pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

July 23, 2019

Dr. Zvi Elgat, CEO
c/o Dr. Rengarajan Ramesh
USA Representative
Elcon Recycling Services, LLC
11 LeParc Drive
Princeton, NJ 08550

Re: Wastewater Treatment & Storage Facility
Application ID No. 09-0228A
APS ID No. 980277, AUTH ID No.1250768
Falls Township
Bucks County

Dear Dr. Elgat:

The Department of Environmental Protection's (DEP) New Source Review Section has reviewed the above referenced permit application and has identified the following significant technical deficiencies. There is also an attachment to this letter from the DEP's Air Dispersion Modeling Section and the Risk Assessment Section with additional technical deficiencies.

1. Because of the probable inconsistency and variety of wastewater that would be received, a detailed Quality Assurance Plan (QAP) and Standard Operating Procedures (SOP) are required. Submit information that includes the following:
   a) Formulate maximum metal limits for the wastewater, in parts per million, that will be received or expected to be received. The metal limits that are established must ensure the metal air emissions from the proposed facility will not be exceeded. Also include the calculations.
   b) The QAP must consist of a Generator Certification Program that includes the generator conducting testing of each wastewater stream prior to shipment. Followed by Elcon evaluating the test results and conducting intermittent testing to ensure the compatibility of wastewater received and the ability to safely treat the wastewater.
   c) The QAP and SOP must also include detailed plans on sampling, receiving, storing and blending of the different wastewater streams at the proposed facility.

2. The metal air emission rates in your application are based on source testing from the Israeli Facility. DEP does evaluate source test results from similar equipment, such as boilers and emergency generators, for estimating emissions. The source test results from the Israeli Facility cannot be used to compare potential emissions because of the inconsistent variety of waste that would be received at the proposed facility. Submit the following:
   a) Newly calculated maximum hourly and annual air emission rates of each metal.
   b) The potential for a metal to volatize during the treatment process and the potential for a metal to combine with a halogen and become unstable or cause a reaction.
   c) The metal capture and removal efficiency of the control equipment.

3. Table 3-2 in attachment 3 of the application lists the NOx controlled annual emission rate as 23.40 tpy. Page 38 of the Plan Approval application and Page 17 of Attachment 3 lists a proposed NOx emission rate of 6.50 lbs/hr which calculates to 27.30 tpy and when added with the other NOx sources the facility's annual NOx emission is 30.77 tpy which would make the facility a major NOx emitting source. DEP requests the following regarding the NOx control and emissions:
   a) A more detailed and in-depth analysis on how the NOx emission rates were determined and how will the NOx emissions be monitored, calculated and recorded and remain below the major source threshold.
   b) A more detailed and in-depth analysis on the automatic urea injection system to include: data from the manufacturer of the NOx CEM that guarantees that the CEM can operate in conjunction with the SNCR, what contingencies are in place if the NOx levels are exceeded or the NOx CEM is down and provide information on how urea needs to be used for NOx reduction and the calculations that support this.

4. Regarding the emission control system (ECS), please provide the following information:
   a) What monitoring, and safeguards will be used to ensure that the exhaust stream does not exceed 75% when only one emission control train is operating.
   b) On page 8 of attachment 2, Unit 20 Flash Evaporation Distillation (FED) states that "the FED combines complete organic extraction with distillation to achieve a total organics destruction." Should this be restated to say the organics destruction is completed by the thermal oxidizer?
   c) What is Elcon's proposal to monitor carbon monoxide and oxygen levels in the ECS to ensure complete combustion and where will these monitors be located?
   d) A more detailed analysis on the activated carbon system that would be used to control VOC emissions from the storage tanks to include: how breakthrough will be identified prior to it occurring, how will the VOCs be controlled when the breakthrough does occur.

5. A more detailed explanation on which sources are generating the fugitive emissions from material handling in the sludge area and include a diagram of the sources and fugitive emissions from this area.

6. Attachment 2, Detailed Process Equipment, does not discuss the biological treatment process. DEP requests a description of the secondary treatment to include the following, at a minimum:
   a) How will the aerobic reactor be used in this process?
   b) What is the composition of the vapors that will be sent to the thermal oxidizer and what will the flow rate be.

7. The descriptions and diagrams in the application are difficult to read and makes it difficult to understand the treatment process. Submit a revised treatment process presentation that includes the following:
   a) A more detailed diagram of the salt and sludge areas to include liquid and air flowrates. Submit diagrams like the diagram in the application labeled general schematic of air pollution emission sources. The current diagrams presented are in color and are lacking detail.
   b) Submit a diagram of all the liquid flow rates to each source. Also, submit a clearer readable diagram of Unit 20 which is currently labeled, "Thermal Oxidizer P & I Diagram."

8. Some sections of the source test, included in the application, are in Hebrew. Provide a completed translated version in English. Also, include a summary of the source testing that will be required

once the facility is in operation. Include how many sources test will be conducted and on what ECS lines and main stack. Also include the possible pollutants and EPA test methods for the pollutants.

9. There is no storage tank T-20357 listed in Table 1-1 of Attachment 1 of the proposed plan approval. There is a reference to this tank in the footnote on horizontal tanks (Rich Distillate Tank). Tank T-20357 is listed in Table 1-2 of Attachment 1 instead.

10. Please provide more detail for the Lime Silo (p. 32 of the application) and the Sludge Silo (p. 24 of the application). Specifically, DEP would like diagrams to show how the bin vent filters are connected to the silos. These diagrams should show if the bin vents are part of the silos or separate from the silos.

11. The application stated that there are diagrams for the lime silo and sludge silo showing access doors and other equipment associated with the silos, but DEP could not find these diagrams in the application.

12. Based on the information in other parts of the application, DEP believes that the information for the model and model number for the Sludge Processing Area Filter and the Sludge Silo Bin Vent Filter may be interchanged. Please confirm the information in the application or revise the application.

13. There are no manufacturers' specification sheets for any of the control devices that were proposed by Elcon (to include the thermal oxidizers, scrubbers, SCR, and filters). The information should contain information that will allow DEP to evaluate whether the air pollution control devices have the capacity to control emissions from the process as was proposed in the application (25 Pa. Code Section 127.12(a)(2).

14. Please provide more information on the dryers used in the sludge treatment process. The application states that these dryers have cyclones that are integral to the process, but it is hard to determine why the cyclone is integral to the operation without a diagram and/or a description of the process.

15. Some corrections in units are required in the calculation of VOC rate for the thermal oxidizer system flow calculation (page 1; the VOC rate should be 4,409 lbs/hr, not 4,409 kg/hr).

The above list of deficiencies is requested in accordance with 25 Pa. Code Section 127.12(a)(2) and (10), and produced under the responsible charge of Mr. James Beach, P.E. You must contact DEP to schedule a meeting to discuss the deficiencies within 10 business days from the date of the letter. You will have a final opportunity to correct any deficiencies, which will be summarized in a pre-denial letter, before DEP makes a final determination on your application.

If you believe the stated deficiencies are not significant, you have the option of asking DEP to make a decision based on the information you have already made available. If you choose this option, you should explain and justify how your current submission satisfies the deficiencies noted above. Please keep in mind that if you fail to respond within 10 business days, your application may be denied.

If you have any questions concerning this matter, please contact me at 484.250.5071 and refer to APS ID No. 980277, AUTH ID No. 1250768.

Sincerely,

Stephen J. Steirer
Engineering Specialist
Air Quality

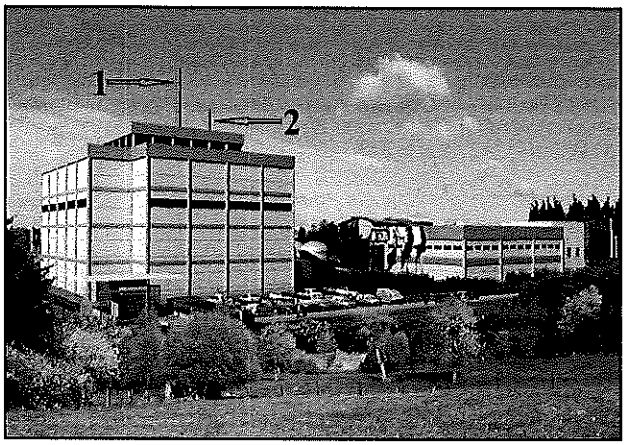
cc: Mr. Patrick Patterson, Regional Director, SERO
Mr Sachin Shankar, Assistant Regional Director, SERO
Mr. Ramamurthy, Director of Air Quality, RCSOB
Mr. Trivedi, RCSOB
Mr. Evans, RCSOB
Mr. Fleck, RCSOB
Division of Permits
Mr. Beach
Mr. Mountain
Mr. Rebarchak
Mr. White
Ms. Hunt
Ms. Cain
Mr. Fogel
File No. 09-0228A
Re 30 (TDB19) 199-1

ATTACHMENT

DEP Comments on Air Dispersion Modeling of Hazardous and Criteria Air Pollutants
Elcon Recycling Services, LLC
Plan Approval No. 09-0228A

2.1 Overview

1. The preliminary rendering of the Elcon Recycling Services, LLC (Elcon) proposed facility[1] in Falls Township, shown below, appears to include two stacks. Elcon's air dispersion modeling, however, includes only one stack.



2.4 AERMET

2. Elcon should not mention "site-specific data" in this subsection of its report since no such data exist.

3. Elcon should not mention "multiple-level observations" in this subsection of its report since only one level of observations typically exists for National Weather Service (NWS) / Federal Aviation Administration (FAA) airport meteorological stations.

4. Elcon should clarify in this subsection of its report that the surface characteristics were estimated by AERSURFACE using land cover data near the NWS/FAA meteorological station, not the proposed location of Elcon's facility.

5. After conducting an internal file review, the Pennsylvania Department of Environmental Protection (DEP) notes that a meteorological dataset from Northeast Philadelphia Airport (KPNE) was utilized in the air dispersion modeling to support the initial plan approval application for the nearby Fairless Energy LLC/Falls Township facility. Elcon should therefore consider utilizing the KPNE 2013-2017 meteorological dataset, in addition to the Trenton –

[1] Source: http://elconrecycling.com/usa/

Mercer Airport (KTTN) 2013-2017 meteorological dataset. KPNE is located approximately 23.8 kilometers (km) west-southwest of the proposed location of Elcon's facility. The DEP has processed the KPNE 2013-2017 meteorological dataset and can provide it to Elcon upon request.

6. By providing a meteorological dataset to an applicant, the DEP does not intend to imply that the dataset is adequately representative. Elcon should therefore provide justification for the use of the meteorological dataset(s), in this subsection of its report, by describing the ability of the meteorological dataset(s) to adequately represent atmospheric conditions for characterizing plume transport and dispersion within Elcon's modeling domain. The following U.S. Environmental Protection Agency (EPA) guidance, in conjunction with professional judgment, should be considered in a meteorological representativeness demonstration:

- *Guideline on Air Quality Models* (40 CFR Part 51, Appendix W), subsection 8.4;
- "AERMOD Implementation Guide" (EPA-454/B-18-003, April 2018), subsection 3.1.1; and
- "Meteorological Monitoring Guidance for Regulatory Modeling Applications" (EPA-454/R-99-005, February 2000), subsection 3.1.

7. Elcon may still consider utilizing a meteorological dataset(s) processed with the surface friction velocity adjustment (ADJ_U*) option in AERMET Stage 3, if appropriately justified. This option is intended to address concerns regarding AERMOD's performance, i.e., overprediction of concentrations during stable low wind speed meteorological conditions, by adjusting the surface friction velocity based on Qian and Venkatram (2011).[2] The DEP already provided the KTTN meteorological dataset processed with the ADJ_U* option to Elcon and can provide the KPNE meteorological dataset processed with the ADJ_U* option upon request.

8. All AERMET, AERMINUTE, and AERSURFACE input and output files associated with the processing of the meteorological dataset(s) should be included on the modeling data disk.

2.5 Model Input

9. Based on aerial imagery, it appears that there are residences along Van Sciver Way on the east side of Van Sciver Lake. These residences are closer to the proposed location of Elcon's facility than the "closest residence" or the "closest area zoned as residential" (1st and 2nd bullets on page 4 of Elcon's report) where "additional discrete receptors" were placed in AERMOD.

10. Elcon should include a figure in this subsection of its report that depicts the locations of the "additional discrete receptors" that were placed in AERMOD. Also, these receptors should be clearly identified in the AERMAP input files with statements delineated by asterisks (**).

11. AERMAP calculates elevations and hill height scales to the hundredth of a meter. The elevations and hill height scales entered in AERMOD for the "additional discrete receptors" that

[2] Qian, W., and A. Venkatram, 2011. Performance of Steady-State Dispersion Models Under Low Wind-Speed Conditions. *Boundary Layer Meteorology*, 138, 475-491.

were placed "[a]round the receptors where the maximum concentrations occurred" (3rd bullet on page 4 of Elcon's report), however, appear to be rounded to the nearest tenth of a meter.

12. The AERMOD input files indicate that the hill height scales for receptors placed over the GROWS North landfill and Tullytown Resource Recovery Facility landfill were increased by 7 meters and 4 meters, respectively. The elevations of these receptors should have been increased, as stated in this subsection of Elcon's report, not the hill height scales.

13. The elevations of receptors placed over the recently opened Fairless Landfill should be increased to reflect the final permitted height.

14. The AERMOD input files contain many receptors with negative elevations, generally over open water. The DEP suggests that the elevations of these receptors be adjusted to zero meters.

15. The input and output files associated with all AERMAP runs should be included on the modeling data disk.

16. In Table 3, the base elevation of the KTTN Automated Surface Observing System (ASOS) instrumentation, 65 meters, is listed as the anemometer height. The anemometer height of the KTTN ASOS instrumentation is 7.9 meters.

4.1 Air Dispersion Modeling Results

17. In Table 11:

- The results for the 8-hour CO National Ambient Air Quality Standard (NAAQS) assessment should be included;
- For the PM-2.5 NAAQS assessment, "1-Year" should be "Annual;"
- The results for the annual PM-2.5 NAAQS assessment should be listed once, not twice;
- The results of the 1-hour NO_2 NAAQS, 24-hour PM-2.5, and annual PM-2.5 NAAQS assessment should be "averaged over 5 years," not 3 years;
- For the annual NO_2 NAAQS assessment, the maximum annual mean over 5 years should be listed, not the average of the annual means; and
- The concentrations should not be rounded.

4.3 Conclusions

18. As suggested in the July 18, 2018, meeting with the DEP, Elcon's air dispersion modeling results for criteria pollutants, except for lead (Pb), should be compared to the EPA's established significant impact levels (SIL), in addition to the NAAQS. The SILs are listed in the following table:

Pollutant	Averaging Time	SIL ($\mu g/m^3$)	SIL Form
CO	1-hour	2,000[1]	Highest 1-hour concentration over 5 years
	8-hour	500[1]	Highest 8-hour concentration over 5 years
NO_2	1-hour	7.5[2]	Highest 1-hour concentration averaged over 5 years
	Annual	1[1]	Highest annual concentration over 5 years
PM-2.5	24-hour	1.2[3]	Highest 24-hour concentration averaged over 5 years
	Annual	0.2[3]	Highest annual concentration averaged over 5 years
PM-10	24-hour	5[1]	Highest 24-hour concentration over 5 years
SO_2	1-hour	7.8[4]	Highest 1-hour concentration averaged over 5 years
	3-hour	25[1]	Highest 3-hour concentration over 5 years

[1] *Code of Federal Regulations*. 40 CFR § 51.165(b)(2).
[2] Guidance Concerning the Implementation of the 1-hour NO_2 NAAQS for the Prevention of Significant Deterioration Program. EPA memorandum from Stephen D. Page, OAQPS to Regional Air Division Directors. June 29, 2010. Pages 11-13.
[3] Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program. EPA memorandum from Peter Tsirigotis, OAQPS to Regional Air Division Directors. April 17, 2018. Pages 15-16.
[4] Guidance Concerning the Implementation of the 1-hour SO_2 NAAQS for the Prevention of Significant Deterioration Program. EPA memorandum from Stephen D. Page, OAQPS to Regional Air Division Directors. August 23, 2010. Attachment 1, pages 4-6.

19. In the 24-hour and annual PM-2.5 analyses, the secondary formation of PM-2.5 due to Elcon's emissions of PM-2.5 precursors, i.e., NOx and SO_2, should be quantified. For estimating the secondary PM-2.5 impact, Elcon should follow the EPA's "Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and $PM_{2.5}$ under the PSD Permitting Program" (EPA-454/R-19-003, April 2019). Elcon's total PM-2.5 impact should then be estimated by adding its secondary PM-2.5 impact to its direct PM-2.5 impact calculated by AERMOD.

20. Elcon's impacts are estimated by AERMOD to be greater than the EPA's established SILs for the 1-hour NO_2, 24-hour PM-2.5, 1-hour SO_2, and 3-hour SO_2 NAAQS (and possibly the annual PM-2.5 NAAQS once Elcon's secondary formation of PM-2.5 is quantified). According to subsection 8.3 of the EPA's *Guideline on Air Quality Models* (40 CFR Part 51, Appendix W), background concentrations for determining modeled compliance with the NAAQS should be represented by both a modeled and monitored component. For calculating the modeled component of the background concentration, the model input should include emission data for existing nearby sources. Elcon should work with staff in the DEP's Air Quality Modeling Section and Southeast Regional Office, as well as the New Jersey Department of Environmental Protection, to develop the emission data for existing nearby sources. As a starting point, permitted facilities in Pennsylvania within 10 km of the proposed location of Elcon's facility with reported emissions of NOx, PM-2.5, or SO_2 greater than zero tons per year (tpy) in 2017 or 2018 are listed in the following table:

Facility	Permit Number	Distance from Elcon (km)	Reported Emissions[1] 2017/2018 (tpy)		
			NO_X	PM-2.5	SO_2
Brightsmith LLC/ Falls Twp	09-00030	0.56	7.6500/ 6.4900	0.0000/ 0.0000	0.0314/ 0.0290
Wheelabrator Falls Inc/ Falls Twp	09-00013	0.70	688.2900/ 644.6900	47.2600/ 27.7600	99.3200/ 81.0400
Waste Mgmt Dspl Svc/ GROWS Ldfl	09-00007	1.64	13.3900/ 13.0700	1.3100/ 1.0300	18.4400/ 10.9700
Exelon Generation Co/ Pennsbury Power Plt	09-00077	1.82	4.0322/ 0.1750	0.8064/ 0.0350	0.9481/ 0.0398
Waste Mgmt of Fairless/ Fairless Ldfl	09-00210	1.83	1.1000/ 3.8500	24.4300/ 24.9900	1.4000/ 4.8400
US Steel Corp/ Fairless Hills	09-00006	1.92	48.9731/ 43.5945	2.2245/ 1.9968	0.1756/ 0.1576
Exelon Generation Co/ Falls Twp Peak Pwr Plt	09-00017	2.68	17.3362/ 11.1175	0.0849/ 0.0544	0.6725/ 0.1853
Fairless Energy LLC/ Falls Twp	09-00124	2.94	207.7200/ 192.6000	31.6000/ 22.0000	16.8000/ 16.5000
Exelon Generation Co/ Fairless Hills Gen Sta	09-00066	2.95	122.9462/ 92.0106	0.6457/ 0.5763	85.7301/ 72.8932
Liberty Coating Co LLC/ Morrisville	09-00174	3.03	0.0000/ 0.0000	0.0000/ 0.0010	0.0000/ 0.0000
Waste Mgmt PA/ Tullytown Res Rec Fac	09-00024	5.00	8.3100/ 7.6400	3.7200/ 1.8600	2.8000/ 0.9100

[1] Source: DEP's Air Information Management System (AIMS)

21. Ambient monitoring data for 2018 were certified on or about May 1, 2019. Elcon should consider using updated ambient data for 2016-2018 to represent the monitored components of the CO, PM-2.5, PM-10, and SO_2 background concentrations. The DEP can provide these data to Elcon upon request. The DEP notes that its NO_2 ambient monitor at Bristol (site ID: 42-017-0012) was discontinued after 2015 and data from its Pb ambient monitor at Chester (site ID: (42-045-0002) were incomplete in 2018.

22. With the inclusion of a modeled component of the background concentration in the 1-hour NO_2, 24-hour PM-2.5, and 1-hour SO_2 NAAQS analyses, Elcon should consider if it would be beneficial to use the EPA's 2nd-tier method for calculating temporally-varying concentrations to represent the monitored component of the NO_2, PM-2.5, and SO_2 background. The EPA's guidance on a 2nd-tier method for NO_2 and SO_2 monitored background concentrations is provided in "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard" (March 1, 2011, memorandum from Tyler Fox to Regional Air Division Directors), pages 17-21. The EPA's guidance on a 2nd-tier method for PM-2.5 monitored background concentrations is provided in "Guidance for $PM_{2.5}$ Permit Modeling" (EPA-454/B-14-001, May 2014), Appendix E.

23. In Table 12:

- For the PM-2.5 NAAQS assessment, "1-Year" should be "Annual;"
- Footnotes 4, 6, 7, 8, and 9 should mention "5" years, not "3" years;
- The 1-hour NO_2 NAAQS should be equivalent to 188.0 $\mu g/m^3$, not 189 $\mu g/m^3$;
- The 1-hour SO_2 NAAQS should be equivalent to 196.4 $\mu g/m^3$ (according to the EPA), not 196.5 $\mu g/m^3$;
- The 3-hour SO_2 NAAQS should be equivalent to 1,300 $\mu g/m^3$, not 1,310 $\mu g/m^3$;
- In footnote 8, the 24-hour PM-10 NAAQS cannot be exceeded more than once a year, on average;
- For the annual NO_2 assessment, the maximum annual mean over 5 years should be listed, not the average of the annual means; and
- The concentrations should not be rounded.

COMMENTS ON THE PLAN APPROVAL PLAN APPLICATION AND AIR DISPERSION MODEL AND RISK ASSESSMENT REPORT FOR THE ELCON RECYCLING SERVICES FACILITY

On Page 3 - 14, of the plan approval application, Attachment 3, "Emission Estimates and Supporting Calculations," it is stated that metal hazardous air pollutants (HAP) emissions are based on the results of stack tests conducted at Elcon's Israeli facility. The metals emission rates are listed in Table 3-7.

Although stack test results from similar equipment can be used as a basis for determining potential emissions, the stack test results from the Israeli facility are not consistent with those found in Table 8 of the Air Dispersion Model and Risk Assessment Report. The type and amount of metals in the wastes treated during the stack testing in Israel may not be completely representative of the Pennsylvania facility's potential treatment rates, so it is important that the metals emission rates be accurate and consistent across both documents since they will be set as permit limits. Please update Table 3-7 to match the Table 8 metals emission rates which were used in the risk assessment.

The VOC emissions data listed in the plan approval application need to be clarified. In Section C, Oxidizer/Afterburners - COIA and COIB, the VOC emissions, including organic HAPS, are 4,400 lb/hr (max - both) at the inlet and 4.4 lb/hr (max - both) at the outlet. The outlet levels are different than the 0.509 lb/hr VOC emission rate from the Total Oxidizer Stack in Table 3-9 "Estimated Combustion Products Emissions." Please update these two sections in the plan approval application so that they are consistent.

Maximum hourly and annual emission rates of individual HAPs provided in the Air Dispersion Model and Risk Assessment Report will be set as permit limits. So, it is important that the method used for calculating these rates be scientifically based. The method should be based upon the maximum HAP charging rate of each individual HAP, percent volatilization, and thermal oxidizer control efficiency.

Each Thermal Oxidizer (COIA and COlB) should have its own oxygen and carbon monoxide continuous emission monitor installed to measure the exhaust stream outlet levels. The monitored levels of oxygen and carbon monoxide will assist in verifying that each Thermal Oxidizer is operating properly which is necessary since variable wastes streams, with different types of HAPs, are being treated.

The chronic (non-cancer and cancer) risks were determined using the chronic reference concentrations and inhalation unit risk factors shown in Table 1 in the link below:

https://www.epa.gov/fera/dose-response-assessment-assessing-health-risks-associated-exposure-hazardous-air-pollutants

However, we used the Risk Assessment Information System (RAIS) maintained by the U.S. Department of Energy (DOE), Office of Environmental Management, Oak Ridge Operations

(ORO) Office through a contract between URS | CH2M Oak Ridge LLC (UCOR) and the University of Tennessee found at the link below:

https://rais.ornl.gov/index.html

We found the following discrepancies between the two databases:

Compound	RfC (mg/m3) (ATRAS)	URF 1/(µg/m3) (ATRAS)	RfC (mg/m3) (ELCON)	URF 1/(µg/m3) (ELCON)
1,1,2- trichloroethane	0.0002	0.000016	0.4	0.000016
1,1-dimethylhydrazine	0.000002	0.0049	None	None
1,2,4-trichlorobenzene	0.002	None	0.2	None
1,2-dibromo-3-chloropropane	0.0002	0.006	0.0002	0.002
1,2-dichloroethane	0.007	0.000026	2.4	0.000026
1,2-dichlorobenzene	0.2	None	None	None
1,2-dimethylhydrazine	None	0.16	None	None
2,4-dinitrotoluene	None	0.000089	0.007	0.000089
2-nitropropane	0.02	0.0027	0.02	0.0000056
butyl diglycol	0.0001	None	0.02	None
chlorobenzene	0.05	None	1	None
chloroform	0.098	0.000023	0.098	None
chloromethane	0.09	0.0000018	0.09	None
ethylene dibromide	None	None	0.009	0.0006
ethyl acetate	0.07	None	None	None
ethylenethiourea	None	0.000013	0.003	0.000013
ethyl acrylate	0.008	None	None	None
2-propenoic acid, 2-methyl-, ethyl ester	0.3	None	None	None
acetone	30.9	None	None	None
cyclohexanone	0.7	None	None	None
formic acid	0.0003	None	None	None
heptachlor epoxide	None	0.0026	None	None
hexachloroethane	0.03	0.000011	0.03	None
isopropyl alcohol	0.2	None	None	None
lindane	None	0.00031	0.0003	0.00031
hexachlorobenzene	None	0.00046	0.003	0.00046
hexachlorobutadiene	None	0.000022	0.09	0.000022
m-cresol	0.6	None	None	None
methacrylonitrile	0.03	None	None	None
methyl ethyl ketone	5	None	None	None

methylene bromide	0.004	None	None	None
N-nitroso diethanolamine	None	0.0008	None	None
N-nitroso diethylamine	None	0.043	None	None
N-nitroso-N-ethylurea	None	0.0077	None	None
o-cresol	0.6	None	None	None
p-cresol	0.6	None	None	None
pentachlorophenol	None	0.0000051	0.1	0.0000051
propylene dichloride	0.004	0.0000037	0.004	None
propylene glycol	0.003	None	None	None
tetrahydrofuran	2	None	None	None
trichlorofluoromethane	0.7	None	None	None
tris(2,3-dibromopropyl)phosphate	None	0.00066	None	None
Al	0.005	None	None	None
Ba	0.0005	None	None	None
Co	0.000006	0.009	0.0001	None
Cr total	None	None	Yes	Blank
cyanides	0.0008	None	None	None
F_2	0.013	None	None	None
Mn	0.00005	None	0.0003	None
Ni	0.00009	0.00026	0.00009	None
Sb	0.0003	None	0.0002	None
TCDD equivalents, includes PCBs	0.00000004	38	0.00000004	33
vinyl chloride	0.1	0.0000088	0.1	0.0000044

RfC = Reference Concentration
URF = Unit Risk Factor

In Table 5 (List of Available Acute Data), we found the following discrepancies:

1. **1,2-dichloroethane**: 8 mg/m3 (Ceiling) should be 8 mg/m3 (STEL) = 0.2 mg/m3 (STEL/40)
2. **Benzene**: 2.5 mg/m3 (STEL) should be 8.0 mg/m3 (STEL) = 0.2 mg/m3 (STEL/40)
3. **Cyclohexanone**: 200.1 mg/m3 (STEL) should be 201 mg/m3 (STEL) = 5.025 mg/m3 (STEL/40)
4. **Dichloromethane**: 35 mg/m3 (STEL) should be 435 mg/m3 (STEL) = 10.9 mg/m3 (STEL/40)
5. **Dimethyl sulfoxide**: Use 320 mg/m3 (Ceiling) = 32 mg/m3 (Ceiling/10)
6. **Ethylene dibromide**: 30 mg/m3 (Ceiling) should be 230.7 mg/m3 (Ceiling) = 23.1 mg/m3 (Ceiling/10)

7. **HBr**: 2 mg/m3 (Ceiling) should be 6.8 mg/m3 (Ceiling) = 0.68 mg/m3 (Ceiling/10)
8. **HCl**: 2 mg/m3 (Ceiling) should be 3.0 mg/m3 (Ceiling) = 0.3 mg/m3 (Ceiling/10)
9. **HF**: 2 mg/m3 (Ceiling) should be 1.6 mg/m3 (Ceiling) = 0.16 mg/m3 (Ceiling/10)
10. **H_2S**: 1.88 mg/m3 (STEL/40) should be 0.175 mg/m3 (STEL/40)
11. **Mo**: 3 mg/m3 (TWA) should be 0.5 mg/m3 (TWA) = 0.075 mg/m3 (3xTWA/20)
12. **NH_3**: 35 mg/m3 (STEL) should be 24 mg/m3 (STEL) = 0.6 mg/m3 (STEL/40)

Page 9 of the Air Dispersion Model and Risk Assessment Report, Section 3.4 "Emission Estimates" states, "The emission estimates are provided only for the purposes of this risk assessment. Elcon is not seeking individual limits on the compounds included in the risk assessment, except for the criteria pollutants that are part of the NAAQS assessment."

Maximum hourly and annual emission rates of individual HAPs provided in the Air Dispersion Model and Risk Assessment Report will be set as permit limits. So, it is important that the method used for calculating these rates be scientifically based.

In Section 4.1 of the Air Dispersion Model and Risk Assessment Report it is stated that the chronic cancer and non-cancer risks were based on impacts at the nearest residence or area zoned for residential use. However, these locations were not identified in the report and should be. There are many vacation homes located on a private road named Van Seiver Way, which could serve as residences. Van Seiver Way runs north/south along the banks of Van Seiver Lake. It is approximately 1.5 km (0.932 miles) to the west of the Elcon Stack. If the receptors along Van Seiver Way were not included in the modeling of chronic cancer and non-cancer risks, they must be added to the risk analysis.