department has provided no explanation or basis for accepting the safety measures built into the EPA's labels when fumigation is performed in residential and commercial settings, but not when performed in industrial settings. The Department should explain its inconsistent stance. (47 and 49)

147. COMMENT: The Department should engage with the EPA's Office of Pesticide Programs to fully understand FIFRA's requirements and determine if the Department's concerns can be addressed through FIFRA and/or through Federal regulation. (30)

148. COMMENT: The Department has provided no justification for its position that applicable Federal requirements do not adequately address impacts from fumigation operations. FIFRA regulates the use of pesticides to protect the environment and public health. As part of registering pesticides and approving fumigants' labels, the EPA must assess potential risks posed to humans by the use of the fumigant, including to the surrounding community. As part of this process, the EPA reviews extensive data and studies performed regarding the pesticide being registered or re-registered. The data collection and studies required under FIFRA are relied on to develop and approve a label that specifies restrictions on a fumigant's use and

handling, including management plans, monitoring, buffer zones, and clearance levels. If fumigation applicators fail to comply with the instructions and restrictions on the pesticide's label, they are subject to enforcement and civil and criminal penalties.

The APA requires the Department to consider Federal regulations and if the proposed rules exceed Federal requirements, to provide a cost-benefit analysis. The EPA regulates fumigants and fumigation operations under FIFRA and addresses the same exposure concerns that the proposed rules are intended to address. Yet the Department concluded that there are no comparable Federal standards or requirements. EO No. 63 also directs that the State should operate under the Federal regulatory framework where Federal regulation is adequately protective. The Department failed to assess the impact of FIFRA's label and registration requirements and whether fumigation applicators' compliance with such requirements adequately protect New Jersey residents. The Department should withdraw the proposed rules and evaluate whether the EPA's regulation is sufficient. (43)

149. COMMENT: The Department failed to analyze the Federal requirements applicable to fumigation or justify why the rules, which exceed Federal requirements, are necessary, as required by the APA. The Department's statement that there are no comparable Federal standards is incorrect and reflects a misunderstanding of the APA, FIFRA, and the determinations that the EPA must make to approve a fumigant's registration and label. The APA does not require there be comparable standards for the Department to include a discussion of the policy reasons, a cost-benefit analysis, and that the State requirement is achievable under current technology. Instead, a Federal standards analysis is required because

there are Federal requirements that focus on the same concerns addressed by the Department's rulemaking, which is whether the application of a fumigant, including the subsequent release of the fumigant, is performed in a manner that is protective of bystanders and the surrounding community. FIFRA requires manufacturers of fumigants to register their product with the EPA's Office of Pesticide Program. Among other things, registration is required to include toxicological studies, which include acute, subchronic, and chronic inhalation studies. The results form the basis for the label to ensure the safe use of the fumigant. The label would include any buffer zones and clearance levels, which are intended to consider the levels that will be acceptable for unprotected workers and the surrounding community during and after fumigation. During fumigation, the buffer zones reflect the distance from the fumigation and its emission points, including stacks, that are protective of both workers and people in the surrounding community who would not be wearing any personal protective equipment. The clearance levels reflect the concentration at which the EPA has determined that a fumigated product or area can be released and other workers or visitors can reoccupy a structure. Both factors reflect consideration of the level of fumigant at which there is no unacceptable risk. Under FIFRA, fumigant applicators are legally required to comply with the restrictions on the label approved by the EPA. FIFRA requires periodic review and reregistration to ensure labels are based on the best available science. The State has not experienced negative health impacts in large part because of fumigation companies' adherence to the EPA's label requirements. The Department incorrectly suggests that sulfuryl fluoride is not regulated by the EPA, when sulfuryl fluoride has been registered under FIFRA and has an

approved label, which incorporates an applicator's manual with aeration provisions. Before the Department imposes burdensome and expensive permitting requirements on the application of fumigants, it should explain why the current Federal regulation of fumigation operations is not sufficiently protective, as required by the APA. (28 and 48)

150. COMMENT: The fumigation companies and applicators who handle the fumigation are regulated under FIFRA. If they fail to comply with the requirements of the fumigant label, they are subject to enforcement and penalties. The additional requirements and resulting costs associated with the proposed rules would threaten marine terminals that import fruit and other perishable cargo, which are required to be fumigated under Federal law before being released to transport. (30)

RESPONSE TO COMMENTS 138 THROUGH 150: The APA and its implementing rules require an agency to include "a statement as to whether the rule or regulation in question contains any standards or requirements which exceed the standards or requirements imposed by Federal law." N.J.S.A. 52:14B-23; N.J.A.C. 1:30-5.1. As explained in the Federal Standards Statement, 53 N.J.R. at 331, there are no Federal standards addressing fumigant emissions as addressed by the Department's rules.

The EPA's regulation of fumigants under FIFRA does not protect against off-site impacts, as addressed by the Department's rules. FIFRA prohibits the distribution or sale of any pesticide that is not registered. 42 U.S.C. § 136a(a). FIFRA authorizes the EPA to limit the distribution, sale, or use in any State of any pesticide that is not registered "[t]o the extent necessary to prevent unreasonable adverse effects on the environment." *Ibid*. FIFRA defines

"unreasonable adverse effects on the environment" to mean "any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide" or "a human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard under section 408 of the Federal Food, Drug, and Cosmetic Act." 7 U.S.C. § 136(bb). Thus, under FIFRA, the EPA evaluates the costs and benefits of the use of any pesticide. As such, while FIFRA is a "comprehensive regulatory statute" and "addresses numerous aspects of pesticide control in considerable detail," the statute "nonetheless leaves substantial portions of the field vacant ..." *Wisconsin Public Intervenor v. Mortier*, 501 *U.S*. 597, 613 (1991). "FIFRA nowhere seeks to establish an affirmative permit scheme for the actual use of pesticides." *Ibid*. Moreover, FIFRA "does not equate registration and labeling requirements with a general approval to apply pesticides throughout the Nation without regard to regional and local factors like climate, population, geography, and water supply." *Id*. at 613-14. See also *National Cotton Council of Am. V. USEPA*, 553 *F.*3d 927 (6th Cir. 2009) (holding that EPA's rule excluding pesticides from the definition of "pollutant" under the Clean Water Act, as long as the pesticide is used in accordance with FIFRA's requirements was an unreasonable interpretation).

With the new rules and amendments, the Department is specifically ensuring that a fumigation operation does not cause off-site health impacts. The rules require a fumigation operation to obtain an air pollution control permit, which includes a risk assessment. The Department recognizes that the EPA imposes requirements for the use of fumigants. However,

the Department's case-by-case determination of off-site impacts is in contrast with the EPA's general approval for the use of fumigants.

In a similar fashion, the EPA uses Maximum Achievable Control Technology (MACT) standards to administer the oversight of HAPs based on practices using best technology available. The EPA uses residual risk evaluations that occur years after the source begins operation to ensure that local impacts are eventually addressed. The Department applies risk analysis concurrently with technology review, so all risk is evaluated during application review, before operation commences. Therefore, even if a facility covered by a specific MACT standard demonstrates compliance with that standard, more review, analysis, and process changes may be needed to address residual risk.

Regarding the Federal HAP list, the fact that sulfuryl fluoride is not a Section 112 listed HAP does not mean that the EPA has determined that sulfuryl fluoride is not harmful. Moreover, the absence of a Federal regulation for a substance does not constitute a Federal standard, such that a Federal standards analysis is required. The lack of Federal regulation is not a standard "imposed" by Federal law.

As explained in the Response to Comments 32 through 39, the Department amended its rules to clarify the requirements for fumigation operations, with a focus on industrial and bulk commodity fumigation. As explained in the Response to Comments 60, 61, and 62 and 105 through 110, the three fumigants are toxic, and acute and chronic exposure to each may impact human health.

The Department reviewed USDA's Treatment Manual that covers treatments for quarantine significant plant pests for imported and domestic commodities. See https://www.aphis.usda.gov/import_export/plants/manuals/ports/downloads/treatment.pdf. According to the Treatment Manual, all 2016 labels require both a treatment and an aeration buffer zone. Both the treatment and aeration buffer zones are specific to the enclosure being fumigated and must be determined by visiting a website link provided in every label. The Treatment Manual refers the fumigator to the EPA's website to determine the minimum aeration buffer zone to be maintained until aeration is complete. Treatment Manual at 2-3-6.

The EPA website contains 17 Methyl Bromide Commodity and Structural Fumigation Buffer Zones documents. See https://www.epa.gov/pesticide-registration/mbcommoditybuffer. Each of these documents is an extension of the product label and contains enforceable directions for use. To determine the buffer zone distance for aeration, facilities are instructed to select tables corresponding to the enclosure size and retention rate.

There is a total of 628 tables containing 41,886 values. The required buffer zone distances for aeration varies between 10 feet and 2,854 feet. According to these tables, 87 percent of all required fumigation aerations zones are 10 feet. Six percent are aeration zones between 15 feet and 100 feet. Five percent are aeration zones between 105 feet and 500 feet. Two percent are between 505 feet and 1,000 feet. The remaining one percent is between 1,010 feet and 2,854 feet. The Department's review shows that 87 percent of the fumigation operations are required to establish aeration buffer zones of 10 feet. Therefore, the

precautions mandated by the EPA pursuant to FIFRA do not prevent the types of exposures that the Department has determined will result in negative health consequences.

Regarding the Federal HAP list, the fact that sulfuryl fluoride is not a Section 112 listed HAP does not mean that the EPA has determined that sulfuryl fluoride is not harmful. Moreover, the absence of a Federal regulation for a substance does not constitute a Federal standard such that a Federal standards analysis is required. The lack of Federal regulation is not a standard "imposed" by Federal law.

As explained in the Response to Comments 32 through 39, the Department amended its rules to clarify the requirements for fumigation operations, with a focus on industrial and bulk commodity fumigation. As explained in the Response to Comments 60, 61, and 62 and 105 through 110, the three fumigants are toxic, and acute and chronic exposure to each may impact human health.

Executive Order No. 63 (2019)

151. COMMENT: EO No. 63 recognizes that "ill-considered or ineffective regulation can deter progress, unduly burden businesses, hamper innovation and economic growth, and lead to stagnation, inefficiency, and inequity," and that "an agency should not propose or adopt a regulation without first making a reasoned determination that its benefits justify its costs." EO No. 63 also provides that governmental decisions should be based on the best available data, including available scientific data, and that the State should operate under Federal regulatory framework where Federal regulation is adequately protective. By failing to identify any health

issue being experienced in New Jersey or any valid scientific study upon which the proposed requirements are based, the Department is proceeding with ill-considered rules that will unnecessarily burden businesses. Moreover, since the Department has not identified any negative heath impacts from the current fumigation of cocoa beans in New Jersey and has not collected or considered the necessary economic and jobs information, it cannot make a reasoned determination that the benefits justify its costs. The Department has failed to quantify the benefits and costs, to cite scientific studies that provide technical support for the rules, or consider applicable Federal requirements that address the same concerns intended to be addressed by the rules. Thus, the Department has failed to adhere to EO No. 63. (28 and 48)

152. COMMENT: The Department provided no data to supports its assertion that Federal rules governing fumigations are insufficient. EO No. 63 states that where Federal regulation is adequately protective, New Jersey should operate under the Federal regulatory framework to minimize confusion and complexity. The Department did not explain its desire to go beyond the existing State and Federal programs that have governed fumigations safely and effectively for decades. (49)

RESPONSE TO COMMENTS 151 AND 152: The Department complied with EO No. 63, which sets forth goals for State entities to focus on in rulemaking. Regarding Federal regulation, EO No. 63 rescinded Executive Order No. 2 (2010), which "created the perception that going beyond Federal standards is undesirable," and directed State agencies to develop their own regulatory framework "[w]here Federal regulation is inadequate to protect the environment, health, safety, and welfare of New Jersey's residents and communities." As explained in the Response

to Comments 32 through 39 and 138 through 150, there are no comparable Federal standards and the Department determined to amend its rules to clarify the existing permitting requirements for fumigation operations, based on the Department's investigation that found that fumigation operations are likely causing off-site health impacts. See the Response to Comments 105 through 110, regarding the anticipated social impact, based on the toxicity and usage of fumigants. Although the Department cannot estimate with specificity the monetary benefits associated with the health improvement of reducing these emissions, preventing any of the adverse health effects and symptoms of exposure is a benefit. Of particular importance, many fumigation facilities are sited in or around environmental justice areas, and the residents live in close proximity to fumigation operations. 53 N.J.R. at 326, 327.

World Trade Organization

153. COMMENT: The Department should advise when it will notify the World Trade Organization (WTO), specifically the Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary (SPS) committees, of its rules, supporting scientific evidence and justification, and the availability of a public comment period. The Department should also consider allowing a delayed effective date of at least 180 days from publication, as established by the recommendations of the TBT and SPS agreements. In addition, the Department should clarify the flexibilities, the rules as they would apply to small and medium enterprises, in the light of Article 3 of the General Agreement on Tariffs and Trade (GATT). (46)

RESPONSE: The Department provided notice, in accordance with the APA, as explained in the Response to Comments 1 through 7. As a State agency, the Department is not a party to the

GATT or the WTO. See the Response to Comments 96 through 101 and 102, 103, and 104, regarding implementation; 42 and 43, regarding the permitting requirements; and 136 and 137, regarding regulatory flexibility.

New Jersey Hazardous Air Pollutants

General

154. COMMENT: The Department is to be commended for proposing these important updates to the permitting and reporting requirements in the rules that govern the Division of Air Quality. These changes, proposed in the spring of 2021, are an important step in protecting the residents of New Jersey from exposure to toxic air pollutants. It is important to periodically consider the tools that are being used to gather information about potential exposure (through permit applications and emission statements) and when critical exposures are identified (such as those from current fumigation practices) develop fair and effective means to control those exposures. Adding three toxins to the list of those regulated by the Division of Air Quality, as provided in the APCA, is a crucial step in the continuing evolution of the air toxics program. It is important that the Department should be alert for potential community exposures (especially in Environmental Justice neighborhoods) and take steps to evaluate sources emitting these newly identified toxics. The three additions identified in this rulemaking are a good place to start. Their sources are widespread and their toxicity also commends them to this list. Comparing the reference concentrations for these three pollutants to the other TXS with reference concentrations, one finds that about 25 percent of the existing list are less toxic than

1-Bromopropane and sulfuryl fluoride and about 60 percent are less toxic than hydrogen sulfide, putting all three well within the range of toxicity of concern. (26)

RESPONSE: The Department acknowledges the commenter's support for the adopted rules.

155. COMMENT: The Department provided no support or explanation for its proposed addition of three chemicals to the list of NJHAPs and its determination that it is necessary to regulate these substances "when the current use and emission of these substances and their current toxicity profiles may result in a significant health impact." 53 N.J.R. at 321. (47)

RESPONSE: The Department regulates Federally listed HAPs. Through the adopted rules, the Department is regulating H_2S and sulfuryl fluoride as NJHAPs. As stated in the notice of proposal Summary, in accordance with its authority under the APCA, the Department determined that is it necessary to regulate substances, in addition to Federally regulated HAPs, when the current use and emission of these substances and their current toxicity profiles may result in a significant health impact. New Jersey and other states recognize that there are air toxics of equal or greater concern than HAPs that are not regulated because EPA has not yet classified them as HAPs. With regard to 1-Bromopropane (1-BP), otherwise known as n-propyl bromide (n-PB), on January 5, 2022, the EPA amended its list of HAPs to add 1-BP in response to public petitions that the EPA previously granted. See 87 FR 393 (Jan. 5, 2022). This is the first time the EPA has added a substance to the CAA HAP list. See 87 FR at 394. The effective date of the addition is February 4, 2022. As a result of the Federal listing, the Department is not adding 1-BP to Table 2, New Jersey Hazardous Air Pollutants (NJHAPs), at N.J.A.C. 7:27-17.3, as proposed,

because effective February 4, 2022, 1-BP will be a Federal HAP. The Department is adopting the reporting and SOTA thresholds for 1-BP at N.J.A.C. 7:27-17.9 Table 3A, as proposed, because Table 3A includes reporting and SOTA thresholds for HAPs and NJHAPs that are not TXS. 1-BP falls within this category. The Department is not adopting footnote 5 at 1-BP in Table 3A, because footnote 5 identifies which contaminant is an NJHAP.

A comparison of the three proposed NJHAPs to the Federal HAP list shows that they are just as toxic or more toxic than several Federally regulated HAPs.

Table 13 below presents the reference concentrations of the three proposed NJHAPs and Table 14 below presents the reference concentrations of the Group I, Toxic Substances in Table 1 at N.J.A.C. 7:27-17.3. Table 15 below presents a sample of 13 regularly reported air toxics, all which are Federally regulated HAPs, which have similar toxicity values to both the three proposed NJHAPs and Group I TXS. All reference concentrations, except those for sulfuryl fluoride, at Tables 13 and 14 below were derived from "Toxicity Values for Inhalation Exposure, June, 2020." https://www.state.nj.us/dep/aqpp/downloads/risk/ToxAll2020.pdf.

Table 13: Proposed NJHAPs: Reference Concentrations

Air Contaminant	Chronic micrograms per cubic meter ($\mu g/m^3$)	Acute (Averaging Time) $\mu g/m^3$
Hydrogen sulfide (H_2S)	2	98 (24-hours)
1-Bromopropane (1-BP)	101	5,030 (24-hours)
Sulfuryl fluoride	50*	3,130 (24-hours)**

*See Sulfuryl Fluoride-Addendum to the 2006 Risk Characterization Document Update of the Toxicology and Reference Concentrations -Final May, 2020, Human Health Assessment Branch,

Department of Pesticide Regulation, California Environmental Protection Agency- Addendum

(link: www.cdpr.ca.gov/docs/risk/rcd/sulfuryl-fluoride_addendum.pdf)

** See *ibid*. See also, Sulfuryl Fluoride-Draft Risk Assessment in Support of Registration Review

Part I: Occupational and Residential Exposure" prepared by EPA in April 2021 (EPA, 2021).

Table 14: Group I Toxic Substances (From Table 1 at N.J.A.C. 7:27-17.3): Reference Concentrations

Air Contaminant	Chronic µg/m^3	Acute (Averaging Time) µg/m^3
Benzene (Benzol)	3	27 (1-hour)
Carbon Tetrachloride	40	1,900 (1-hour)
Chloroform (Trichloromethane)	300	150 (1-hour)
Dioxane (1,4-Diethylene dioxide; 1,4-Dioxane)	30	3,000 (1-hour)
Ethylene dibromide (1,2-Dibromorethane)	0.8	N/A
Ethylene dichloride (1,2-Dichloroethane)	400	N/A
Tetrachloroethylene (Perchloroethylene)	40	20,000 (1-hour)
Trichloroethylene (Trichloroethene)	2	2 (24-hours)

Table 15: Additional Toxic Substances, which are Federally Regulated HAPS, with Reference Concentrations Similar to the Group I Toxic Substances and NJHAPs

Air Contaminant	**Chronic µg/m^3**	**Acute (Averaging Time) µg/m^3**
Ethylene glycol	400	N/A
Ethylene glycol monoethyl ether	200	370 (1-hour)
Phenol	200	5,800 (1-hour)

Phosphoric acid	10	N/A
Phthalic anhydride	20	N/A
Propylene dichloride	4	N/A
Trichlorobenzene (1,2,4-)	2	N/A
Triethylamine	7	2,800 (1-hour)
Vinyl Acetate	200	N/A
Vinyl bromide	3	N/A
Vinyl Chloride	100	180,000 (1-hour)
Vinylidine Chloride	200	N/A
Xylene (m-, o-, p-, or mixed)	100	22,000 (1-hour)

Two Group I TXS, chloroform and ethylene dichloride, have chronic reference concentrations that are higher than the three proposed NJHAPs, meaning they are less harmful. Additionally, all of the Group I TXS except for ethylene dibromide and trichloroethylene have higher chronic reference concentrations than NJHAP hydrogen sulfide. The chronic reference concentrations for hydrogen sulfide and trichloroethylene are the same. As explained in the Response to Comments 60, 61, and 62, the lower the reference concentration, the higher the hazard quotient, and potential health risk. The Department is regulating the NJHAPs because they have a higher potential to cause a significant health impact than many of the Federally designated HAPs.

156. COMMENT: The status of each of the TXS covered at Subchapters 8, 17, and 22 is confusing in these rules. The piecemeal approach, with different names and tables and requirements for each, is very much a function of the way that the air toxics program has grown over the years. It would be good, in a future rulemaking, to consolidate all into a single list of TXS, and wherever possible include requirements that are consistent from one pollutant to the

next. In the interim, materials used to inform the regulated community about these changes once adopted should be sure to make it clear what is required for each of the newly addressed pollutants, as well as the those that are already on the TXS lists. (26)

RESPONSE: The Department's rules include one table of toxic substances at N.J.A.C. 7:27-17.3, which includes three groups. This rulemaking adds a second table that includes the NJHAPs. Additionally, the Department provides a full list of air toxics and the health benchmarks in the Toxicity Values for Inhalation Exposure dated June 2020, available on its website. See https://www.nj.gov/dep/aqpp/downloads/risk/ToxAll2020.pdf. The Department's risk screening tools are at https://www.nj.gov/dep/aqpp/risk.html.

In 2018, the Department adopted rules that consolidated all HAP reporting and SOTA thresholds at N.J.A.C. 7:27-17.9. 50 N.J.R. 454(a) (Jan. 16, 2018). The Department recodified these thresholds to N.J.A.C. 7:27-17, which is the subchapter of the Air Pollution Control rules regulating toxic substances, to simplify the cross-references, particularly at N.J.A.C. 7:27-8, which applies to minor facilities and major facilities without an operating permit, and N.J.A.C. 7:27-22, which applies to operating permits. With the adoption of the new rules, N.J.A.C. 7:27-17.9 includes the HAP, NJHAP, and TXS reporting thresholds. The Department will continue to evaluate whether further amendments are warranted.

Legal Authority to Regulate Air Contaminants as New Jersey Hazardous Air Pollutants

157. COMMENT: The Department does not have the authority to establish a new category of air contaminants as NJHAPs. The APCA defines "hazardous air pollutant" or "HAP" as "any air

pollutant listed in or pursuant to subsection (b) of section 112 of the Federal Clean Air Act (42 U.S.C. § 7412).” The Department, therefore, only has authority to regulate those hazardous air pollutants that are recognized as such by the EPA. The Department however added the term “NJHAP” every place that the current regulations address HAPs. By doing so, the Department effectively is adding substances to the list of Federal HAPs, which exceeds its authority under the APCA. The Department cannot exceed its statutory authority on what is a HAP by giving it a different name and then treating it in all respects the same as a HAP. (28 and 48)

158. COMMENT: The Department proposes to regulate hydrogen sulfide, 1-bromopropane, and sulfuryl fluoride as State-specific hazardous air pollutants. The commenter is concerned with how the Department is utilizing this new term in the rulemaking. While the Department has indicated that this is an entirely new category of pollutants, the Department is adding the term NJHAP in every place where the current rules address HAPs. As such, the Department is *de facto* adding new pollutants to the current list of HAPs, which it does not have authority to do under the APCA. (48)

RESPONSE TO COMMENTS 157 AND 158: The APCA gives the Department broad authority to promulgate rules “preventing, controlling and prohibiting air pollution throughout the State ...” N.J.S.A. 26:2C-8. The statute defines "air pollution" to include “the presence in the outdoor atmosphere of one or more air contaminants in such quantities and duration as are, or tend to be, injurious to human health or welfare, animal or plant life ...” N.J.S.A. 26:2C-2. “Air contaminant” is similarly broadly defined to mean “any substance, other than water or

distillates of air, present in the atmosphere as solid particles, liquid particles, vapors, or gases." *Ibid*.

The APCA defines "HAP" or "hazardous air pollutant" to mean "any air pollutant listed in or pursuant to subsection (b) of section 112 of the Federal Clean Air Act" (42 U.S.C. § 7412). N.J.S.A. 26:2C-2. The Federal Clean Air Act defines "hazardous air pollutant" as "any air pollutant listed pursuant to subsection (b) of [42 U.S.C. § 7412]." 42 U.S.C. § 7412(a)(6). With the 1990 Clean Air Act Amendments, Congress provided an initial list of HAPs and included procedures for the EPA to revise the list to add or remove substances. See 42 U.S.C. § 7412(b).

The APCA's definition does not prohibit or limit the Department's authority to regulate "other air contaminants" as New Jersey hazardous air pollutants, which N.J.A.C. 7:27-17.1 defines as a substance listed at N.J.A.C. 7:27-17.3, Table 2. By referring to the list of substances at Table 2, the definition of NJHAP is consistent with the definitions of Group I, II, and III TXS, which refer to the respective list at N.J.A.C. 7:27-17.3. As noted, the Federal Clean Air Act similarly defines HAPs by referring to the list established pursuant to Section 112(b); however, as explained in the Response to Comment 155, because the EPA added 1-BP the HAP list, the Department is not adding 1-BP as an NJHAP.

The designation of H_2S and sulfuryl fluoride as "NJHAPs" is a nomenclature used to distinguish these chemicals from hazardous air pollutants or HAPs, which are specifically defined; the term is not an attempt to add these contaminants to the Federal list of HAPs, which is within the EPA's authority. As explained in the Response to Comment 155, because EPA added 1-BP the HAP list, the Department is not adding 1-BP as an NJHAP.

159. COMMENT: The Department has not identified any actual health impacts of sulfuryl fluoride occurring in New Jersey, let alone impacts that could be deemed significant. The Department similarly provides no suggestion as to why impacts from sulfuryl fluoride may start occurring in the future, apart from its unsupported suggestion that there may be unreported effects. If the Department intends to import evaluation criteria from Clean Air Act (CAA) section 112, there is no basis or need to designate sulfuryl fluoride as an NJHAP because sulfuryl fluoride does not meet the criteria for a Federal HAP. The only bases under the CAA that would support designating sulfuryl fluoride as a HAP are acute and chronic toxicity. The EPA sensibly recognizes that if the only potential harm from a chemical is adequately addressed by other regulations or requirements, a HAP designation is not needed because the chemical cannot "reasonably be anticipated to cause any adverse effects." 42 U.S.C. § 7412(b)(3)(C). This can be readily accomplished for chemicals where acute and chronic toxicity are the only concern, and there is no concern of bioaccumulation or other long-term environmental effects, because ensuring that fence line levels do not exceed reference concentrations ensures that there is no further risk.

As the EPA did when it removed caprolactam from the list of Federal HAPs, the Department need not designate sulfuryl fluoride as an NJHAP because once the Department is satisfied that sulfuryl fluoride levels beyond the fence line will not cause acute or chronic effects, no risk exists. Therefore, further reductions from applying SOTA, to the extent that any feasible capture or other control technology exists for sulfuryl fluoride, would offer no marginal

benefit to the public. With respect to reporting requirements, operations that meet the reporting threshold would already meet the potential to emit threshold and be a significant source, triggering the permit requirement, which in turn would require a risk assessment. Therefore, the reporting threshold, like the SOTA requirement, does not offer any marginal benefit in the case of sulfuryl fluoride. In sum, even if the creation of a category of NJHAPs was warranted in the abstract, and adequately defined in the proposed rules, there is no reason to include sulfuryl fluoride in the category. (31)

RESPONSE: As explained in the Response to Comments 157 and 158, the Department's designation of sulfuryl fluoride as an NJHAP is not an attempt to include it among the Federal HAPs. The adopted rules specifically identify an NJHAP as a substance listed at N.J.A.C. 7:27-17.3, Table 2, see N.J.A.C. 7:27-17.1. While a source operation that emits sulfuryl fluoride may already be required to have a permit, the Department does not assume this to be the case and has, therefore, included a reporting threshold to protect public health. Similarly, an applicant who is required to conduct a risk assessment and a SOTA demonstration may propose to satisfy both requirements with, for example , the same controls or operational limitations, the requirements are separate. The SOTA threshold for sulfuryl fluoride is five tons per year, in accordance with the APCA. N.J.S.A. 26:2C-9.2c.

Standard for Classifying Contaminants as New Jersey Hazardous Air Pollutants

160. COMMENT: The proposed rules would create a new category of regulated contaminants called NJHAPs. Hydrogen sulfide, 1-bromopropane, and sulfuryl fluoride are proposed to be the

initial members of this category. NJHAPs are proposed to be subject to the same forms of regulation as Federal HAPs. The proposed rules do not explicitly define NJHAPs, except to state their identities in a table. The Department explained only that it is necessary to regulate substances as NJHAPs "when the current use and emission of these substances and their current toxicity profiles may result in a significant health impact." This does not provide a "clear or objectively ascertainable standard" that the regulated community can understand, and therefore the designation cannot be upheld. The Department provided only an ad hoc cataloguing of the potential dangers of each proposed chemical to be designated as an NJHAP, with only a short explanation of the designation of sulfuryl fluoride as an NJHAP. The mere fact that a contaminant can be acutely or chronically toxic if overexposure occurs (as almost all can be) is not a valid basis. Agencies must promulgate rules that adequately advise the regulated community of the standards that the regulator will apply. The proposed NJHAP designations do not provide any regulatory certainty concerning what other chemicals the Department might designate as NJHAPs in the future or the procedures for adding or removing a chemical. If the only requirement is the potential for acute or chronic toxicity, the category is effective unbounded. If the Department intended to follow the Clean Air Act in identifying NJHAPs like Congress identified HAPs, the Department as an administrative agency does not have the authority to create regulatory programs by legislative fiat. (31)

RESPONSE: As explained in the Response to Comments 157 and 158, the Department has broad authority pursuant to the APCA to promulgate rules that prevent, control, and prohibit air pollution in the State. The Federal Clean Air Act defines "HAP" as any air pollutant listed at

Section 112(b). 42 U.S.C. § 7412(a)(6). The Federal Clean Air Act specifies the criteria for revising the list. See 42 U.S.C. § 7412(b). The APCA does not include similar criteria that applies for the Department to regulate air pollution, including toxic air pollutants, such as those regulated as NJHAPs with this rulemaking. The Department will follow the APA's rulemaking requirements if the Department proposes to regulate additional pollutants as NJHAPs.

The Department explained in the notice of proposal Summary that it proposed to regulate 1-BP, H_2S, and sulfuryl fluoride as NJHAPs based on the toxicity and use of each in the State. 53 N.J.R. at 321-322. As explained in the Response to Comment 155, because the EPA added 1-BP the HAP list, the Department is not adding 1-BP as an NJHAP. If the Department determines that additional chemicals should be regulated as NJHAPs, the Department will conduct appropriate stakeholder sessions and propose rules in accordance with the APA, which will allow interested parties to comment. As noted in the Response to Comments 157 and 158, by referring to the list of substances at Table 2, the definition of NJHAP is consistent with the definitions of Group I, II, and III TXS, which refer to the respective list at N.J.A.C. 7:27-17.3.

Hydrogen Sulfide (H_2S)

General

161. COMMENT: The application of a "one size fits all" approach to the hydrogen sulfide (H_2S) portion of this rulemaking is not appropriate, nor does it account for variations in wastewater treatment plant design and location. For example, some wastewater treatment plants are in direct proximity to occupied homes and businesses while others are located in highly industrial

areas with significant distance to off-site receptors. Significant variations also exist between the influent streams to different wastewater treatment plants. There are also operational differences between municipal solid waste landfills and wastewater treatment plant operations. (1 and 5)

RESPONSE: The Department interprets this comment as referring to the 90 lb/year reporting threshold and 10,000 lb (five ton)/year state-of-the-art (SOTA) threshold for H_2S. The thresholds are consistent with the Department's long-standing regulation of contaminants. As explained in the Response to Comments 176, 177, and 178, given the varied types of equipment and processes that N.J.A.C. 7:27 regulates, it would be very difficult to establish air toxic reporting thresholds for each type of source operation.

The APCA provides that, for equipment and control apparatus with a potential to emit five tons per year (tpy) or more of any air contaminant that is not a HAP, the applicant shall document advances in the art of air pollution control in accordance with certain criteria. See N.J.S.A. 26:2C-9.2(c). Accordingly, new N.J.A.C. 7:27-8 Appendix 1, Table A establishes a five tpy SOTA threshold for total volatile organic compounds, total suspended particulates, coarse particulate matter (PM10), fine particulate matter (PM2.5), nitrogen oxides, carbon monoxide, and sulfur dioxide. N.J.A.C. 7:27-22.35(c) also establishes a default SOTA threshold of five tpy. No SOTA threshold at N.J.A.C. 7:27-17.9(a) exceeds five tpy.

The hazardous air pollutant and toxic substance reporting thresholds at N.J.A.C. 7:27-17.9 apply to all significant source operations and provide a conservative baseline to trigger the evaluation of potential health risks. Once the Department receives a pre-construction or

operating permit application with H_2S emissions, the Department considers the unique characteristics of the source operations when it conducts the health risk assessment. It first evaluates the health risk assessment based on the maximum impact location not owned by the facility. The Department has received nuisance complaints from residences that have been constructed near existing facilities, making this evaluation necessary. If the risk assessment demonstrates a non-negligible risk, the Department can consider various factors to identify risk reduction strategies that may facilitate permit approval. See Technical Manual 1003, Section 3.0. These factors include overall impact on the sensitive receptor population; the uncertainties associated with the health risk; compliance history; previous compliance efforts by the facility; new and pending regulations; and cost analysis. Consequently, the Department takes site-specific characteristics into account.

162. COMMENT: The Department should not regulate H_2S as an NJHAP. There are already existing permitting regulations related to H_2S emissions because H_2S is already in permits as a 112(r) contaminant. Pursuant to N.J.A.C. 7:27-8.4(q), a number of source types (including landfills and wastewater treatment plants) are already required to demonstrate (within permit applications) that "appropriate odor prevention measures" will be implemented. N.J.A.C. 7:27-8.4(k)2 also requires inclusion of odor-causing compounds in applicable permit applications. More importantly, Appendix I, Table A at N.J.A.C. 7:27-8 specifically provides a reporting threshold for “any air contaminant listed in footnote” of 0.05 lb/hr (and a SOTA threshold of 5.0 tons per year). The applicable footnote effectively defines “any air contaminant” as “[a]ny

112(r) contaminant; any stratospheric ozone depleting substance, or any greenhouse gas except carbon dioxide." Hydrogen sulfide is, in fact, a 112(r) contaminant and, therefore, is already regulated pursuant to Subchapter 8. Considering the required consistency between Subchapter 22 and Subchapter 8 (or, more importantly, the need to maintain preconstruction permits [consistent with Subchapter 8 regulation]), it would appear that there are already regulations (and permitting mechanisms) in place to ensure the minimization of H_2S emission and the reporting of such emissions in permit applications. In addition to regulations requiring reporting of H_2S emissions in permit applications, N.J.A.C. 7:27-7 (Subchapter 7) establishes allowable emission rates for sulfur compounds from stacks or chimneys (that is, not fugitive emissions) and, therefore, yields maximum emission rates for H_2S within applicable permit documents. Considering that Subchapter 8 already requires the inclusion of H_2S within air permit applications (at a rate of over 0.05 lb/hr) and that Technical Manuals 1002 and 1003 specifically identify the need to evaluate risk relative to H_2S, the proposed regulation of H_2S as an NJHAP is not necessary (that is, creating duplicate, redundant, and conflicting regulation) and is quite precedent setting.

The Department has demonstrated focus in including H_2S in permits for landfills, evaluating the risk associated with H_2S emissions from all applicable Title V permits (and certainly landfill air permits), and even requiring the treatment of collected gas to remove H_2S prior to combustion over the past five to 10 years. The solid waste industry has shown a willingness to continue to work closely with the Department during this period, even while being singled out in Environmental Justice proposals. This unnecessary regulation of H_2S as an

NJHAP is now almost exclusively related to the solid waste industry, as most other industries contributing to H_2S emissions have been forced out of New Jersey due to increased regulation. (9 and 51)

RESPONSE: Hydrogen sulfide is a 112(r) substance, and 112(r) substances have a threshold of 0.05 pounds per hour and SOTA threshold of five tons per year. See N.J.A.C. 7:27-8, Appendix 1, Table A. CAA section 112(r) was developed to address the prevention of accidental release of chemicals and the reporting threshold for 112(r) contaminants is a pound/hour threshold. However, the new reporting threshold for H_2S is a pound/year threshold, based on the long-term reference concentration for H_2S, as explained in the Response to Comments 179 through 183. The reporting threshold will allow the Department to conduct health risk assessments when there is a potential for significant health risk due to H_2S exposure.

The Department has established reporting thresholds for certain CAA Section 112(r) substances that, as a result of the potential health risks, are more stringent than the 0.05 pound per hour (an equivalent 438 pounds per year) reporting threshold. These substances include acrolein, ethylene oxide, formaldehyde, hydrazine, methyl hydrazine, phosgene, phosphine, and toluene 2,4–diisocyanate.

The Department proposed no change to the existing H_2S SOTA threshold which, as explained further in the Response to Comment 190, remains five tons per year. See the Response to Comment 186, concerning H_2S reference concentrations used with the risk screening worksheet and risk assessment.

163. COMMENT: Regulated entities (such as wastewater treatment plants and other facilities) are already required to protect against odor impacts of H_2S at the property line. See N.J.A.C. 7:27-5.1 and the Department's Technical Manual 3001. The "odor threshold" for humans is less than one part per billion of H_2S. According to the ATSDR Landfill Gas Primer, "[h]umans are extremely sensitive to hydrogen sulfide odors and can smell such odors at concentrations as low as 0.5 to 1 part per billion (ppb)." ATSDR - Landfill Gas Primer - Chapter 3: Landfill Gas Safety and Health Issues (cdc.gov). It is recognized that the health effects associated with H_2S (that is, irritation of the eyes and mucous membranes) only can occur at concentrations that are significantly higher than its odor threshold. Consequently, as the current regulatory requirements already adequately regulate for odor control, and therefore, fully protect against the public health impacts of H_2S, the proposed additional restrictions on H_2S are not necessary. (19)

164. COMMENT: The Department states that H_2S has a strong offensive odor and this proposed rulemaking would assist in ensuring that the potential for odors beyond the property line is evaluated as part of the review of the air pollution control permit application. The Department already reviews odor potential, including from H_2S emissions, as part of the review of air permit applications utilizing their Technical Guidance Manual, Guidance Document for Odor Control at Municipal Wastewater/Sludge Handling & Treatment Facilities. This Technical Manual has been in effect and utilized by the Department since 1997. Furthermore, there are no documented public health impacts in the vicinity of New Jersey publicly owned treatment works to warrant the additional regulation proposed by the Department. It is counter-productive, confusing, and

burdensome to New Jersey facilities for the Department to establish multiple rules and guidance that effectively do the same thing. (20)

165. COMMENT: The proposed amendment regulating H_2S is unnecessary. Existing Department regulations already adequately protect the environment, public health, safety, and welfare through the existing odor threshold limits. (32)

166. COMMENT: The Department is proposing unnecessary further regulation of an already regulated chemical H_2S. (51)

167. COMMENT: The availability of useful off-site H2S concentration data from wastewater treatment plants is extremely limited in New Jersey. Determination of fence line H_2S emissions requires emissions modeling, which is a costly undertaking often performed by a third-party consultant with modeling expertise. The wastewater treatment plant industry in New Jersey does not have this site-specific emissions modeling data readily available. This lack of critical data and knowledge of what fence line impacts are for the many local and regional wastewater treatment plants further demonstrates that the proposed H_2S regulations for wastewater treatment plants are premature and should be removed from this proposed rulemaking. (1 and 5)

168. COMMENT: The Department already has odor rules in place. Given the low odor threshold for H_2S, the Department's existing regulations may already be adequately protective. (10)

169. COMMENT: Hydrogen sulfide need not be defined as a HAP or regulated as the Department has proposed to do. Rules already address odor control. (19)

RESPONSE TO COMMENTS 163 THROUGH 169: As explained in the notice of proposal Summary, 53 N.J.R. at 322, and the Response to Comment 184, H_2S has become a contaminant of concern nationwide. As explained in the Response to Comments 176, 177, and 178, the Department developed the H_2S reporting threshold in accordance with the Technical Support Document that it used to develop the HAP reporting thresholds. By requiring facilities to list H_2S emissions that exceed the reporting threshold, which is based on the IRIS long-term H_2S reference concentration, the Department will be able to properly evaluate risk associated with the H_2S emissions and also ensure that the potential for odors beyond the property line is evaluated as part of the review of the air pollution control permit application. See the Response to Comment 192, regarding the Legacy Landfill Law, and 187 and 188, regarding odor detection levels.

170. COMMENT: The Department provides essentially no scientific basis for the proposed rulemaking. Hydrogen sulfide is toxic in large concentrations in enclosed areas, but the commenter is not aware of a public health impact from H_2S exposure outside of the confined space facilities. Hydrogen sulfide and other mercaptans are injected into natural gas that is piped into the majority of homes in the United States and there have been no reported short-term or long-term chronic toxicity problem as a result. Hydrogen sulfide emissions from publicly owned treatment works, landfills, and the other facilities targeted by this proposed rulemaking are predominantly fugitive and relatively ground-based and do not form acid rain. Also, H_2S is heavier than air and does not rise in the atmosphere, but rather sinks when

released into the ambient atmosphere. Therefore, it would be difficult, if not impossible, for fugitive emissions of H_2S from wastewater operations to form acid rain as described in the rulemaking. (20)

RESPONSE: Hydrogen sulfide is a key participant in the global sulfur cycle. It is oxidized in the atmosphere to sulfur dioxide, which can then be converted to sulfate through three different chemical pathways. Hydrogen sulfide is soluble in water, resulting in formation of sulfhydric acid, which is corrosive to metals, and contributes to acidic deposition to soil and water. See ww2.arb.ca.gov/resources/hydrogen-sulfide-and-health.

Hydrogen sulfide, whether emitted from a stack or as a fugitive air contaminant, enters the ambient atmosphere and participates in reactions that lead to the formation of acidic compounds. Fugitive emissions can occur at or near ground level or above ground level. For example, fugitive emissions from an open wastewater storage tank are emitted from the liquid surface of the tank, which could be 10 to 40 feet (approximately) above ground. Landfills are typically built up and fugitive emissions can be emitted from locations significantly aboveground.

Hydrogen sulfide (at 34 g-mole^{-1}) is only slightly heavier than the ambient mixture (~29 g-mole^{-1}) of the compounds that make air. Therefore, with the lightest of winds or upward velocity from insolation, a release of H_2S can easily travel downwind at inhalation height. In addition, since H_2S is water soluble, as stated above, it can travel high into the troposphere with evaporated moisture and be converted to sulfuric acid through cloud chemical reactions.

The Department did not provide any specific analyses or determinations that fugitive emissions of H_2S from New Jersey Publicly Owned Treatment Works (POTWs) and other targeted facilities reach or exceed the EPA's reference concentration outside the confines of the facility. As many industries and source operation types emit H_2S at different locations, it would not have been feasible to address every one of them. However, such analyses are conducted for each significant source operation that must apply for an air pollution control permit and has the potential to emit H_2S above the 90 lb/yr reporting threshold. In addition, the definition of "potential to emit" at N.J.A.C. 7:27-8 and 22, addresses fugitive emissions and states that "[un]less otherwise indicated, fugitive emissions shall be included in the determination of potential to emit."

Hydrogen sulfide and other mercaptans are injected into natural gas that is piped into the majority of homes in the U.S. When the natural gas is combusted in a furnace or boiler, nearly all of the H_2S and mercaptans react with oxygen, are converted to sulfur dioxide, and are emitted directly to the atmosphere though a stack outside of the structure. When natural gas is combusted in an oven or stove, combustion occurs within a structure and the H_2S and mercaptans are combusted and converted to sulfur dioxide. Users of natural gas are exposed to H_2S and mercaptans only when there is a natural gas leak. If there is a leak, users are advised to call local authorities in order that the authorities can address the potential for the natural gas to cause an explosion or fire. The H_2S and mercaptans are intentionally placed in natural gas so that when a natural gas leak occurs users can quickly become aware of the leak and take

action. Consequently, users of natural gas are exposed to H_2S and mercaptans only in emergency situations, and not on a continuing or periodic basis.

171. COMMENT: The Department should not regulate hydrogen sulfide emissions more stringently than the EPA. The EPA has not listed hydrogen sulfide as a hazardous air pollutant. Congress promulgated an initial list of HAPs and the EPA adds and removes substances from the list based on its determination that the substance is an air pollutant and that emissions, ambient concentrations, bioaccumulation, or deposition of the substance are known to cause or may reasonably be anticipated to cause adverse effects to human health or adverse environmental effects. There are 187 Federally listed HAPs, defined as pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. If the EPA believed there were serious environmental or health concerns associated with hydrogen sulfide emissions based on the data, the EPA would have included hydrogen sulfide as a Federal HAP. (20)

172. COMMENT: The Department has chosen to designate H_2S as an NJHAP and regulate H_2S in the same way Federally designated HAPs are regulated. The Department should provide the analyses and public health impact data it used to determine that H_2S emissions from the targeted facilities pose enough of a public health risk that it must be regulated at the State level in the same way Federal HAPs are regulated. These analyses and data were not provided as part of the proposed rules and should be at least as rigorous as the Federal analyses conducted for the Federally designated HAPs. The Department also did not provide any specific analyses

or determinations that fugitive emissions of H_2S from publicly owned treatment works and other targeted facilities reach or exceed the EPA's chronic (annual/long term) reference concentration of two $\mu g/m^3$ outside the confines of the facility, or information related to potential public health effects in the vicinity of publicly owned treatment works. Given the apparent lack of data and analyses, the Department has not demonstrated a need to establish H_2S as an NJHAP and regulate it as a Federal HAP at this time. (20)

RESPONSE TO COMMENTS 171 AND 172: As explained in the notice of proposal Summary, the Department proposed to regulate H_2S, sulfuryl fluoride, and 1-BP as State-specific HAPs because their current use, emissions, and toxicity profiles may result in a significant health impact. 53 N.J.R. at 321. As explained in the Response to Comments 157 and 158, the identification of these contaminants as NJHAPs is a nomenclature. The Department did not intend for this designation to suggest that the Department is regulating these contaminants as Federal HAPs. The Department determined that these air toxics, while not regulated as Federal HAPs, are of sufficient concern to be regulated at a State level.

As explained in the Response to Comment 184, H_2S has become a contaminant of concern nationwide. The Department identified H_2S as a NJHAP and established the corresponding threshold that applies no matter the source operation. The Department has issued notices of violation to both operating and legacy landfills in the State (such as the Fenimore Landfill in Roxbury Township), requiring those landfills to address H_2S emissions both on-site and off-site. For example, the Department required the Warren County District Sanitary Landfill in Oxford Township, an operating landfill, to install an upgraded landfill gas extraction

system and a sulfur removal control system that processed landfill gas prior to combustion. Other operating landfills have also had to address H_2S emissions and resulting odors due to their use of alternate cover material and their acceptance and disposal of certain waste streams, including Hurricane Sandy debris. As another example, after the Atlantic County Utilities Authority accepted Hurricane Sandy debris for disposal, the Department required the Authority to install a removal and treatment system for H_2S gas, as well as a synthetic landfill cap to assist in preventing fugitive H_2S emissions. The Department's enforcement actions at each of these landfills were to mitigate the impacts of H_2S emissions off site.

173. COMMENT: The proposed regulation of H_2S is not necessary from either a public health or ecological protection viewpoint. Existing State programs that primarily focus on odor-based H_2S regulations to ensure low ambient concentrations where public exposures might occur are more than sufficient to ensure the proper regulation of this parameter. The proposed reference concentration of two µg/m3 (long-term average), on the other hand, will cause unnecessary expenditures on control equipment and public health impact analyses, when, in actuality, there is no real-world, discernable public health threat present. At a minimum, rational H_2S regulation would require the adoption of a long-term ambient criteria 15 to 20 times higher than the proposed rule. For this reason, the Department should reconsider the need for this regulatory action and conduct the more detailed and appropriate technical, risk, and economic impact assessments that would more objectively demonstrate the need for (or lack thereof) for any additional H_2S regulation. The Department should also request peer review of its assessments

through its Science Advisory Board which, according to the Department's website, "will, at the Commissioner's request, provide independent peer review and advice on scientific and technical issues relevant to the Department's mission." (19)

174. COMMENT: The Department stated in the notice of proposal that the amendments will have a positive social impact, primarily from improved public health and reduced medical costs. However, the Department also stated that it is unable to predict how many sources otherwise required to apply for new, modified, or renewed permits will also have to identify NJHAPs as a result of the proposed amendments, or how many of these sources will have to perform risk assessments for these NJHAP emissions. Nor can the Department predict the reduction in NJHAP emissions that will result from the proposed amendments. The Department has prepared no analysis that shows whether current emissions of H_2S are a problem or that any member of the public in the vicinity of publicly owned treatment works is experiencing adverse health effects from H_2S. Therefore, there may be no additional social impacts from the proposed rules pertaining to H_2S that would have significant financial impacts on the targeted facilities. The Department should not implement new rules without actual data or analyses showing the rules are necessary. The Department should consider whether collecting data through a reporting requirement for NJHAPs in facilities' annual emission statements is a better approach, to determine if regulation of H_2S emissions is actually warranted. (20)

RESPONSE TO COMMENTS 173 AND 174: See the Response to Comments 179 through 183, concerning the long-term average H_2S risk concentration, and the current first-level risk

screening spreadsheet that already establishes two $\mu g/m^3$ as the long-term risk reference concentration for H_2S.

175. COMMENT: The Department is in the process of imposing per- and polyfluoroalkyl substances (PFAS) discharge limits to publicly owned treatment works around the State. As soon as members of the regulated community became aware of these proposed PFAS limits, one or more began an aggressive sampling program to obtain an understanding of the impacts that this proposed limit would have and, more importantly, understand where the PFAS is coming from and how it can be addressed at the source. While H_2S cannot be removed from the system because of the nature of the source, members of the regulated community would be willing to engage in a sampling program working with the Department to obtain an understanding of the real potential health impacts of H_2S based on actual data from a large wastewater treatment plant. Working together could improve the consistency of H_2S control requirements where the public believes such efforts have been insufficient. (33)

RESPONSE: The Department encourages the regulated community to undertake sampling and analytical programs to provide technical information that they can use to address the health impacts from air pollutants. See the Response to Comment 184 concerning the requirements to calculate potential H_2S emissions, which the Department uses to determine the potential health impacts.

Reporting Threshold

176. COMMENT: The Department followed the "Technical Support Document Updating Hazardous Air Pollutant Reporting Thresholds, June 5, 2017" in developing the proposed reporting thresholds for H_2S. This approach is for stack- or point-source emissions and was intended to be overly conservative (for example, assuming a 1.0-foot diameter stack, a flow of approximately 15 cfm, and a flat terrain). More importantly, the thresholds were developed assuming a stack height of less than 35.0 feet and a distance to property line of less than 100 feet from the emission point. However, landfills represent area sources of H_2S fugitive emissions, rather than stack- or point-sources. The modeling logic utilized to develop reporting thresholds is inconsistent with landfill fugitive emissions as area sources (and how such sources are modeled) and is overly restrictive for such sources. Considering that landfills and wastewater treatment plants are the primary industries impacted by the proposed H_2S regulation, utilizing a risk assessment approach (to establish a reporting threshold) that is for point sources only provides meaningless results inconsistent with the Department's desired (and required) logic. Simply put, the proposed reporting threshold of 90 lb/yr and SOTA threshold of 10,000 lb/yr have not been developed in a manner consistent with the emission source type. The proposed reporting thresholds are unnecessary for landfills, are extremely low, and are not based on sound principles and logic for this source type. (9 and 51)

177. COMMENT: The Department's proposed reporting threshold, which is similar to the human odor threshold, will grossly overregulate sources such as landfills that emit H_2S as part of the biodegradation process for organic materials encapsulated. Landfill H_2S emitting sources

are defined by an area source (that is, emissions not coming from a defined stack), whereas the reporting threshold was based on modeling of a point source (stack). (19)

178. COMMENT: There is little information about H_2S emission rates from wastewater treatment plants. A 2012 study in Spain modeled the H_2S emission rates for three plants ranging in size from about 10 to 16 MGD and found an average total facility-wide emission rate of around one gram per second. Based on these findings, a typical treatment plant in the State could be expected to emit about 86,000 grams or 190 pounds per day of H_2S. This equates to around 69,000 pounds per year, which is substantially higher than the proposed 90 pound per year reporting threshold. A wastewater treatment plant with covered processed tanks and state-of-the-art odor scrubbers apparently still emits H_2S over 90 pounds per year. If the state-of-the-art control technology cannot achieve the threshold, the threshold is unrealistically low. (2 and 23)

RESPONSE TO COMMENTS 176 THROUGH 178: As explained in the notice of proposal Summary, 53 N.J.R. at 321, the Department developed the reporting threshold for H_2S using the analysis in the Department's Technical Support Document Updating Hazardous Air Pollutant Reporting Thresholds, June 5, 2017 (Technical Support Document). The analysis in the Technical Support Document includes evaluation of the modeling methodology, analysis of the modeling results, and identification of the proposed threshold values using the modeling results and the reference concentration of each contaminant. *Ibid*. The Department's modeling and statistical methodology were part of the Department's prior rulemaking to update the HAP reporting thresholds. See 49 N.J.R. 2373(a); 50 N.J.R. 454(a). As part of that rulemaking, the

Department explained its methodology to update all HAP reporting thresholds listed at N.J.A.C. 7:27-17, Control and Prohibition of Air Pollution by Toxic Substances and Hazardous Air Pollutants. The Department's Technical Support Document was available for public comment at that point in time.

The Technical Support Document, which is available at http://www.nj.gov/dep/airmon/airtoxics/, contains a detailed description of the modeling methodologies, statistical analysis, and assumptions used by the Department. As described in the Technical Support Document, the Department performed a robust modeling and statistical analysis in order to calculate the C' value, a normalized air impact value (micrograms per cubic meter ($\mu g/m^3$)/pound per hour of HAP emitted for short term impacts and $\mu g/m^3$/ ton per year of HAP emitted for long term impacts). The C' value carries over the modeling performed and along with the individual toxicity factors, the value is applied to the formulas used to calculate individual reporting thresholds (refer to Equations 1 and 2 in the Technical Support Document).

As explained in the Department's prior HAP rulemaking, 49 N.J.R. at 2378, and the accompanying Technical Support Document, the modeling analysis included stack heights and distance to property lines typical of New Jersey facilities. A combination of three meteorological data sets x five years of data x two dispersion environments x 846 receptors x 11 stack heights x three averaging times resulted in 30 model runs to which a total of 855,360 impacts were generated. The methodology is conservative; parameters like the stack exit velocity and exit temperature were selected, so that plume rise would be minimal, and all stack heights were below the Good Engineering Practice (GEP) stack height of 2.5 times higher than the building

height, so that the plume was subjected to aerodynamic downwash in all wind directions. However, there was no assumption of any chemical properties like molecular weight (being heavier than air). These conservative parameters were selected to cover every possible stack emission scenario in New Jersey including those worst-case, as well as to be protective of public health.

A key aspect to note is that emissions dispersed to ambient air with the use of a stack will typically have better dispersion than those dispersed at ground level or as fugitive emissions. The exceptions to this are those stack emissions that undergo excessive amounts of downwash where the plumes are completely dispersed at ground level. This dispersion behavior is particularly important when the chemical present in the plume is heavier than air, that is, H_2S. As indicated, ground level and fugitive emissions of H_2S will not rise and disperse as typical stack emissions due to its heavier-than-air property. A vertical stack of sufficient height ensures that the emissions from the stack are dispersed, thereby minimizing the concentration of air pollutants at ground level, where individuals may be exposed. The impact is lowered because the emissions are dispersed or spread out over a larger geographic area. Consequently, calculating the H_2S reporting threshold with a modeling methodology based on typical stack dispersion provides a less stringent and more flexible reporting threshold to industries and facilities with most emissions at ground level or as fugitive like wastewater treatment plants and landfills.

Various source types emit H_2S through stack emission points, fugitive emission locations, or both. For example, an actively vented landfill will have H_2S emissions from the

stacks that discharge collected gases, as well as from the surface of the landfill. If the Department had used a modeling methodology based on ground level and fugitive emissions to calculate the H_2S reporting threshold, the resulting value would likely have been lower.

Air permit applications for new and modified sources must undergo health risk assessments based on the potential air toxic emission rates, and not source type. This is the reason that the health impacts are based on air toxic emissions and not the processes that are generating them, which may or may not be controlled. The purpose of establishing reporting thresholds using the Technical Support Document is to provide a mechanism for both the Department and regulated facilities to focus and dedicate resources to those source operations that statistically have the potential to cause a significant health risk.

Given the varied types of equipment and processes that the Air Pollution Control rules regulate, it would be very difficult for the Department to establish air toxic reporting thresholds for each type of source operation. In addition, the Department designed its current risk-determination procedure to be conservative and ensure that it evaluates source operations with a potentially statistically significant risk.

See also the Response to Comment 190 regarding the SOTA threshold for H_2S.

Reference concentration

179. COMMENT: If the Department intends to regulate H_2S further and beyond Federal regulation, the Department should first more thoroughly evaluate available health-based information, reference concentrations, and other applicable data. The Department's selected reference concentration of 2.0 micrograms per cubic meter ($\mu g/m^3$) is conservative in how it

was developed, especially so for long-term exposure. EPA's IRIS Toxicological Review and Summary Document for Hydrogen Sulfide specifically indicates that "[l]imited epidemiological studies have described cardiovascular, pulmonary, and ocular effects. The lack of adequate monitoring data precludes the identification of more precise cause-effect levels for acute or chronic exposure scenarios." https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=29137. More importantly, considerable conservatism was built into the established IRIS reference concentration of two µg/m^3 by dividing the "no-observed-adverse-effect level" (adjusted for human equivalence) by an "uncertainty factor" of 300.

The Department's selected H_2S reference concentration is conservative by orders of magnitude, and the Department's methods for modeling and establishing the reporting threshold are similarly highly conservative. These combine to create rather absurd results in the form of the proposed H_2S reporting threshold. According to the ATSDR, H_2S health impacts are only likely with exposure at concentrations at least 100 times higher than typical environmental levels. See Toxicological Profile for Hydrogen Sulfide and Carbonyl Sulfide (November 2016), https://www.atsdr.cdc.gov/toxprofiles/tp114.pdf. Considering that the ATSDR has documented average ambient H_2S concentrations of 1.1 to 1.5 ppb, this would suggest negligible health impact at concentrations less than approximately 100 ppb (or approximately 140 µg/m^3). See ATSDR's Addendum to the Toxicological Profile for Hydrogen Sulfide, https://www.atsdr.cdc.gov/toxprofiles/hydrogen_sulfide_addendum.pdf.

The Department's proposed use of a reference concentration of only 2.0 µg/m^3 is two orders of magnitude less than the acceptable concentrations indicated by ATSDR. Furthermore,

it would appear highly illogical for H_2S to have a reporting threshold significantly below a large portion of the known hazardous air pollutants (HAPs) currently regulated by the EPA and the Department, especially when Congress previously made a specific action to not regulate H_2S as a HAP. See H_2S at the bottom of https://www3.epa.gov/airtoxics/pollutants/atwsmod.html. The Department should further justify the methods for their selection of factors combined with modeling approaches. Additionally, the public deserves an opportunity to comment on this justification. (9 and 51)

180. COMMENT: The ATSDR's toxicological studies referenced in the notice of proposal Summary, 53 N.J.R. at 322, indicate that H_2S does not pose the health risks suggested by the Department. (41)

181. COMMENT: The Department based the proposed H_2S regulatory benchmarks on the EPA's 2004 IRIS. This is an outdated and unreliable scientific assessment that was subsequently modified based on updated information and more reasonable analyses. In 2016, based upon the same study used to derive the EPA's reference concentration, the ATSDR reviewed the literature on H_2S in the toxicological profile for H_2S. Based upon the same information and data, ATSDR derived a Federal minimal risk level of 29 $\mu g/m^3$ for intermediate term exposure of two weeks to a year and declined to identify a chronic long-term exposure level. Consequently, the more recent risk level assessment utilizing the same data used by the EPA to derive the reference concentration is more than an order of magnitude higher than the EPA's reference concentration. If the Department were to consider the more recent Federal health risk studies, those studies would suggest that the health-based thresholds should be one to three orders of

magnitude higher than the Department's proposal. The ATSDR reports showed that the lowest level that observed health effects in humans or animals is approximately 2,900 µg/m^3 – nearly three orders of magnitude higher than the EPA's H_2S reference concentration.

The reference concentration of two µg/m^3, selected based upon the EPA's IRIS, is also significantly more conservative than those in any other state. This reference concentration is two orders of magnitude lower than the ATSDR levels below that negligible health impact is expected. The fact that no other state has regulated H_2S to this level provides confirmation that the proposed rule is not regulating the correct human health impact concentration. The reporting threshold was not developed in a manner that is representative of the type of operations at the treatment facilities and was developed using overly conservative modeling assumptions. (19)

182. COMMENT: The proposed H_2S reporting threshold and associated reference concentrations are not based on the most recent Federal review of H_2S health risks, which indicate that these health-based thresholds should be one to three orders of magnitude higher than what the Department is proposing. The Department's proposed H_2S reporting threshold and associated reference concentrations would be lower than those in any other state. Congress removed H_2S from the Federal HAPs list in 1991.

The Department is basing the proposed 90 lb/yr reporting threshold and the risk assessment compliance point on the EPA's IRIS reference concentration or "safe-level" for a very long-term exposure of two µg/m^3. This low limitation is not necessary for protecting public health and would also result in wasteful expenditures of already-scarce public funds, if adopted.

In short, there is no precedent for the Department's rulemaking, and this action would seriously overregulate H_2S emissions.

The EPA's reference concentration of two $\mu g/m^3$ for H_2S is more conservative than most similar reference concentrations for other chemicals. It is based on a study that showed lesions in mucous membranes of the nose in rats (a loss of olfactory neurons) when exposed to H_2S at a concentration of approximately 44,000 $\mu g/m^3$ and no effects at approximately 15,000 $\mu g/m^3$ for six hours a day over 10 weeks. H_2S is not a known carcinogen or endocrine disruptor. A total of five adjustments or safety factors totaling a factor of 6,480 were applied to the no effects level to derive the reference concentration. These factors include a factor of four to adjust for six hours of exposure per day instead of 24 hours, a factor of 5.4 to account for breathing volume differences between rats and humans, a factor of 10 to account for inter-individual sensitivities, a factor of 10 to account for sub-chronic instead of chronic exposure, and a factor of three to account for the possibility that humans are more susceptible than rats. Not all of these factors are fully justifiable. For example, the factor of four, applied to account for six hours of exposure per day instead of 24 hours, implies that cumulative exposure to hydrogen sulfide is a better indicator of toxic potential than peak concentration. This may not apply to the human body's response to H_2S. The factor of three accounting for the possibility that humans are more susceptible than rats may also be questioned, because humans appear to be less susceptible than rats to the loss of olfactory neurons due to differences in the anatomies of nasal passages.

The ATSDR reviewed the literature on H_2S in the 2016 Toxicological profile for H_2S. Based on the same study used to derive the EPA reference concentration, ATSDR derived a

Federal minimal risk level of 29 μg/m^3 for intermediate term exposure of two weeks to a year. ATSDR declined to identify a chronic long-term exposure level. This more recent risk level, based on the same data used by the EPA, is more than an order of magnitude higher than the EPA's reference concentration. The lowest level at which ATSDR reports observed health effects in humans or animals is approximately 2,900 μg/m^3. This is nearly three orders of magnitude higher than EPA's reference concentration. (33)

183. COMMENT: The proposed limits are based on outdated scientific data, the EPA's 2004 IRIS. (32)

RESPONSE TO COMMENTS 179 THROUGH 183: As explained in the notice of proposal Summary, the Department uses reference concentrations generated by recognized governmental agencies including the EPA's IRIS. 53 N.J.R. at 320. The 90 lb/year reporting threshold for H_2S is based on the IRIS long-term reference concentration of two μg/m^3 (1.43 ppb) and will allow the Department to evaluate potential long term, or chronic, health impacts. See 53 N.J.R. at 322. If an owner or operator of a source operation lists H_2S because the potential to emit H_2S exceeds the 90 lb/year reporting threshold, the facility must evaluate its risk in accordance with Technical Manual 1003 and may utilize the risk screening worksheet in doing so. The Department recently revised the risk screening worksheet to update its toxicity factors database, which includes all inhalation unit risk factors and long- and short-term reference concentrations. The Department finalized the revisions after accepting public comments and in consultation with the Division of Science and Research. The latest risk screening worksheet and toxicity database document can be found at

https://www.state.nj.us/dep/aqpp/risk.html under the "NJDEP Division of Air Quality Risk Screening Worksheet for Long-Term Carcinogenic and Noncarcinogenic Effects and Short-Term Effects" spreadsheet and "Toxicity Values for Inhalation Exposure" document.

In the latest risk screening worksheet update, the Department revised the H_2S short-term reference concentration from 42 µg/m^3 (averaging time of one hour) to 98 µg/m^3 (averaging time of 24 hours). See https://www.nj.gov/dep/aqpp/Risk Screening Worksheet Fact Sheet.pdf. In addition to the short-term or acute reference concentration, the ATSDR also finalized an intermediate inhalation minimal risk level, the equivalent to a reference concentration, with an exposure duration of 15 to 364 days. The Department did not utilize this intermediate reference concentration to update the current chronic reference concentration listed on the risk screening worksheet of two µg/m^3 from IRIS given its short exposure duration. The exposure durations or averaging times used by the Department are acute (short-term), equivalent to one hour to 24 hours of exposure, and chronic (long-term), equivalent to a lifetime of exposure. The Department follows EPA's definition of reference concentration, https://www.epa.gov/iris/basic-information-about-integrated-risk-information-system, as indicated in the Department's Technical Manual 1003, Appendix A, https://www.state.nj.us/dep/aqpp/techman.html. The Department did not propose a reference concentration or unit risk factor in this rulemaking.

Hydrogen sulfide does occur as a byproduct of anaerobic biodegradation of organic materials. The anaerobic biodegradation of gypsum (wallboard) waste in landfills results in the sulfur in calcium sulfate (an inorganic compound) being converted into H_2S. However, there are

many other pathways by which H_2S forms other than from organic materials encapsulated. The disposal of wallboard waste caused odor and health nuisance problems at several New Jersey landfills, particularly from the construction waste generated by Superstorm Sandy. All of these pathways create the need to establish reporting thresholds for H_2S. The H_2S reference concentration of two $\mu g/m^3$ is a chronic health benchmark based on an annual exposure time.

184. COMMENT: Based on a review of H_2S regulation in other states that appear to have a similar industrial presence (for example, California, Delaware, New York, Rhode Island, Pennsylvania), it appears that no other state has a reporting threshold even remotely similar to the 90 lbs/year proposed by the Department. Based on the emission rates anticipated at wastewater facilities, it appears that virtually every wastewater facility above one MGD would exceed this reporting threshold for several wastewater components. This would trigger the need for either more control equipment; or more detailed air quality modeling – even though such facilities have no odor issues – verifying that the proposed regulatory program will grossly overpredict the incidence of circumstances where H_2S control is a realistic concern. (19)

RESPONSE: As noted in the notice of proposal Summary, 53 N.J.R. at 322, H_2S has become a contaminant of concern nationwide. Because H_2S has a strong offensive odor, which a person can detect at very low concentrations, the Department receives numerous H_2S odor complaints. Establishing an H_2S reporting threshold will, in addition to addressing the acute and chronic health effects of H_2S, assist in ensuring that the potential for odors beyond the property line is evaluated as part of the review of the air pollution control permit application.

The adopted permit reporting threshold for H_2S does not change wastewater treatment equipment permit applicability for minor sources pursuant to N.J.A.C. 7:27-8.2(c)15 and major sources under paragraph 14 of the definition of significant source at N.J.A.C. 7:27-22.1. Wastewater treatment equipment that are insignificant sources at major facilities (Subchapter 22) or equipment at minor facilities (Subchapter 8) that do not require a permit will not become significant sources and become subject to air permit requirements as a result of the new H_2S permit reporting threshold. Wastewater treatment equipment that is subject to permitting at minor air facilities with preconstruction permits are not affected.

For new or modified wastewater equipment permit applications at minor air facilities with a potential to emit H_2S above the 90 pounds per year reporting threshold, H_2S emissions will need to be included in the permit application, and a risk assessment will be required in accordance with Technical Manual 1003. An applicant may utilize the risk screening worksheet to determine if risk is negligible or if further evaluation is required. The risk screening worksheet includes two $\mu g/m^3$ as the long-term risk reference concentration for H_2S.

Sources not requiring a permit pursuant to N.J.A.C. 7:27-8.2(d)4 include aeration basins, lagoons, and settling basins at publicly owned treatment works or domestic treatment works. For major air facilities, wastewater treatment equipment that qualifies as an insignificant source is not included in the risk assessment. A major air facility with significant source wastewater treatment equipment in its Title V operating permit is required to report H_2S emissions above the new permit reporting threshold of 90 pounds per year with its next operating permit renewal application (for renewal applications for operating permits with an

expiration date that is at least three years after the effective date of the rules). Facility-wide risk assessment is required for all major air facility Title V operating permits and the Department evaluates the risk assessment at renewal. An owner or operator of new or modified wastewater equipment at a major air facility with the potential to emit H_2S above the 90 pounds per year reporting threshold must include H_2S emissions in its permit application, along with a risk assessment in accordance with Technical Manual 1003. As with minor facilities discussed above, an applicant may utilize the risk screening worksheet to determine if risk is negligible or further evaluation is required. The risk screening worksheet includes two $\mu g/m^3$ as the long-term risk reference concentration for H_2S.

185. COMMENT: If the Department adopts its proposed H_2S reporting threshold and associated annual reference concentration, these values would represent, by far, the lowest H_2S standards in the country and would be based on an outdated Federal guidance level. A review of air permit applicability thresholds for H_2S in other industrial states range from 0.5 tons per year to 10 tons per year, or 1,000 to 20,000 lb/yr in comparison with the proposed 90 lb/yr. A review of H_2S concentration levels in regulations of other industrial states shows that the lowest values are seven $\mu g/m^3$ (24-hour-average) for Pennsylvania (25 Pa. Code Section 131.3) and 10 $\mu g/m^3$ for Rhode Island (Section 250-RICR-120-05-22.9 - Table I). The Department's proposed H_2S Reference Concentration of two $\mu g/m^3$ would be the lowest ambient standard in the country. (33)

RESPONSE: The Department reviewed the summary of H_2S concentration levels used by other states in their respective regulations, which the commenter provided. The following states have an H_2S applicability threshold of 10 tons per year: Colorado (5 CCR 1001-5); Indiana (362 IAC 2-2-1); Massachusetts (310 CMR 7.54); Oklahoma (O.A.C. Section 252:100-8-31); and Washington (W.A.C. Section 173-400-030). Upon review, the Department determined that the regulations the commenter cites refer to H_2S applicability thresholds for the Federal New Source Review/Prevention of Significant Deterioration Regulations (PSD regulations). See 40 CFR 52.21. The Federal regulation at 40 CFR 52.21(b)(23)(i) defines "significant" to mean, in reference to a net emissions increase or the potential of a source to emit any of the listed pollutants, an H_2S emissions rate of 10 tons per year. The PSD regulations have been promulgated to maintain attainment with all criteria pollutant National Ambient Air Quality Standards (NAAQS). Therefore, the referenced 10 TPY threshold for the PSD program is not an appropriate comparison with the adopted H_2S reporting threshold, which is intended to address the off-site potential health risks in and around New Jersey facilities and is unrelated to the attainment of the NAAQS.

The Department also reviewed Indiana (326 IAC 2-6.1-6), which lists thresholds for permit revisions, and Washington (WAC 173-401-530(1)), which establishes insignificant source criteria. Neither of these regulations is related to the potential health impacts of H_2S.

Upon reviewing the Colorado rule (5 CCR 1001-50), the Department found that 5 CCR 1001-50 Appendices A and B list H_2S as a non-criteria reportable pollutant with a reporting

threshold of 250 pounds per year. This is of the same magnitude of the 90 lb/yr reporting threshold and is consistent with the Department's classification of H_2S as an NJHAP.

The Department did not propose to establish an ambient air quality standard for H_2S. Rather, the adopted rules establish a new permit reporting threshold for H_2S (pounds per year) based on the current Department long-term reference concentration for H_2S of two $\mu g/m^3$, as explained in the Response to Comments 179 through 183. The new permit reporting threshold will allow the Department to conduct health risk assessments when there is a potential for significant health risk due to H_2S exposure.

186. COMMENT: Facilities would be required to implement controls to meet a calculated two $\mu g/m^3$ H_2S concentration at the fence line, based on the Department's risk screening worksheet. The risk screening worksheet contains additional layers of conservatism in the calculated dispersion factor. The seven conservative assumptions are listed in Technical Manual 1003, Appendix C, page 25. They include subjecting all sources to "large amounts of building downwash" regardless of stack height; and selecting the highest result from the 36 wind directions modeled, not the result for the actual wind direction between the source and the property boundary receptor. These assumptions are not appropriate for an annual average pollutant exposure scenario. (33)

RESPONSE: As explained in Technical Manual 1003, facility owners/operators may conduct its own risk assessment or use the Department's risk screening worksheet prior to submitting an application. Department staff also use the risk screening worksheet for new and modified

equipment. If the worksheet indicates that the health risk for the application is negligible, no further investigation of the health risk is necessary. If the health risk is not negligible, the facility should evaluate changes that it can make to the source operation(s) to lower the risk level. If it cannot make changes to lower the risk to a negligible level, then it must conduct a refined risk assessment.

Technical Manual 1003, Appendix C, at page 25, under the heading "Conservatism in the Modeling of Air Impact Values and Risk Screening Worksheet," lists seven factors that the Department included when it developed the worksheet. These factors tend to result in a "worst-case" risk scenario. However, they also enable the worksheet to be used to screen out source operations that need not conduct a refined risk assessment. This has many benefits as the Department and regulated community do not have to expend resources on determining risk levels from sources whose air toxic emissions demonstrate negligible risk using the worksheet. The worksheet allows the Department to efficiently determine the risk levels for all significant source operations.

A facility need not rely on the worksheet to determine whether controls are needed. It may use a refined risk assessment in the first instance. A refined risk assessment evaluates the site-specific characteristics and uses the actual parameters of the seven factors, not "worst-case" assumptions (as the risk assessment worksheet uses). In most cases, this evaluation results in lower risk levels than the worksheet. The refined risk assessment provides a site-specific alternative in which a facility may determine whether controls are needed (or not) to meet a calculated two $\mu g/m^3$ H_2S concentration at the fence line.

The Department reviewed a sample of five wastewater treatment plant operating permits with a total 18 emission units to determine the health impacts of the H_2S allowable emission rates as predicted by the worksheet. Thirteen of the emission units had a hazard quotient of one or less. Four of the emission units had hazard quotients greater than one (7.5, 6.0, 6.0, and 2.7). The Department could not evaluate one of the emission units using the risk screening worksheet because of the unit's stack configuration. This review demonstrates the purpose of the worksheet, which is to provide a conservative risk level by only having to input permit data in an Excel spreadsheet. The remaining five emission units could undergo a refined risk assessment that would consider plume rise and unique site characteristics, which should result in a lower health impact level.

187. COMMENT: H_2S can be smelled before it becomes a health threat, so odor control regulations can be sufficiently health protective. The Department's Technical Manual 3001 (incorporated into Technical Manual 1002, Guidance on Preparing an Air Quality Modeling Protocol, Appendix C) establishes a short-term (one-hour-average) H_2S odor detection level of 11 µg/m^3. This is consistent with the range of odor detection levels reported in literature by the National Institutes of Health (NIH) of 0.008 ppm (11.3 µg/m^3) to 0.13 ppm (184 µg/m^3). https://www.ncbi.nlm.nih.gov/books/NBK208170/#:~:text=Hydrogen%20sulfide%20(H2S,may%20occur%20at%20100%20ppm. The odor detection level of 11 µg/m^3 is well below the health-based short-term (24-hour-average) reference concentration of 98 µg/m^3 used by the Department and below the latest Federal ATSDR health-based guideline concentration of 29

$\mu g/m^3$ (two weeks to a year). On a long-term exposure basis, the one-hour guideline ensures very low H_2S levels will exist beyond the publicly owned treatment works fence line (about a factor of 10 lower). Meeting this short-term value, whose exceedance may be caused by transient events, including weather anomalies, ensures compliance with a two microgram per cubic meter long-term health objective. Therefore, the new proposed health criteria are not necessary to protect public health. (33)

188. COMMENT: The Department is setting a dangerous precedent in creating NJHAPs, and is adding to the unjustified increase in public scrutiny and alarm related to a chemical that only has the potential to cause odor concerns (that is, not health-related impacts) at the typical ambient concentrations associated with solid waste facilities. (51)

RESPONSE TO COMMENTS 187 AND 188: H_2S cannot always be smelled before it becomes a health threat. According to the ATSDR, H_2S can be smelled at low levels, but with continuous low-level exposure or at higher concentrations, the ability to smell the gas is lost, even though the gas is still present. At high concentrations, a person may instantly lose the ability to smell the gas. As a result, a person might falsely think that H_2S is no longer present, which may increase the risk of exposure to air levels that may cause serious health effects. For these reasons, relying on odor complaints from citizens in order to protect them from H_2S emissions is problematic. This is especially important in overburdened communities where many facilities that emit H_2S are located (including, but not limited to, refineries, landfills, sewage treatment plants, and waste-related source operations).

While H_2S is not known to cause cancer in humans, it does have many chronic and acute non-cancer health impacts. At low concentrations, H_2S can cause irritation of eyes, nose, throat, or respiratory system. At moderate concentrations, H_2S causes more severe eye and respiratory effects, headache, dizziness, nausea, coughing, vomiting, and difficulty breathing. At high concentrations, H_2S causes shock, convulsions, difficulty breathing, coma, and even death. See the Response to Comments 179 through 183 regarding the short-term and long-term reference concentrations.

189. COMMENT: The Department proposes to establish H_2S as an NJHAP that "could pose a significant health risk." While the Department has provided background documentation regarding the methodologies it used to develop the proposed reporting and SOTA thresholds, the final data and calculations used by the Department to establish those thresholds for H_2S do not appear to be readily available. The wastewater treatment plant industry is dedicated to both the health and safety of its employees and surrounding communities, as well as implementation of odor controls. Based on industry experience, the proposed thresholds appear to be very low. Although H_2S has a low odor threshold, it is unclear how the thresholds correlate to significant health risks. The Department should form a stakeholder group, which will allow the industry to understand and evaluate the appropriateness of the proposed thresholds. (1 and 5)

RESPONSE: Currently H_2S is a 112(r) substance with an N.J.A.C. 7:27-8 reporting threshold of 0.05 lb/hr. However, CAA section 112(r) was developed to address the prevention of accidental

release of chemicals, and not the acute and chronic health impacts of air toxics from maximum air contaminant emissions allowed in Air Pollution Control Permits issued pursuant to N.J.A.C. 7:27-8 and 22. Promulgating reporting thresholds provides a mechanism for the Department to conduct health risk assessments when there is a potential for significant health risk. See the Response to Comments 179 through 183, concerning H_2S reference concentrations used with the risk screening worksheet and risk assessment. See the Response to Comments 176, 177, and 178, regarding the reporting threshold. See the Response to Comment 190, regarding the H_2S SOTA threshold, which has not changed with the adopted rules.

State-of-the-art (SOTA) threshold

190. COMMENT: No SOTA manual currently exists for landfills or for H_2S emissions from wastewater treatment plants. The Department should not attempt to establish a SOTA threshold as it proposed to do at N.J.A.C. 7:27-17, Table 3A, without providing industry with an opportunity to develop and agree to SOTA requirements (for example, a manual) through a dedicated stakeholder process. Emissions of H_2S are not a "choice" for the waste industry, but a reality of operations and service to the public. There is no need to regulate H_2S as a HAP in the first instance, and no such regulation can be established without first establishing a SOTA framework. (9 and 51)

RESPONSE: As explained in the Response to Comments 72 and 73, the Department may require SOTA for a source operation, even if it has not issued a corresponding technical manual for that source operation. If the Department has published a technical manual, then any application

that demonstrates compliance with that technical manual will be considered to meet SOTA control requirements for the source operations covered by the technical manual. N.J.S.A. 26:2C-9.2.c(4)(b). However, an applicant may propose "case-by-case" SOTA for a specific source operation, instead of relying on a technical manual. N.J.S.A. 26:2C-9.2.c(4)(c). If the Department decides to develop a SOTA manual, the Department will initiate a stakeholder process.

As explained in the Response to Comments 72 and 73, SOTA applies to equipment that is newly constructed, installed, reconstructed, or modified, and has a potential to emit a HAP greater than or equal to the threshold specified at N.J.A.C. 7:27-17.9(b), or that has a potential to emit any other air contaminant, other than CO_2, greater than or equal to five tons per year. See N.J.S.A. 26:2C-9.2c(1); N.J.A.C. 7:27-22.35. Hydrogen sulfide falls in the category of “other air contaminant,” to which the five tons per year (10,000 pounds per year) threshold applied prior to the adopted amendments. The adopted rules do not change the SOTA threshold of five tons per year for H_2S.

191. COMMENT: The Department should establish a stakeholder group before finalizing the proposed H_2S regulations. This would allow for more thorough consideration of potential SOTA controls for wastewater treatment plants. However, it is generally understood in the industry that there is, on both an economic and technical feasibility standpoint, an inability to construct stacks and control emissions at the various point sources at a typical wastewater treatment

plant. Further, significant limitations exist to reducing H_2S lower than current levels. The industry needs more time to evaluate the availability and feasibility of SOTA controls and the Department's proposed short timeframe for establishing compliance does not allow sufficient time for such an evaluation. (1 and 5)

RESPONSE: A SOTA analysis is required if an owner or operator submits a permit application for a proposed new or modified source with potential to emit air contaminant(s) greater than the applicable SOTA threshold. SOTA does not apply to existing sources; facilities with existing permits will not become subject to SOTA as a result of the adopted rules. As explained in the Response to Comment 190, the Department did not propose to change the H_2S SOTA threshold.

Legacy landfill law

192. COMMENT: Although a seemingly unjustified result of the Legacy Landfill Law, N.J.S.A. 13:1E-125.1 et seq., active landfills were recently required to meet a 30 ppb fence line ambient air H_2S concentration limit, along with corresponding monitoring and reporting requirements in their Title V Operating Permits. See existing N.J.A.C. 7:27-7.3. The Department's stated purpose in that rulemaking was to address H_2S emissions from operating, closed, and legacy landfills. The proposed rule to list H_2S as an NJHAP will unnecessarily further regulate H_2S for landfills and establish standards, when such standards were only recently established for the industry. Mechanisms are already in place to report, monitor for, and minimize H_2S emissions at landfills. Further regulation is burdensome and costly, and creates an environment where compliance may not be possible. (9 and 51)

RESPONSE: The Legacy Landfill Law, N.J.S.A. 13:1E-125.1 et seq., went into effect in 2013. This law established an H_2S emission standard of 30 ppb averaged over a 30-minute period, measured at the property line, for legacy landfills and closed sanitary landfill facilities. N.J.S.A. 13:1E-125.4. The Department promulgated rules to codify and implement provisions of the Legacy Landfill Law. See 48 N.J.R. 1526(a); 49 N.J.R. 2935(a). N.J.A.C. 7:27-7.3 codified the 30-minute average 30 ppb standard for H_2S emissions from certain landfills defined in the solid waste rules at N.J.A.C. 7:26-1.4 and 2A.9(b). As such, N.J.A.C. 7:27-7.3 applies only to specified landfill types. Moreover, because it applies a 30-minute average standard, the standard pertains only to the short term, or acute, health impacts of H_2S emissions.

The 90 lb/year reporting threshold for H_2S established at new N.J.A.C. 7:27-17, Table 3A, is distinct from N.J.A.C. 7:27-7.3, and is not unnecessarily restrictive. As explained in the notice of proposal Summary, the inhalation of H_2S causes both acute and chronic health impacts. 53 N.J.R. at 322. Chronic exposure to H_2S emissions can lead to damage to the nervous and respiratory systems. *Ibid*. The 90 lb/year reporting threshold for H_2S is based on the long-term reference concentration of two $\mu g/m^3$ (1.43 ppb) and will allow the Department to evaluate potential long term, or chronic, health impacts. In addition, all types of sources operations, in addition to landfills, that meet the reporting threshold must undergo this evaluation. If the risk assessment shows a negligible risk, no further analysis is required. If risk is non-negligible, then the facility must conduct a refined risk analysis, as explained in Technical Manual 1003. Any requirements necessary to reduce risk would be incorporated into the permit's compliance

plan. The Department does not consider this assessment of risk to public health to be duplicative or unnecessary.

Cost estimates and economic impact

193. COMMENT: The proposed amendments that would classify H_2S as an NJHAP would have severe impacts on wastewater treatment authorities and utilities and their ratepayers throughout the State. The Department stated that H_2S is primarily emitted from landfills and municipal sewage treatment plants, which are not small businesses. However, the facilities targeted service numerous small businesses that will be impacted by any raise in rates resulting from costs to comply with the rules, which are unnecessary. The proposed rules would require the expenditure of billions of dollars for emission modeling, covering of process tanks, the installation of scrubbers or carbon columns, and operation and maintenance costs associated with operation of the control technology. In addition, there would be severe impacts on the ability of an operation's staff to operate and maintain the process tanks that would be covered. Operators depend on their ability to visually observe the contents of the process tanks and must operate and maintain the equipment in those tanks. Covering the tanks would pose an impediment to maintenance of equipment and in many cases would require entry and the performance of work in confined spaces.

The new rules requiring the targeted facilities to expend substantial capital to quantify emissions of H_2S, as well as perform air dispersion modeling and assess impacts for H_2S, in the absence of any clear public health issues warranting the rules would most likely result in negative economic impacts to the public in the way of higher service fees. The proposed rules

regulating H_2S emissions will provide no net economic benefit, contrary to the Department's statement in the rule proposal, and could, in fact, produce a net negative economic impact.

In publicly owned treatment works, fugitive H_2S emissions can be emitted from numerous wastewater treatment operations at multiple operations and the cost of identifying and quantifying emissions of H_2S can be substantial. The facility has no control regarding the amount and concentration of H_2S that is brought to the plant in the wastewater and the subsequent emissions can vary. The options offered by the Department to enable a facility to reduce H_2S emissions below the threshold, such as reducing/restricting operating hours, increasing stack height, and increasing stack discharge velocity, are inapplicable to the sources targeted by the H_2S regulation. Publicly owned treatment works, landfills, and chemical plants operate 24 hours a day, seven days a week. A publicly owned treatment work cannot stop the flow of wastewater to the plant, so the plant cannot reduce or restrict operating hours to reduce potential health risks. Also, H_2S emissions from these facilities are primarily fugitive, so adjustments to stack heights and exit velocities are not applicable. The Department should provide the analyses conducted that shows no or minimal cost would be incurred in determining whether any of these substances is emitted above the reporting threshold.

The Department stated that the cost of control for 1-BP or H_2S by removing it prior to discharge using activated carbon can range from $5,000 to $10,000 per ton controlled (that is, removed), which is comparable to the cost to control VOCs and NOx emissions. The estimates provided appear to be more related to control of a point source of emissions rather than multiple fugitive source emissions. True costs of implementing a carbon adsorption system that

includes collection of emissions from multiple fugitive source locations throughout a publicly owned treatment work are likely to be significantly higher.

The Department also estimated that a risk assessment conducted by a consultant may cost in the range of $5,000 to $100,000, depending on the type of facility, the number of sources, and the NJHAP that needs to be evaluated. However, costs could exceed two or three times the upper range when factoring in the cost to develop a reasonable estimate of annual emissions, the number of individual fugitive source points, and the buffer from the property boundary. The Department should provide the supporting data (names and locations of sources) for its cost values, including source and industry specific analysis utilized by the Department to determine the stated cost of control and the Department's in-depth SOTA analysis validating the costs provided in the proposed rulemaking. (20)

194. COMMENT: In terms of regulatory language, the H_2S provisions are a small part of the proposed rules. However, the impacts of the proposed H_2S regulations likely have the highest potential cost to implement, which will be passed on to New Jersey residents and ratepayers. Sewerage authorities are funded with public funds, primarily from collection of discharge fees from ratepayers. The potential cost to wastewater treatment plants, which must be passed on to ratepayers, is not proportional to the potential health, safety, and environmental impact improvements. Ratepayers in overburdened communities will likely be financially impacted disproportionally compared to other communities.

The Department is not correct that "a facility will incur no, or minimal, cost in determining whether any of these substances is emitted above its proposed reporting

threshold." 53 N.J.R. at 328. New Jersey-specific H_2S concentration data are limited. Cost factors associated with an initial applicability analysis alone will include administrative costs, lost work hours, and costs for environmental consultants. Further significant costs will be incurred for those facilities required to complete SOTA evaluations and install control equipment. This will add additional financial burden to already overly burdened facilities relying upon publicly funded budgets.

There are also potentially significant impacts to ancillary equipment and processes that were likely not considered by the Department. These include potential impacts on pumping stations, force main discharge locations, and trunk sewers, which are not typically permitted facilities. As such, the proposed regulations will be unduly burdensome to the upstream and downstream ancillary operations. (1 and 5)

195. COMMENT: The impact of the proposed rules, if adopted, would be incredibly far reaching. The rules as proposed would have a significant impact on any plant that is greater than one million gallons per day (MGD). At least 55 facilities would be directly impacted. Any plant that is over that one MGD threshold would have H_2S emissions that would be expected to trigger detailed and costly assessments in order to comply with the NJHAP requirements of H_2S. These facilities do not, in general, have odor complaints, and, if they do, they are transient. Such real world, operations records verify that the proposed rule is unnecessary. Dispersion modeling done as a result of applying the reporting threshold for HAPs would likely result in the need to place domes to capture and treat emissions from such sources. The resulting cost, for landfills alone, would easily be in the hundreds of millions of dollars. Treatment plants have potentially

many sources of H_2S that would be impacted. Capital costs for H_2S removal for each process can be up to $500,000. Such costs are not reasonable where there is no actual record of significant public health impacts associated with the operations. Moreover, compliance has implications for operations and maintenance, worker safety, increased corrosion inside tanks and other closed facilities, and the ability to monitor the overall treatment process.

While the proposed rules will have a significant economic and regulatory impact on facilities throughout the State, the Department did not conduct any meaningful economic impact analysis or regulatory impact assessment on this proposal. The Department was unable to estimate how many sources might be affected or what emission reductions might be achieved. Such an impact analysis is required by State law for adopting new rules. EO No. 63 also states that progressive regulation should be based on a reasonable determination that the costs are worth the benefits and therefore is in place to help counter ill-considered regulations. If the Department were to have conducted a cost/regulatory impact analysis, it would be clear that the proposed H_2S reporting threshold and reference concentration would result in excessive economic expenditures that would not provide any further public health benefit beyond the existing odor control requirements. These costs would cause unnecessary resource expenditures that will take away from other more important investments in public health and safety. (19)

196. COMMENT: The proposed rules include an unrealistically low H_2S emission threshold that will have a significant negative impact on wastewater agencies by diverting scarce financial resources away from more pressing environmental issues. The proposed regulation of H_2S may

impact pump stations, force main discharge points, and trunk sewers that are part of municipal sanitary collection systems. These systems are typically not permitted facilities but may be required to comply with the proposed rules. Depending on size, wastewater treatment plants could incur millions to hundreds of millions of dollars in additional compliance costs. Communities and ratepayers already face increased sewer rates to fund system improvements to solve more pressing environmental issues. The proposed H_2S regulation of wastewater treatment plants does not appear to offer a meaningful environmental return on investment and is a distraction. Off-site H_2S issues are usually more of an aesthetics issue. On-site worker exposure to H_2S is mitigated by OSHA safety protocols. (2 and 23)

197. COMMENT: The proposed SOTA requirement for mobile tanks, channels, and other facilities at wastewater treatment plants is premature, considering the lack of data, limited standards, and extreme variability in potential H_2S emissions at each plant. Each municipality's collection system is different, with varying H_2S emissions generated and released. Every gallon of raw wastewater received must go through four grip chambers, six primary settling tanks, four oxidation tanks, 16 final clarifiers, and multiple open channels before reaching final fall. Under the proposed rules, each one of these units will need to be monitored and potentially covered, which could significantly impact the ability to effectively perform the public purpose served by wastewater collection and treatment. The emissions from all of these sources would need to be collected and treated prior to discharge to the atmosphere, at an exorbitant cost which would be passed to ratepayers. Additionally, covering the tanks to address H_2S emissions

would be detrimental to operational and maintenance requirements. The Department should consider not just the need for the rules but also the costs. (11)

198. COMMENT: The Department has not conducted a meaningful cost impact analysis for the proposed rules, as required by State law. The proposed low 90-lb/yr reporting threshold would misdirect resources, because H_2S is already regulated for odor control at a threshold that is protective of public health. The Department should evaluate the true cost impact before any further consideration of the proposed H_2S rules.

Promulgating overly stringent requirements for H_2S would likely require costly treatment plant upgrades and unfairly burden ratepayers, many of whom are residents of environmental justice communities. These same ratepayers in our sewer district have seen unemployment rates increase up to eight percent over the past year due to the pandemic. Additionally, some of these same communities are facing $1.8 billion in capital costs over the next 30-40 years to address combined sewer overflows (CSOs) as part of their Long-Term Control Plans. CSOs to public water ways are a health concern. These additional H_2S control costs would provide no public health benefit beyond the benefit provided by the existing odor control rules. The additional cost for H_2S control could displace funding for higher priority health concerns, such as CSO reduction. (33)

199. COMMENT: The technology to treat H_2S is one of the many elements that make up an effective emissions control system. To operate effectively, H_2S emissions must be captured and contained at the source, conveyed to the technology, and released to a well-designed positioned exhaust stack. The many elements of an effective system are simply covering and

containing, protecting the covered surfaces with coating, conveying that to the technology, treating through technology and discharge, and discharging through an optimized exhaust stack. The proposed rules do not appear to recognize the design implications of the many elements of an effective emissions control system and the required capital and operating costs, which are in the millions. Utilities have limited resources and will be substantially economically impacted to comply with the rules, when they have other needs, such as replacing aging equipment and infrastructure to keep their plants operating. These capital costs are only part of the financial burden. There are also annual operating costs. Other challenges include worker access issues, worker health and safety, longer staff time, increased staffing needs, and increased electricity, energy, water use, chemical use, consumables, and waste products. The Department has not included any supporting cost benefit evidence that compares the capital and operating costs for H_2S control to medical costs related to H_2S emissions. (41)

200. COMMENT: The proposed amendments will impact companies, such as refineries and chemical plants, that have already committed to invest in extensive measures to protect their workers and neighbors from H_2S exposure. There will be no public health or environmental benefits from further regulating H_2S. These impacts were not addressed at the January 2019 stakeholder meeting and should have been considered in the proposed rulemaking. (6, 15, 25, and 45)

201. COMMENT: The proposed rule seeking to list H_2S as an NJHAP and impose ultra-conservative limits will result in a negative financial impact on the budget of wastewater treatment entities. An entity that has multiple remote facilities would need, at a minimum,

public health air modeling, and, most likely, costly capital improvements. The cost would impact user rates, with little to no apparent public health benefits. The cost to comply with the H_2S rule would cripple the entity's ability to continue to fund projects to address other more pressing environmental/public health concerns, such as the treatment of forever chemicals, reducing carbon footprint, and general overall asset management without excessive rate increases. (32)

202. COMMENT: The Department's proposed H_2S reporting threshold of 90 lb/yr could potentially affect, at a minimum, existing headworks, primary wastewater settling tanks, secondary clarifiers, and sludge treatment facilities. The sludge treatment facilities already have odor control equipment. However, even after controls, it appears that H_2S emission rates could exceed the 90-lb/yr threshold. A facility that is a major air facility would be required to perform risk screening for all of its existing equipment at the next permit renewal. Equipment that does not pass the conservative risk screening spreadsheet analysis would be required to have refined dispersion modeling, and addition of enclosures, ventilation, stacks, and air pollution control equipment until the modeling demonstrates that the low ambient concentration of two $\mu g/m^3$ can be met at the property boundary. According to a preliminary analysis, the capital cost for one major sewerage authority in the State to meet this standard would be in the range of about $245 million. (33)

RESPONSE TO COMMENTS 193 THROUGH 202: The APA and its implementing rules require the Department to conduct a socioeconomic impact analysis that "describes the expected social impact of the proposed rulemaking on the public, particularly on any segments of the public

proposed to be regulated, and including any proposed or expected differential impact on different segments of the public" and "describes the expected costs, revenues, and other economic impact upon governmental bodies of the State, and particularly any segments of the public proposed to be regulated." N.J.A.C. 1:30-5.1(c); N.J.S.A. 52:14B-4. The APA and its implementing rules do not require an in-depth SOTA analysis. The purpose of the socioeconomic impact is to provide interested parties with notice of the impacts that the agency anticipates from the rulemaking, in order that the parties may participate meaningfully in the rulemaking process. Actual costs are difficult to predict because they will vary from facility to facility, based on numerous variables.

The Department's statement that it anticipates that a facility will incur no, or minimal, cost in determining whether any NJHAP is emitted above its proposed reporting threshold is based on several factors. First, as explained in the Response to Comment 184, the Department has not amended the permit applicability provisions for H_2S, or the classification of significant source operations pursuant to N.J.A.C. 7:27-8 for preconstruction permit applications and N.J.A.C. 7:27-22 for operating permit applications. A significant source operation must list its H_2S emissions, as necessary. Second, existing rules require certain sources to include H_2S emissions in their permit applications. N.J.A.C. 7:27-8.4(k) requires a facility to list H_2S on its permit application if the facility's emissions will exceed an applicable reporting threshold. N.J.A.C. 7:27-8.4(k)2 requires a facility to list in its application each air contaminant that the facility will emit that may cause nuisance odors.

As a result, even with the new H_2S reporting threshold of 90 lb/yr, no additional H_2S emission calculations are expected to be necessary. However, the new H_2S reporting threshold of 90 lb/yr may result in a facility having to conduct an additional health risk assessment. The Department explained the potential costs in the Economic Impact statement. 53 N.J.R. at 328-329.

Technical review of air permit applications includes risk assessment air modeling to evaluate risk and to review what measures can be implemented to reduce the risk, if necessary. As outlined in Technical Manual 1003, the risk screening worksheet is available for regulated entities to use to determine the potential health risks from H_2S emissions. The only information that an applicant must enter on the risk screening worksheet is the H_2S hourly and annual emission rates, stack height, and stack distance to the property line. If the risk screening worksheet shows a negligible risk, no further risk analysis is necessary. If the risk screening worksheet shows a non-negligible risk and this risk cannot be lowered or if the type of source operation is incompatible with the risk screening worksheet, the facility must conduct a refined risk assessment as part of its application. The refined risk assessment can cost between $5,000 to $100,000, depending on the facility type, number of sources, and other factors. See 53 N.J.R. at 328-329.

If the risk assessment shows a non-negligible risk, the source owner or operator must reduce risk, or prepare and implement a plan to reduce risk to negligible levels. The owner or operator should evaluate reduction measures, including the feasibility and costs of each reduction measure. See the Response to Comment 186 for an explanation of the risk

assessment procedure. An owner or operator may choose to install air pollution control equipment. If a facility proposes to install domes to capture and treat emissions from sources, then the Department would need to evaluate this risk reduction measure during the technical review of the permit application. However, the adopted rules do not require the installation of controls. Whether controls are needed depends on the assessed risk from the source and whether other risk-reduction methods are feasible. An owner or operator may minimize health impacts through other measures. These include: 1) limiting the annual permitted throughput, which does not have to be based on the maximum hourly processing rate and take into consideration seasonal variations; 2) reducing fugitive emission discharge points which will lower the off-site air contaminant concentrations; and 3) increasing the throughput and usage of source operations further away from the property line. Such measures will reduce off-site air contaminant concentrations, thereby reducing health risk levels.

As outlined in Section 3.0 of Technical Manual 1003, if the outcome of a refined risk assessment is not negligible, the Department's Division of Air Quality Permitting will forward the permit application and air quality dispersion modeling results to the Department's Risk Management Committee. The Risk Management Committee will then evaluate the application and related materials to identify risk reduction strategies that may facilitate permit approval. The Risk Management Committee may consider, among other factors, the overall impact of the emissions on the sensitive receptor population; the uncertainties associated with the health risk; the facility's compliance history and previous compliance efforts; new and pending regulations; and an analysis of the cost of any mitigating measures that the facility proposes.

The Department has not amended the SOTA threshold for H_2S emissions. Not every facility must conduct a SOTA analysis and install SOTA controls. See Response to Comment 190 regarding the SOTA requirement and the applicability of SOTA. In addition, see the Response to Comment 184 concerning insignificant and exempt sources not requiring risk assessment. In the Response to Comment 186, the Department also provided preliminary refined risk assessment results done for some major sources that are subject to an operating permit.

The Department reviewed the list of treatment plants greater than one MGD provided by the commenter and determined that 11 are major air facilities subject to operating permits and would be required to report H_2S emissions above the new permit reporting threshold with the next operating permit renewal application (for renewal applications for operating permits with an expiration date that is at least three years after the effective date of the rules). The remaining 44 treatment plants appear to be minor air facilities and would be required to include H_2S if their potential to emit H_2S is above the reporting threshold for new or modified equipment permit applications.

A publicly owned treatment works cannot determine the exact amount of H_2S that it can generate on any given day. However, publicly owned treatment works' sources and their discharge rates tend to be highly predictable over time, which leads to a consistent, homogeneous flow into the publicly owned treatment works. Thus, a facility can calculate the maximum H_2S emission rates.

The Emission Statement program applies to major facilities and minor facilities with a facility-wide volatile organic compound potential-to-emit that is greater than or equal to 10

tons/year. Therefore, the annual emission statements provide an incomplete picture of H_2S emissions in the State.

Implementation

203. COMMENT: Although it was widely reported that the Department was developing new fumigation regulations, the addition of the provisions that affect wastewater treatment plants and municipal solid waste (MSW) landfills came as a surprise to those in the industry. This will likely result in unintended consequences imposed to already overly burdened facilities and the communities supporting them. The proposed regulations, as written, impose a very short timeframe for demonstrating compliance and will not allow affected facilities enough time to perform emissions modeling and gather other data needed to determine their H_2S emissions and applicability. (1 and 5)

204. COMMENT: Additional time is needed to conduct sampling, evaluate results, and determine whether additional odor control technologies will be required. Additional time is also needed to allocate the necessary funds. (10)

RESPONSE TO COMMENTS 203 AND 204: As explained in the Response to Comments 184 and 190, the reporting and SOTA thresholds for H_2S do not require existing facilities to take immediate action. A SOTA analysis is required for new or modified sources only. For major facilities with a Title V operating permit, the risk assessment will be done during permit renewal. The Department has not changed the SOTA threshold for H_2S. Moreover, the reporting threshold does not change permit applicability thresholds. As explained in the

Economic Impact statement, 53 N.J.R. at 329, the delayed implementation of the SOTA and reporting thresholds may minimize or eliminate compliance costs. A source with a permit that expires within three years after the operative date of the rules is not subject to the proposed new NJHAP reporting thresholds until the permit is renewed or modified, which allows facilities to evaluate their existing source operations and gives facilities time to make any necessary modifications to reduce health risks to negligible levels. *Ibid*.

Emission Statements

205. COMMENT: It is hard to over-estimate the importance of knowing the actual air emissions of the most toxic and prevalent of the TXS. The additional information gathered under the expanded Emission Statement requirements will improve the National Air Toxics Assessment which relies on State-provided emission inventories to a large extent. This national tool is more useful to New Jersey when it is based, as much as possible, on local source-specific inputs. (26)

RESPONSE: The Department acknowledges the commenter's support for the adopted rules.

Facility-Wide Permit and Pollution Prevention

206. COMMENT: Facility-wide permits, Pollution Prevention Assessments, and Pollution Prevention Plans are critical components of New Jersey's implementation of the CAA, 42 U.S.C. §§ 7401 et seq., and important tools for reducing pollution in environmental justice communities because they limit air pollution from existing facilities. Facility-wide permits are important because they look at overall emissions, not just sources coming from smokestacks.

These permits include the secondary impacts of pollution, including fugitive emissions. There are more than 25,000 different types of facilities that are covered by the facility-wide permit. Eliminating the Facility-Wide Permit Program will open the door for harmful and damaging projects to move forward in New Jersey. The Department needs to keep this program because facility-wide permitting allows the State to look at all different sources of emissions, including fugitive emissions, flaring emissions, truck emissions transporting materials to and from the site, and each different source of pollution combined, rather than individually. Looking at cumulative impacts and fugitive emissions is important for determining a facility's true impact on the environment and nearby communities. Repealing the Facility-Wide Permit Program undermines clean air and the ability to deal with all of the different air pollutants coming from a facility. The Department should strengthen, not eliminate, this program. Similarly, repealing of Pollution Prevent Plans and Assessments, which require companies to look at how they can reduce pollution every five years, would remove an important program that could be used to reduce pollution, especially for communities that are overly burdened by pollution. Instead of being eliminated, they need to be expanded and strengthened to help protect overburdened communities. These are important tools for addressing legacy pollution in overburdened communities. (50)

RESPONSE: As the Department explained in the notice of proposal Summary, the Facility-Wide Permit Program was a pilot program that the Department conducted as directed by the New Jersey Pollution Prevention Act of 1991 (Pollution Prevention Act), N.J.S.A. 13:1D-35 et seq. 53 N.J.R. at 325. The Pollution Prevention Act directed the Department to designate "not fewer

than 10 but not more than 15 individual priority industrial facilities to each receive a facility-wide permit ..." N.J.S.A. 13:1D-48.

Under the program, the Department issued multi-media permits that combined individual air, water, and hazardous waste permitting requirements into a single document. *Ibid*. The Department amended its air pollution control rules to conform to the program while it was in effect. *Ibid*. However, by 2006, all facility-wide permits issued to Title V sources had been converted to operating permits under the Title V program and the Department ended the Facility-Wide Permit Program. *Ibid*. The Department, therefore, removed the references to the Facility-Wide Permit Program. The Department also removed references to pollution prevention plans in the air pollution control rules because the plans pertained to facilities that were part of the Facility-Wide Permit Program. The Department did not, in this rulemaking, propose changes to the Pollution Prevention Rules at N.J.A.C. 7:1K.

Although the pilot program ended, the Department incorporated into its air pollution control program various recommendations made in the Department's report mandated by the Pollution Prevention Act, N.J.S.A. 13:1D-48. See the Facility-Wide Permit Pilot Program (2007), New Jersey Department of Environmental Protection, Office of Pollution Prevention and Right to Know, available at https://www.nj.gov/dep/enforcement/opppc/reports/fwpreport.pdf. These recommendations included regular facility-wide risk assessments for hazardous substances, coordination among programs, and no "grandfathering" of sources. For all major sources, all applicable sources are now permitted and evaluated for rule applicability, regardless of when the equipment was installed.

Summary of Agency-Initiated Changes:

N.J.A.C. 7:27-8.2 and 22.1

Because fumigation operations are intended to be covered separately at N.J.A.C. 7:27-8.2(c)22 and paragraph 21 of the definition of "significant source operation" at N.J.A.C. 7:27-22.1, the Department is not adopting the reference to Group III TXS at proposed N.J.A.C. 7:27-8.2(c)2 and at proposed amended paragraph 16 of "significant source operation" at N.J.A.C. 7:27-22.1. The Department is also making conforming modifications at N.J.A.C. 7:27-8.2(g) to delete the references to N.J.A.C. 7:27-22.36 (c)2 and 19, to delete the references to paragraphs 6 and 16 or the definition of "significant source operation" at N.J.A.C. 7:27-22.1, and at N.J.A.C. 7:27-17.10 to delete the references to N.J.A.C. 7:27-8.2(c)2 and 19 and to N.J.A.C. 7:27-22.1, paragraphs 6 and 16.

N.J.A.C. 7:27-17.3, Storage, Transfer, and Use of Toxic Substances

N.J.A.C. 7:27-17.3, Table 1, includes fumigants as Group III TXS. Because the discharge of fumigants is addressed at N.J.A.C. 7:27-17.10, the Department is modifying N.J.A.C. 7:27-17.3 upon adoption to refer to Group I or II TXS, rather than to any TXS.

The Department is also modifying the heading of the Group III TXS to refer to "fumigants" rather than "fumigants, including but not limited to" the listed fumigants (methyl bromide, sulfuryl fluoride, and phosphine). This change does not affect the permit

requirements for fumigation operations, but only limits the Group III TXS to those specifically listed.

N.J.A.C. 7:27-17.10, Discharge of fumigants

N.J.A.C. 7:27-17.10 provides that no person shall cause, suffer, allow, or permit the emission of a fumigant from any source operation into the outdoor atmosphere, unless a risk assessment has been performed and meets the permit criteria. The Department included a reference to N.J.A.C. 7:27-8.5. The Department is modifying N.J.A.C. 7:27-17.10 upon adoption to add a reference to N.J.A.C. 7:27-22.8, which was inadvertently omitted. The Department is also modifying N.J.A.C. 7:27-17.10 upon adoption to refer to the criteria of paragraph 21 of the definition of "significant source operation" at N.J.A.C. 7:27-22.1, rather than to "significant source operation" at N.J.A.C. 7:27-22.1, paragraph 21.

The Department is also deleting, at N.J.A.C. 7:27-17.10(b), the reference to (a)2 when referring to the required risk assessment. The Department is making this change because the Department is not adopting the stack requirement. Therefore, N.J.A.C. 7:27-17.10(a) no longer has paragraphs (a)1 and 2.

N.J.A.C. 7:27-21.3, General provisions

Because the rules will not be operative until 2022, the Department is modifying N.J.A.C. 7:27-21.3(b)1ii and (b)2ii, which refer to the toxic air pollutants listed at N.J.A.C. 7:27-21 Appendix 1, Table 1, to include reporting year 2021. The Department is modifying N.J.A.C. 7:27-21.3(b)1iii and (b)2iii, which include the additional toxic air pollutants to be reported in emission statements, to start with reporting year 2022.

As explained in the notice of proposal Summary, the Department amended various provisions of the emission statement rules "to make more clear which toxic air pollutants are to be reported at only the facility level, and which are to be reported at the source level, as well as the facility level." 53 N.J.R. at 324. The Department is modifying N.J.A.C. 7:27-21.3(b)1 to clarify that each of the three air contaminants specified (VOC, NO_X, and CO) are to be reported at both the source and facility level. For further clarity and to simplify the text, the Department is deleting the unnecessary reference to Table 1 when referring to those three air contaminants.

N.J.A.C. 7:27A-3.10, Civil Administrative Penalties

The Department proposed separate penalties for the vertical stack, proposed N.J.A.C. 7:27-10(a)1, and risk assessment requirements, proposed N.J.A.C. 7:27-17.10(a)2. 53 N.J.R. at 349. Because the Department is not adopting the vertical stack requirement, the Department is not adopting the associated penalty. The Department is modifying the citation for the penalty of proposed N.J.A.C. 7:27-17.10(a)2 to refer to N.J.A.C. 7:27-10(a).

Federal Standards Statement

Executive Order (EO) 27 (1994) and N.J.S.A. 52:14B-1 et seq. (P.L. 1995, c. 65) require State agencies that adopt, readopt, or amend State rules that exceed any Federal standards or requirements to include in the rulemaking document a Federal standards analysis. The Department is adopting amendments and new rules for which there are no comparable Federal standards or requirements. The three components of this rulemaking - permitting

requirements for fumigation operations and regulation of fumigants (fumigation), State-specific regulation of New Jersey Hazardous Air Pollutants (NJHAPs), and additional toxic air pollutants to be reported on emission statements (emission statements) - are discussed below.

Fumigation

The application of pesticides in fumigation operations is regulated by Federal standards and requirements. However, there are no Federal standards and requirements addressing the emission of air contaminants to the ambient air as addressed by the amendments and new rules. There are also no comparable Federal standards or requirements addressed by amended N.J.A.C. 7:27-17.

New Jersey Hazardous Air Pollutants (NJHAPs)

The amendments establish reporting and SOTA thresholds for two air contaminants of concern to New Jersey (H_2S and sulfuryl fluoride) that are not yet regulated by the EPA. There are no comparable Federal standards or requirements.

1-Bromopropane

The amendments establish reporting and SOTA thresholds for 1-BP, which EPA added to the CAA HAP list on January 5, 2022, effective February 4, 2022. See 87 Fed. Reg. 393. The EPA does not establish reporting or SOTA thresholds, so there are no comparable Federal standards or requirements.

Emission Statements

The Department has determined that at present there are no analogous Federal regulatory requirements to the amendments to include 13 toxic air pollutants in the Emission Statement rules. The Department is adopting amendments based on its determination that the reporting of emissions of these 13 additional toxic air pollutants is necessary to enable the Department to have sufficient information to determine if the health, safety, and welfare of New Jersey citizens is sufficiently protected; to develop well-targeted and cost-effective regulatory programs; and to track progress toward meeting environmental goals. A more detailed discussion of the reasons for these additional reporting requirements is provided in the Social and Environmental Impact statements in the notice of proposal.

Full text of the adoption follows (additions to proposal indicated in boldface with asterisks ***thus***; deletions from proposal indicated in brackets with asterisks *[thus]*):

CHAPTER 27

AIR POLLUTION CONTROL

SUBCHAPTER 8. PERMITS AND CERTIFICATES FOR MINOR FACILITIES (AND MAJOR FACILITIES WITHOUT AN OPERATING PERMIT)

7:27-8.1 Definitions

The following words and terms, when used in this subchapter, [shall] have the following meanings, unless the context clearly indicates otherwise.

...

"Fumigant" means *[a chemical registered with the EPA as]* a pesticide ***registered with the EPA*** under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) ***that is a vapor or gas, or forms a vapor or gas upon application, and whose pesticidal action is through the vapor or gaseous state***.

"Fumigation" or "fumigation operation" means the *[action of introducing]* ***use of*** a fumigant in *[the gaseous state]* ***a sealed, enclosed space*** to prevent, control, or eliminate *[a targeted]*pest***s in stored or in-transit commodities by treating the commodity or commodity storage or transport space***.

...

"Industrial structure" means *[a structure or equipment]* ***an enclosed space***, including a *[building,]* warehouse, container, bin, silo, *[room,]* ***trailer**, **storage facility,*** commodity pallet, ***any type of fumigation chamber, such as under a tarpaulin,*** or manufacturing or processing equipment, in which fumigation occurs as a significant source operation. "Industrial structure" does not include a private residence or commercial office ***or commercial building*** in which fumigation occurs.

...

7:27-8.2 Applicability

(a) - (b) (No change.)

(c) (No change from proposal.)

1. (No change.)

2. Any source operation or equipment that has the potential to emit any Group I*[,]* ***or*** II*[, or III]* TXS, (or any combination thereof) at a rate greater than 0.1 pounds per hour (45.4 grams per hour);

3. - 22. (No change from proposal.)

(d) - (f) (No change from proposal.)

(g) A fumigation operation that would be classified as a significant source solely because it meets the criteria at (c)*[2, 19, or]* 22 above is not a significant source (and, therefore, does not need a permit and certificate) if the operation is an emergency fumigation operation and there has been no other fumigation operation by the facility or source owner or operator within the preceding five years, including an emergency fumigation operation meeting the requirements of this section or N.J.A.C. 7:27-22.36. A fumigation operation that was performed before *[(the operative date of this amendment)]* ***June 3, 2022,*** will not disqualify a subsequent emergency fumigation operation from the use of this section. The following requirements apply to emergency fumigation operations meeting the above criteria:

1. - 3. (No change from proposal.)

4. The emergency fumigation operation must include a stack that extends above the highest point of the container/roofline *[to a height above the ground]* and exhausts vertically to remove the fumigant;

5. - 6. (No change from proposal.)

(h) - (j) (No change from proposal.)

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7:27-8.4 How to apply, register, submit a notice, or renew

(a) - (q) (No change from proposal.)

(r) *[(Reserved)]* ***An owner or operator of a fumigation operation of a commodity or industrial structure that exceeds the permit applicability threshold at N.J.A.C. 7:27-8.2(c)22 as of June 3, 2022, shall submit an application for a preconstruction permit and operating certificate or a preconstruction permit and operating certificate revision no later than February 3, 2023.***

(s) (No change from proposal.)

SUBCHAPTER 17. CONTROL AND PROHIBITION OF AIR POLLUTION BY TOXIC SUBSTANCES AND HAZARDOUS AIR POLLUTANTS

7:27-17.1 Definitions

The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise.

...

"Fumigant" means *[a chemical registered with the EPA as]* a pesticide ***registered with the EPA*** under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) ***that is a vapor or gas, or forms a vapor or gas upon application, and whose pesticidal action is through the vapor or gaseous state***.

...

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7:27-17.3 Storage, transfer, and use of toxic substances

(a) No person shall cause, suffer, allow**,** or permit any ***Group I or II*** TXS to be emitted into the outdoor atmosphere from any source operation, unless such equipment and operation is registered with the Department no later than six months after the effective date of the inclusion of the TXS in this subchapter. Such registration shall include information relating to vessel sizes, transfer rates, emission rates, operating procedures, and other information required by the Department and shall be made on forms provided by the Department.

(b) - (f) (No change from proposal.)

TABLE 1

TOXIC SUBSTANCES

GROUP I-II (No change from proposal.)

GROUP III

Name	**CAS Number**
Fumigants *[, including, but not limited to:]*	
Methyl bromide	74839
Sulfuryl fluoride	2699798
Phosphine	7803512

TABLE 2

NEW JERSEY HAZARDOUS AIR POLLUTANTS (NJHAPs)

Name	**CAS Number**

[1-Bromopropane 106945]

…

7:27-17.5 Operating instructions

(a) (No change.)

(b) Any person subject to the provisions *[of]* ***at*** (a) above shall maintain a training program to ensure that all personnel associated with the use or operation of the open top tank or surface cleaner understand and follow the specified procedure.

(c) - (d)(No change.)

(e) Any person subject to the provisions of this section shall notify the Department in writing within five days of any revision or alteration of a procedure approved pursuant to the provisions *[of]* ***at*** (d) above. Such written notification shall include a detailed description of the changes in the procedure and the reasons therefor. Such amended procedure shall be subject to review and approval by the Department.

TABLE 3A

Reporting and SOTA Thresholds (HAPs and NJHAPs that are not TXS)[6]

(Potential to emit)

CAS Number	Air Contaminant	Reporting Threshold (lbs/yr)	SOTA Threshold (lbs/yr)

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...

106945	1-Bromopropane*[[5]]*	2,000[3]	10,000[3]

…

[1-2] (No change.)

[3] This threshold is operative on and after *[(60 days after publication of the adopted amendments)]* ***June 3, 2022***.

[4-6] (No change from proposal.)

TABLE 3B

Reporting and SOTA Thresholds (HAPs and NJHAPs that are TXS)[3]

(Potential to emit)

CAS Number	**Air Contaminant**	**Reporting Threshold (lb/hr)**	**Reporting Threshold (lbs/yr)**	**SOTA Threshold (lbs/yr)**

...

[1] This threshold is operative on and after *[(60 days after publication of the adopted amendments)]* ***June 3, 2022***.

[2-3] (No change from proposal.)

7:27-17.10 Discharge of fumigants

(a) For a source operation that exceeds the permit applicability threshold*[s]* at N.J.A.C. 7:27-8.2(c)*[2, 19, or]* 22, or that meets the *[definition]***criteria at paragraph 21*** of ***the definition of*** "significant source operation" at N.J.A.C. 7:27-22.1*[, paragraphs 6, 16, or 21]*****,*** *[: 1. No person shall cause, suffer, allow, or permit any fumigant to be emitted from any source operation into the outdoor atmosphere, unless such discharge is directed upward through a vertical stack that extends above the highest point of the container, roofline, or structure; and

2. Except]* ***except*** as provided at N.J.A.C. 7:27-8.2(g) and 22.36, no person shall cause, suffer, allow, or permit the emission of a fumigant from any source operation into the outdoor atmosphere, unless a risk assessment for that operation has been performed and meets the criteria for issuance of a permit, as provided at N.J.A.C. 7:27-8.5 ***and 22.8***.

(b) The risk assessment required at (a)*[2]* above shall be conducted in accordance with an air quality dispersion modeling protocol and/or risk screening worksheets approved in advance by the Department. The Department will not approve an air quality dispersion modeling protocol, unless the protocol accounts for all relevant site-specific and general factors. These factors include, but are not limited to, a land use analysis, proper consideration of topography, a good engineering practice stack height analysis, use of the most recent version of the EPA-approved models, identification of the most appropriate meteorological data, and consideration of all relevant averaging times. The air quality dispersion modeling protocol shall document how the person proposes to conduct the air quality impact analysis and/or risk

assessment, and how the results will be presented to the Department. Technical guidance on the preparation of an air quality dispersion modeling protocol and the use of risk screening worksheets can be found in Technical Manual 1002 (Guidance on Preparing an Air Quality Modeling Protocol) and Technical Manual 1003 (Guidance on Preparing a Risk Assessment for Air Contaminant Emissions), available on the Department's website at http://www.nj.gov/dep/aqpp/techman.html. The risk screening worksheets can be found on the Department's website at https://www.state.nj.us/dep/aqpp/risk.html. Additional technical guidance on preparing a protocol may be requested from:

Department of Environmental Protection

Air Quality Regulation and Planning

Bureau of Evaluation and Planning

Air Quality Evaluation Section

401 East State Street, 2nd Floor

Mail Code 401-02

PO Box 420

Trenton, New Jersey 08625-0420

Telephone: (609) 292-6722

SUBCHAPTER 21. EMISSION STATEMENTS

7:27-21.3 General provisions

(a) (No change from proposal.)

(b) In addition to the information required pursuant to N.J.A.C. 7:27-21.5, an Emission Statement shall include emission information for the following air contaminants:

1. If the facility's potential to emit VOC is less than 25 tons per year and if the facility's potential to emit each of the other air contaminants listed in Table 1 at N.J.A.C. 7:28-21.2 is less than the applicable reporting threshold set forth in Table 1, such that the facility is subject to Emission Statement requirements only because its potential to emit VOC is equal to or greater than 10 tons per year, emission information shall be reported only for *[the following three Table 1 air contaminants:]* VOC, NOx, and CO, ***each*** reported at both the facility level and the source level, and:

   i. (No change from proposal.)

   ii. For reporting years 2018, 2019, *[and]* 2020, ***and 2021,*** reported at the facility level only, each of the toxic air pollutants listed at N.J.A.C. 7:27-21 Appendix 1, Table 1, incorporated herein by reference, and for which the facility has a potential to emit that is equal to or greater than the applicable reporting threshold at N.J.A.C. 7:27-17.9, Tables 3A and 3B; and

   iii. For reporting year *[2021]* ***2022*** and for each year thereafter, reported at the facility level only, each of the toxic air pollutants listed at N.J.A.C. 7:27-21 Appendix 1, Tables 1 and 3, incorporated herein by reference, for which the facility has a potential to emit that is equal to or greater than the applicable reporting threshold at N.J.A.C. 7:27-17.9, Tables 3A and 3B;

2. If the facility's potential to emit VOC is equal to or greater than 25 tons per year or if the facility's potential to emit any other air contaminants listed in Table 1 at N.J.A.C. 7:27-21.2 is equal to or greater than the reporting threshold, emission information shall be reported for each of the air contaminants listed in Table 1 at N.J.A.C. 7:27-21.2, reported at both the facility level and the source level ***,*** and the greenhouse gases CO_2 and CH_4, reported at the facility level only, and:

i. (No change from proposal.)

ii. For reporting year**s** 2018, 2019, *[and]* 2020, ***and 2021,*** reported at the facility level only, each of the toxic air pollutants that is listed at N.J.A.C. 7:27-21 Appendix 1, Table 1, incorporated herein by reference, and for which the facility has a potential to emit that is equal to or greater than the applicable reporting threshold at N.J.A.C. 7:27-17.9, Tables 3A and 3B; and

iii. For reporting year *[2021]* ***2022*** and for each reporting year thereafter, reported at the facility level only, each of the toxic air pollutants that is listed at N.J.A.C. 7:27-21 Appendix, Tables 1 and 3, incorporated herein by reference, and for which the facility has a potential to emit that is equal to or greater than the applicable reporting threshold at N.J.A.C. 7:27-17.9, Tables 3A and 3B.

(c) - (h) (No change.)

SUBCHAPTER 22. OPERATING PERMITS

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7:27-22.1 Definitions

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...

"Fumigant" means *[a chemical registered with the EPA as]* a pesticide ***registered with the EPA*** under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) ***that is a vapor or gas, or forms a vapor or gas upon application, and whose pesticidal action is through the vapor or gaseous state***.

"Fumigation" or "fumigation operation" means the *[action of introducing]* ***use of*** a fumigant in *[the gaseous state]* ***a sealed, enclosed space*** to prevent, control, or eliminate *[a targeted]*pest***s in stored or in-transit commodities by treating the commodity or commodity storage or transport space***.

...

"Industrial structure" means *[a structure or equipment]* ***an enclosed space***, including a *[building,]* warehouse, container, bin, silo, *[room,]* ***trailer, storage facility,*** commodity pallet, ***any type of fumigation chamber, such as under a tarpaulin,*** or manufacturing or processing equipment, in which fumigation occurs as a significant source operation. "Industrial structure" does not include a private residence or commercial office ***or commercial building*** in which fumigation occurs.

...

"Significant source operation" means any source operation that is one of the following**,** unless the source operation is explicitly specified, in the definition of "exempt activity," as an exempt activity, and unless the source operation is explicitly specified, in paragraphs 1, 2, or 4 of the definition of "insignificant source," as an insignificant source:

1. - 15. (No change from proposal.)

16. Any source operation or equipment that has the potential to emit any Group I*[,]* ***or*** II*[, or III]* TXS, (or any combination thereof) at a rate greater than 0.1 pounds per hour (45.4 grams per hour);

17. - 21. (No change from proposal.)

...

7:27-22.4 General application procedures

(a) – (g) No change

(h) An owner or operator of a fumigation operation of a commodity or industrial structure that meets the definition of "significant source operation" at N.J.A.C. 7:27-22.1, paragraph 21, as of June 3, 2022, shall submit an application for an initial operating permit or a minor or significant modification to the facility's operating permit no later than February 3, 2023.

7:27-22.30 Renewals

(a)-(m) (No change from proposal.)

(l) An application for renewal of an operating permit with an expiration date prior to *[(three years after the effective date of this amendment)]* ***April 4, 2025,*** is not required to include the NJHAPs hydrogen sulfide and 1-bromopropane.

7:27-22.35 Advances in the art of air pollution control

(a)-(b) (No change from proposal.)

(c) For equipment and control apparatus with a potential to emit any hazardous air pollutant and NJHAPs equal to or greater than the state-of-the-art thresholds at N.J.A.C. 7:27-17.9, Tables 3A and 3B or with a potential to emit five tons per year or more of any other air contaminant, except carbon dioxide (CO_2), the applicant shall document advances in the art of air pollution control, except for CO_2, in accordance with the following criteria, as applicable:

1.-4. (No change from proposal.)

5. For any other air contaminant not covered *[under]* ***at*** (c)1, 2, 3, or 4 above, emitted by a source operation with the potential to emit five or more tons per year of that air contaminant, except carbon dioxide (CO_2), the use of up-to-date technology and methods, reflected in equipment, control apparatus, and procedures, that when applied to an emission source will reasonably minimize emissions of that contaminant.

i.-iii. (No change from proposal.)

7:27-22.36 Requirements for emergency fumigation

(a) A fumigation operation that would be classified as a significant source solely because it

meets the criteria at paragraph*[s 6, 16, or]* 21 of the definition of "significant source operation" at N.J.A.C. 7:27-22.1 is not a significant source (and, therefore, does not need a permit and certificate) if the operation is an emergency fumigation operation and there has been no other fumigation operation by the facility or source owner or operator within the preceding five years, including an emergency fumigation operation meeting the requirements of this section or N.J.A.C. 7:27-8.2(g). A fumigation operation that was performed before *[(the operative date of this amendment)]* ***June 3, 2022,*** will not disqualify a subsequent emergency fumigation operation from the use of this section. The following requirements apply to emergency fumigation operations meeting the above criteria:

1. - 3. (No change from proposal.)

4. The emergency fumigation operation must include a stack that extends above the highest point of the container/roofline *[to a height above the ground]* and exhausts vertically to remove the fumigant;

5. - 6. (No change from proposal.)

CHAPTER 27A

AIR ADMINISTRATIVE PROCEDURES AND PENALTIES

SUBCHAPTER 3. CIVIL ADMINISTRATIVE PENALTIES AND REQUESTS FOR ADJUDICATORY HEARINGS

7:27A-3.10 Civil administrative penalties for violation of rules adopted pursuant to the Act

(a) - (m) (No change from proposal.)

NOTE: THIS IS A COURTESY COPY OF THIS RULE ADOPTION. THE OFFICIAL VERSION WILL BE PUBLISHED IN THE APRIL 4, 2022, NEW JERSEY REGISTER. SHOULD THERE BE ANY DISCREPANCIES BETWEEN THIS TEXT AND THE OFFICIAL VERSION OF THE ADOPTION, THE OFFICIAL VERSION WILL GOVERN.

CIVIL ADMINISTRATIVE PENALTY SCHEDULE

1. - 16. (No change from proposal.)

17. The violations of N.J.A.C. 7:27-17, Control and Prohibition of Air Pollution by Toxic Substances, and the civil administrative penalty amounts for each violation, per source, are as set forth in the following table:

Citation	Class	Type of Violation	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
...						
[N.J.A.C. 7:27-17.10(a)1	Discharge through Vertical Stack	NM	$1,000	$2,000	$5,000	$15,000]
N.J.A.C. 7:27-17.10(a)*[2]*	Conduct Risk Assessment	NM	$2,000	$4,000	$10,000	$30,000