



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



**Robert R. Scott, Commissioner**

**FP 2021-82, Env-A 1400 Regulated Toxic Air Pollutants  
Summary of Comments on Initial Proposal with DES Responses  
December 21, 2021**

**Introduction**

Env-A 1400, Regulated Toxic Air Pollutants, implements RSA 125-I, the Air Toxic Control Act (Act), by listing regulated toxic air pollutants (RTAPs), classifying them, and establishing ambient air limits (AALs). The purpose of the statute is to prevent, control, abate, and limit the emissions of toxic air pollutants into the ambient air. The ambient air limits established under the rules are intended to promote public health by reducing human exposure to toxic air pollutants.

As required by RSA 125-I, the New Hampshire Department of Environmental Services (the Department) proposes changes to the list of RTAPs and their AALs every few years to reflect updates made to the list of chemical substances by the American Conference of Governmental Industrial Hygienists (ACGIH) and the US EPA's Integrated Risk Information System (IRIS). In this rulemaking, the ACGIH and IRIS updates for 2017, 2018, and 2019 are proposed to be incorporated. In that time frame, a total of 121 new chemical substances were added and 21 were removed.

The Department is also proposing changes to clarify sources obligations under the rule. These changes include: adding some definitions to clarify which form and portion of certain pollutants are subject to the standards; clarifying the procedures for how sources evaluate and document compliance with standards; clarifying compliance boundary criteria at facilities with leased property; clarifying the situations in which an air permit is required and the timing and content of applications for such permits; and, clarifying the opportunities and procedures for sources to request custom compliance demonstration methods – and the criteria against which the Department evaluates such requests.

Two members of the public attended the public hearing in person and 13 members of the public attended remotely via WebEx on September 29, 2021. Five members of the public submitted written comments. Written comments were also received from the Office of Legislative Services, Administrative Rules (OLS); those comments and the Department's responses thereto begin on page 5. Section/paragraph numbers refer to numbers in the IP unless otherwise noted.

**Env-A 1400 generally re: toxic chemicals**

Comment:

*“...For many years I have encouraged the Department to look at persistent toxic substances as a group of chemicals with properties that make their continued dispersal into the environment an unacceptable and unnecessary risk to public health. Lead, mercury, and cadmium are examples of persistent, toxic substances because they accumulate in the environment and in the human body and cause harm in low doses...”*

*According to the Seventh Biennial Report:*

*As research findings demonstrate linkages between persistent toxic substances and biological injury, they continue to reinforce the Commission's conclusions, which are fundamental to its proposed policy approach: persistent toxic substances are too dangerous to the biosphere and*

*to humans to permit their release in any quantity, and all persistent toxic substances are dangerous to the environment, deleterious to the human condition, and can no longer be tolerated in the ecosystem, whether or not unassailable scientific proof of acute or chronic damage is universally accepted.*

*...The Department needs to acknowledge the truth about persistent, toxic chemicals that include heavy metals, dioxin, and per- and polyfluoroalkyl substances. Present and proposed regulatory standards for these pollutants are not health-based because these standards continue to allow toxic loading of the environment...*

Response:

NH RSA 125-I, the Air Toxic Control Act is the regulatory basis upon which Env-A 1400, Regulated Toxic Air Pollutants rule is based. The General Court has made a policy decision in NH RSA 125-I which states that the purpose of the Act is “to promote the public health of the state by reducing human exposure to toxic chemicals by regulating releases of toxic chemicals into the ambient air.” The Act specifically identifies regulated toxic air pollutants (RTAPs) as hazardous air pollutants pursuant to Section 112(b) of the Clean Air Act and those chemical substances for which a threshold limit value has been established by the American Conference of Governmental Industrial Hygienists.

In order to achieve the purpose of the Act, under NH RSA 125-I:4, III, the Department is required to adopt rules, pursuant to RSA 541-A, designating a short-term and long-term ambient air limit (AAL). AALs are specific to each RTAP. In establishing AALs, the Department shall rely on threshold limit values (TLV), reference concentration limits (RfC), and such other generally accepted scientific data as may be available.

A TLV is an estimate based on the known toxicity in humans of a given substance and the reliability and accuracy of the latest sampling and analytical methods. A TLV is believed to be a level to which a worker can be exposed per shift in the worktime without adverse effects. A RfC is an estimate of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. The list of RTAPs and their AALs are updated every few years to reflect changes made to the list of chemical substances by the American Conference of Governmental Industrial Hygienists (ACGIH) and the US EPA’s Integrated Risk Information System (IRIS). In this rulemaking, the ACGIH and IRIS updates for 2017, 2018, and 2019 are proposed to be incorporated. In that time frame, a total of 121 new chemical substances were added and 21 were removed. The AALs established in this proposed rulemaking are based on the most recent science and exposure levels that are protective of human health and the environment.

With respect to evaluating the cumulative toxic effects of the emissions of multiple pollutants and the long-term accumulation of persistent toxic pollutants, the Act does not provide Department a regulatory basis upon which to establish limits based on these parameters.

Therefore, the Department has not revised the rules in response to this comment.

**Env-A 1400 generally re: Formaldehyde Values**

Comment 1:

*“Given the scientific evidence demonstrating clear observable thresholds for effects from formaldehyde inhalation exposure, we continue to recommend NHDES not establish annual and 24-hr AALs that do not reflect the latest science. NHDES should: (1) use a threshold mode of action to calculate the annual AAL, and (2) use only acute exposure information and associated values as the basis for the 24-hr AAL.”*

Comment 2:

*“The NH DEP [DES] is proposing a 24-hr AAL for formaldehyde of 9.8  $\mu\text{g}/\text{m}^3$  based on chronic exposure health studies and an annual AAL of 1.8  $\mu\text{g}/\text{m}^3$  based on linear, non-threshold extrapolation of an occupational study. In contrast, the ATSDR acute MRL for formaldehyde of 49  $\mu\text{g}/\text{m}^3$  provides a scientifically defensible 24-hour AAL for New Hampshire. Similarly, the ATSDR chronic MRL for formaldehyde of 9.8  $\mu\text{g}/\text{m}^3$  provides a scientifically defensible annual AAL for New Hampshire. These values are conservative values that are protective of the general population, including susceptible subpopulations. They are based on the large body of toxicology and epidemiologic literature for formaldehyde, including mode-of-action considerations, and are comparable to (or the same as) values other bodies and authoritative organizations have derived.”*

Response to Comments:

The EPA’s Integrated Risk Information System (IRIS) contains peer-reviewed, consensus based toxicity factors and is the primary source of toxicity information used by the NHDES (the Department). IRIS currently contains a formaldehyde inhalation Unit Risk factor that is used in calculating cancer risk. The calculation of an annual AAL based on a cancer endpoint is consistent with the approach of other states, including MA, ME, VT, NY and NJ. It should be noted that EPA has developed a draft IRIS formaldehyde assessment and this assessment addresses both non-cancer and cancer human health effects that may result from chronic inhalation exposure to this chemical. If EPA publishes an updated formaldehyde risk characterization on IRIS, the Department will review the characterization and make adjustment(s), if appropriate, to the AAL(s). Therefore, the Department will establish the annual AAL as originally proposed, at 1.8  $\mu\text{g}/\text{m}^3$ . The Department notes that this is an increase from the current annual AAL of 0.88  $\mu\text{g}/\text{m}^3$ .

Regarding the 24-hour AAL, the non-cancer adverse health effects of formaldehyde are largely a manifestation of its ability to irritate mucous membranes. As a result of its solubility in water and high reactivity, formaldehyde is efficiently absorbed into the mucus layers protecting the eyes and respiratory tract where it rapidly reacts, leading primarily to localized irritation. Env-A 1400 allows for emission up to the 24-hour AAL, but the average concentration over the course of the year must be at/below the annual AAL. There may be intermittent exposures throughout the year at concentrations up to the 24-hour AAL, and this exposure pattern could be repeated for many years. ATSDR acknowledges that there are uncertainties inherent in the application of the procedures to derive less than lifetime MRLs. As an example, acute inhalation MRLs may not be protective for health effects that are delayed in development or are acquired following repeated acute insults, such as hypersensitivity reactions, asthma, or chronic bronchitis. Based on the potential for repeated, intermittent exposures over a lifetime and formaldehyde potentially being a sensitizing agent, the Department will adopt the ATSDR chronic inhalation MRL as the 24-hour AAL to promote public health. For comparison purposes, Cal EPA has both an 8-hour Reference Exposure Level (REL) and a chronic REL of 9  $\mu\text{g}/\text{m}^3$  which is similar to the 24-hour AAL (9.8  $\mu\text{g}/\text{m}^3$ ) the Department is adopting.

The Department has not revised the rule in response to these comments.

### **Env-A 1401.03 and 1402.02 re: Renewable Natural Gas (RNG)**

Comment:

*Renewable Natural Gas (RNG) should be included in the list of exempt fuels in Env-A 1400 because it's characteristics are very similar to fossil fuel-based natural gas, which is exempt from Env-A 1400. In addition, there are other renewable fuels such as biodiesel and biomass that are exempt from Env-A 1400.*

Response:

The use of the term bio synthetic gas in the current Env-A 1400 regulations comes directly from RSA 362-A, Limited Electrical Energy Producers Act, and specifies that it does not include gaseous renewable fuel derived from anaerobic digestion or composting. Therefore, Renewable Natural Gas (RNG) would not be included in the existing bio synthetic gas definition. The term RNG is specific to pipeline gas quality specifications listed for injection of biogas into the Liberty Utilities gas distribution system. The Department is aware of other gaseous fuels – specifically processed landfill gas (LFG) – that is generated and used in NH that may not specifically use the term RNG but have a similar contaminant content. In addition, EPA has specifically adopted a definition of non-hazardous secondary materials to include LFG and treats it as equivalent to other gaseous fuels such as biogas. Having a consistent term, to the extent possible, allows for consistent applicability of regulations for the use of these fuels and better clarity to regulated sources.

The Department agrees that based on available information, emissions of RTAPs from the combustion of certain gaseous fuels other than bio synthetic gas at stationary sources are adequately regulated under other provisions of state or federal law and pose little risk to human health. Specifically, the Department is aware of the potential for the formation of formaldehyde emissions from internal combustion engines when LFG has not been processed sufficiently to remove siloxanes. However, the removal of siloxane reduces the potential formation of formaldehyde emissions. Therefore, the Department is proposing to include an exemption for LFG in Env-A 1400 specifically to LFG that has been sufficiently processed to remove siloxane contaminants.

Therefore, the Department has revised the proposed rule by establishing a definition for “processed landfill gas” in Env-A 1401.03(k) and adding processed landfill gas to the list of exemptions in Env-A 1402.02.

### **Env-A 1403.01 and Env-A 1404.07 re: leased property and the compliance boundary**

Comment:

*The proposed language in Env-A 1404.07 moves “leased property” to outside of the compliance boundary and Env-A 1403.01 requires sources to demonstrate compliance with the new compliance boundary within 90 days following the effective date of the final rule. The Department should add language to allow existing sources not to remodel emissions to demonstrate compliance solely due to a change in the [Department's] definition of compliance boundary. . Specifically, if there have been no changes to the source's process equipment and no changes to the ambient air quality limits (AALs) for the applicable pollutants, and the lessee agrees; sources should be able to continue to demonstrate compliance using their existing compliance boundary (i.e., the property line) until a change in process or AALs occurs. Property owners and tenants should be provided with the flexibility to agree to their own lease*

*terms. As such, compliance demonstrations can be updated with new compliance boundaries upon request by the lessee. If the lessee waives the request, a new demonstration should not be required.*

**Response:**

In accordance with RSA 125-I, uncontrolled emissions of RTAPs cannot exceed AALs at or beyond the compliance boundary. The Department treats property owned by one party but leased to another (lessee) as outside the compliance boundary and therefore is public property and requires that lessors manage their emissions of RTAPs such that they do not cause exceedances of AALs on property that they lease to others.

Relative to the timing of compliance, RSA 125-I states that when new or amended RTAPs or AALs are published, existing sources are required to update their compliance demonstrations to reflect the new requirements within 90 days of the effective date of the rule. Sources may have up to three years to make those changes necessary to demonstrate compliance with the new requirements. The Department is proposing to use this same transition system for the change to compliance boundaries relative to leased property.

Under these provisions, lessees will be required to either; demonstrate compliance with the changed compliance boundary, or submit a permit application and compliance plan describing steps they will take such that they can demonstrate compliance within three years. NHDES maintains that this system provides sources sufficient time to come into compliance with changed requirements.

The Department did not make any changes to the proposed rule regarding property leased to others or timing of compliance in response to this comment.

**From OLS:**

**Env-A 1403.01(b)(1) and 1405.04 re: revisions to take effect after publication of special notice in Rulemaking Register**

**Comment:**

*“**Note to Agency:** Pursuant to RSA 125-I;4, IV, the revisions “shall not take effect until such publication of a special notice in the Rulemaking Register has occurred.”...While not specifically required by the statute, making the effective date of the rule match the publication date makes it easier for the regulated community to determine the effective date as the date will appear in the rule’s source note.”*

**Response:**

The Department agrees that while not required, it is preferable that the effective date of the rule matches the date of publication in the Rulemaking Register to eliminate any potential confusion by the regulated community. The Department will make sure that these dates coincide. Moreover, while the timeframe for compliance with the standards is established in RSA 125-I:5, IV, and is triggered upon the publication date of the Rulemaking Notice (as correctly specified in the rule), synchronizing the effective date of the rule with the date of publication of the Rulemaking Register will also eliminate any confusion as for both the agency and the regulated community.

**Env-A 1411.03(a) re: Timing of special notice in Rulemaking Register**

Comment:

*“Unclear/Legis. Intent: ...The statute specifies the reverse order [of what the rule says] ...”*

Response:

The Department has revised the proposed rule to match the statute, thus removing the basis for the comment.

**Env-A 1412.02(a) re: reference to DES’ own rules needed**

Comment:

*“Unclear: While the reference to this law can stay, there should also be a reference to DES’ own rules on the subject, Env-C 207.”*

Response:

The Department has revised the proposed rule accordingly.

**Env-A 1414-1449 re: Reserved**

Comment:

*“Edit/Legis. Intent: These parts have been reserved since 2009 or before. Pursuant to section 4.10 of Ch. 4 of the Manual, ‘reserved’ is a temporary device to indicate rules that will be added later. Since these Part numbers have not been used for a long period, Env-A 1450 (the final part of Env-A 1400) should be renumbered as Env-A 1414.*

Response:

The Department would like to keep the numbering as it currently stands because stakeholders and staff use this Table 1450 frequently. The long-standing numbering and use by stakeholders – and the very great likelihood of causing confusion among those to whom the rule applies if the table number were to be changed at this point -- outweighs any minor deviation from what the Rulemaking Manual requires.

**Edits made to:** 1401.03(i); 1404.07(d); 1412.03(a)(7)