Comment 1. I need the excel spreadsheet used to calculate all the emission calculations supplied with the application please.

Response 1. That will be provided with the revised submittal.

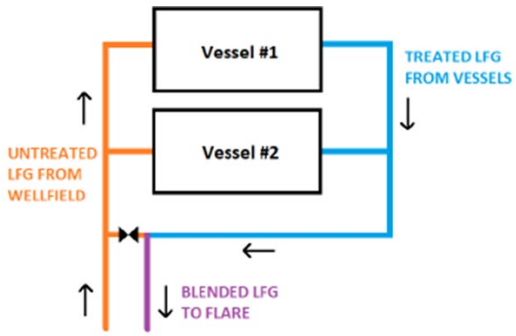
Comment 2. I've attached the memo you sent up originally before the actual application which discusses the H2S reduction system. Has this been finalized yet on which system you plan to install? We will need details for this system, and assumed control efficiencies, etc.

Response 2. We will add these details to the revised application. A summary of the selected sulfur treatment system is provided below:

The LRI Landfill is planning to implement a hydrogen sulfide (H2S) reduction system that used solid scavenger type media to remove H2S from the landfill gas (LFG) stream. As described in the October 5, 2022 letter, a portion of the LFG flow is directed through vessels that contain solid scavenger media. The media is a pelletized type media that typically contains a form of iron hydroxide to react with the H2S in the gas stream and produce elemental sulfur and water as a byproduct.

LRI has selected the use of Vacuum Scrubber Vessels, manufactured by Interra Global, for their H2S Reduction System. Four vessels will be installed in parallel and will receive a portion of the LFG stream for treatment. Initially, LRI plans to utilize Darco BG-1 activated carbon media for use inside the vessels. Darco BG-1 is manufactured by Norit. Darco BG-1 is granular activated carbon, developed for removing H2S from biogas streams, that uses the adsorption process to remove H2S from the LFG stream. Performance efficiencies for BG-1 are estimated at 60%, meaning that 1.6 lbs of H2S are removed from the gas stream for every pound of media used. After the volume of media in the vessels is used up to treat H2S, the used media is removed from the vessels to be disposed of in the landfill and fresh media is replaced in the vessels. Note that different media may be used in the future, as performance and costs vary over time and a more economical option may become available. Regardless of the specific type of media selected, the system will operate in the manner described below.

Fresh media will remove nearly 100% of the H2S from the LFG, meaning LFG exiting the vessels will have an H2S concentration near 0 parts per million by volume (ppmv). However, the landfill's destruction devices are capable of processing H2S concentrations greater than 0 ppmv while operating below the permit limit for sulfur dioxide emissions. Therefore, the system is designed to only treat a portion of the LFG stream through the vessels, and use a blending valve to blend treated and untreated LFG down to the treatment target. During normal operation, stain tube measurements are collected in the field at periodic intervals to evaluate if adjustments to the blending valve need to be made. Reference a conceptual schematic below and in the October 5, 2022 letter.



Comment 3. Actual emission calculations show that the Total Landfill Gas consumption from Nov 2020 to Oct 2022 on page 8 of the application to be 2,039,533,042 scf per year. This seems to be the total of the column and not a per year figure but a per 2-year unit? then on page 9 the total volume of landfill gas combusted shows 1,823,078,736 scf which again says "total per year" but It looks like this is a two-year total? Which one was used in the emission calculations and why are they different?

Response 3. The value of 1,823,078,736 scf/year is a typo in the Table 2. This total flowrate excludes a few monthly flowrate values. Emission calculations utilize a correct average flow rate value of 2,039,533,042 scf/year. This typo will be fixed in the revised application.

Comment 4. Actual emissions on page 8 and 9 reduce the total landfill gas flow by 50% to account for only methane. Can you tell me how you determined the landfill gas to have 50% methane? Can you please also tell me why this was done for emission calculation purposes? What is the other 50% assumed to be?

Response 4. Pollutant emission calculations are based on EPA's AP-42 methodology. Per EPA methodology, we first calculated methane flowrate (Q_{CH4}) by multiplying methane concentration and total landfill gas flowrate, introducing methane concentration into the numerator. When calculating Uncontrolled Emissions (Q_P), methane concentration is introduced to the denominator (represented by constant "2" for default methane of 50%). Methane concentration does not impact calculated Q_P since methane concentration cancels out in the subsequent steps. Therefore, emission calculations are based on total flowrate, and introduction of methane first in numerator and then in denominator are intermediate steps per EPA's published methodology.

Comment 5. Actual emissions on page 8 and 9 for total monthly flow include the landfill gas to energy facility. You cannot include the gas that goes to LFGTE facility in your baseline actual emissions calculations since this is not emissions credited to your facility but is being emitted by a separate facility. (Using this value in the baseline creates a false Actual emissions value + PSD increment). In the potentials youll still use the total flow that would even go to the LFGTE facility since if they go down the gas is your responsibility if im not mistaken.

Response 5. Per this comment and recent on-site meeting with PSCAA, we will exclude the LFGTE facility from the baseline emissions. The revised application will reflect this change. Since the LFGTE is not included in the baseline emissions and LFGTE is regulated under a separate permit, LRI's SO_2 emissions calculations will include emissions from LRI landfill's emission units.

Comment 6. The default concentration used for SO2 and TRS was 1,210.17 which was reported to be the average over Oct 2020 to Sept 2022. The only data we have is the data reported in the table of the pdf document you sent us on Octo 5, 2022 pasted below for reference. This table does not show data from oct 2020 but has data from July 2020. Assuming even that the reading in oct 2020 is the same as the July reading – this gives an average of 1,137 ppm and not 1,210.17 ppm. Can you explain where you came up with this average H2S concentration?

Table 2. Compiled Historical H_2S Data

Date	H_2S Reading in ppmv	Source	Comments
1/1/2015	200	2015 Source Test	
8/15/2017	95	Lab Analysis	Frontier Eng.
8/15/2017	95	Lab Analysis	Frontier Eng.
6/2/2020	700	Draeger	Frontier Eng.
6/4/2020	1,000	Lab Analysis	Frontier Eng.
6/17/2020	600	Draeger	Frontier Eng.
7/6/2020	700	Draeger	Frontier Eng.
7/27/2021	1,300	Draeger	LRI
8/18/2021	800	Draeger	LRI
9/19/2021	1,000	Draeger	LRI
10/20/2021	600	Draeger	LRI
7/20/2022	998	Lab Analysis	TRS (not H2S)
9/7/2022	2,563	Lab Analysis	TRS (not H2S)

Response 6. Please note that the adopted methodology is the best engineering estimate due to lack of consistent data points. Per PSCAA's suggestion, LRI will use include July 2020 reading of 700 ppmv in the average set of available readings as that 700 ppmv reading can be assumed as initial sulfur reading (November 2020 timeframe) in absence of other reliable data points. Further, we note that the October 2022 sulfur analysis data results became available after the NOC application calculations were finalized. This October 2022 sulfur analysis (with TRS value of 2,729 ppmv) will also be included in the data set used to determine average TRS concentration. Averaging available data points (including July 2020 and October 2022) yields an average TRS value of 1,336 ppmv. Lastly, November analysis data (lab TRS data and flow data) is now available if that can be included in the revised application. We would like to discuss preferred approach with PSCAA before we finalize the revised NOC application.

Comment 7. Actual emission calculations on page 8 of the application show that the Actual emission rate of SO2 (calculated using the H2S data above) shows your actual emissions of SO2 are 201 tons per year which appears to be below the PSD Major Source threshold of 250 tons. Is the 201 assuming that you will be reducing emissions of SO2 with the Sulfur removal system? I didn't see any reduction or mention of this in the application. It doesn't appear you are using any reduction in SO2 with the sulfur removal system in any of the calculations. With these calculations are you suggesting that a sulfur removal system is not needed?

Response 7. The calculations show that the LRI Landfill is below the PSD threshold based on flowrates and available sulfur readings data for past 2-years. However, with the recent increase in the sulfur content and observed landfill gas flowrates, landfill gas treatment will be needed in the near future. Per prior discussions with the PSCAA and available regulatory guidance, we understand that the baseline emission calculations are used to determine a SO_2 emissions cap for the LRI Landfill's emission sources. For example, the NOC application listed actual SO_2 emissions as 201 tons per year (which will be revised in the revised application) based on 24-month average, and then baseline emissions are calculated as actual annual emissions PLUS 39 tons. Therefore, the NOC application calculated annualized SO_2 emission threshold as 240 tons (=201 + 39) that will be revised per above comments. In summary, LRI will need to treat landfill gas to comply with that threshold determined through the baseline emissions. We will clarify these anticipated future steps in the revised application.

Comment 8. You are over the SQER for a few toxic air pollutants for which you'll need to conduct modeling or do a netting analysis using the flare that is being taken off line.

Response 8. Air dispersion modeling or a netting analysis will be performed once all emission calculations in revised NOC application have been submitted and agreed upon by the PSCAA.

Comment 9. You supplied the SEPA checklist from 2011 but we will need the actual SEPA determination by issued whoever issued it showing that the impacts of installing a flare were previously evaluated.

Response 9. We will supply a SEPA checklist from the initial application for the flare development (1999 timeframe). The checklist and subsequent approval are attached for your reference. This 1999 SEPA checklist will be included in the revised application. Since this is a temporary flare located in the general area of other flares, and a SEPA determination was performed previously for landfill gas collection and destruction system, we respectfully request the PSCAA to consider this 1999 checklist for the proposed project.

Comment 10. The application did not contain a discussion about rule applicability for this modification. Please do a rule applicability for this permit modification. Although this modification is not asking for any increase in capacity or changes in the amount of waste accepted, It may not be immediately clear that LRI hasn't increase landfill design capacity as a result of this permit modification to the public - In this analysis please describe how LRI landfill has not undergone any lateral expansions (as defined in NSPS XXX 40 CFR 60.761 "Lateral expansion"). Please also include the current design capacity for LRI landfill and how many Cells are currently on site.

Response 10. We are looking into this comment, and will discuss with the PSCAA during next scheduled meeting. For PSCAA's reference, eleven landfill disposal cells (Cell 1, Cell 2A, Cell 2B, Cell 3A, Cell 4A, Cell 4B, Cell 5, Cell 6, Cell 7, Cell 8 and Cell 9A) have been completed as of 2022. The permitted capacity of LRI landfill also includes three future cells (Cell 9B, Cell 10A and Cell 10B) that will be developed within next 5 to 10 years. We are currently looking into the documentation for the initial permitted capacity and subsequent permitted capacity changes, and will discuss with the PSCAA during our next meeting.