

Memo

To **Jeremy Vink** File no **163095**
From **Tony van der Vooren** cc
Date **August 13, 2010**

Subject Review of Responses to the Peer Review: Hunder

Jeremy,

I have reviewed the responses and updates provided by Hunder and SENES. They have responded and addressed most of our concerns raised in our original peer review. The accompanying table summarizes the issues. Issues that have been resolved are shown as highlighted rows in the table.

There are a few issues that are still outstanding. These are mainly issues that were raised in our previous review, but have not been addressed in the update. These are:

- We suggest that Hunder obtain a Certificate of Approval (Air/Noise) from MOE. In so doing, the Best Management Plan will become a component of MOE compliance for the site.
- Hunder has updated the site notes to include more details on dust mitigation in the site plan notes, but do not reference an overall Best Management Plan in the site plan notes. We would prefer to have the BMP and future updates referenced in the site plan notes. This would ensure the full BMP is part of MNR site plans and compliance and also allow for updates/revisions to the BMP without having to amend the site plans.
- The issue of dust emissions from off-site roads is not fully addressed.

Further discussion is provided in the attached table.

If you have any questions or further clarification please contact me.



Tony van der Vooren

Table 1: Disposition of Issues: Issues Raised in the Main Report

Statement or Issue in Original AMEC Peer Review (February 22, 2010)	Response/Action	Resolution
<p>We would recommend that the site plans specifically reference the BMP. In so doing, the BMP would also be enforceable by the MNR through the site plans.</p>	<p>Letter from IBI expands the site notes to include more detail from the BMP (but not all), and the notes do not specifically mention the BMP.</p>	<p>Preference is to have the BMP and updates referenced in the site plan. Then if MOE requires changes or the BMP needs updating, then changes are covered in site plan by reference. In only putting specific items of the BMP in site plan, updates to BMP would require site plan updates. As well, MNR enforcement would only be the specific site plan items, not the full BMP.</p>
<p>The Township should confirm that Hunder will obtain the Certificate of Approval. The Certificate of Approval will require the detailed Best Management Plan and conditions of operations. This will ensure that MOE will have specific enforcement requirements for the site and operations.</p>	<p>Not addressed.</p>	<p>Not resolved.</p>
<p>A key issue that could not be addressed in the study, but must be considered for this approval is the potential cumulative effect of two other pit proposals in the area.</p>	<p>Addressed in Revised Section 2.1. Other pits and operations have been added to the "background" air quality assessment.</p>	<p>Resolved. No further action.</p>

Table 2: Disposition of Issues: Issues Raised in Table 1 of the Peer Review (Specific to Senes Air Quality Report)

Statement or Issue	Location in Air Quality Study (or Planning Study (PR))	Discussion	Significance	SENES Response/ Action	Resolution
1. Selecting background air quality	Section 2.1	Report uses the Point Petre background station and then adjusts for agricultural activities in the area. The resulting background estimates seem reasonable, but we would suggest a closer look at other MOE or Environment Canada stations to see if other rural stations may be more appropriate.	Background used seems reasonable. Further confirmation from other stations would strength the assessment.	Further discussion and assessment has been provided supporting the background assessment.	Resolved, no further comment or action.
2. Other sources in the area.	Section 2.1 (not discussed in Planning Report either)	There are currently at least 2 other pit proposals for the area. This air quality study does not consider this. It is also not clear how this should be addressed in any specific study.	Very significant, but not clear how any specific application should address. These are not existing, but proposed. Township should discuss with various proponents how to address the cumulative impact.	Assessment has considered the impact of other pit operations and activities in background assessment.	Resolved, no further comment or action
3. Operations	Section 3.3 PR Page 36 and 24	The maximum emissions/impacts were based on an estimated maximum extraction of 2700 tonnes/day (note: in original review this was incorrectly stated as 'per hour'). While the estimate for this	A commitment that the daily maximum not exceeds 2700 tonnes should be included in site plans or be a	SENES addendum clarified that recycling will not increase daily	Resolved w.r.t. air quality, but needs to be set as a maximum in compliance documents (site plan and C of A).

Statement or Issue	Location in Air Quality Study (or Planning Study (PR))	Discussion	Significance	SENES Response/ Action	Resolution
		<p>seems reasonable, there is no indication in the planning report or site plans that this is an operational maximum. The other applications indicate instead an annual maximum. In the planning report and in Table 3.1 of the air quality report it is noted that asphalt and concrete will be brought to site to be crushed. It is not clear if this has been assessed in the emissions.</p> <p>The Air Quality report indicates a maximum hourly extraction rate of 225 tonnes per hour. It is not clear if all of the 225 tonnes requires crushing (it would appear the emission estimates assume it all is). This would overestimate potential impacts.</p>	commitment as a maximum daily production limit in the Certificate of Approval air.	maximum crushing and screening and that truck traffic incorporates recycling activities.	<p>Confirmation received that the maximum daily operations, including recycling is 2700 tonnes/day.</p> <p>This should be included on both the Site plan and in the Certificate of Approval.</p>
4. Operations	Section 3.3 PR Page 36	The air quality report was updated as a result of changes to assumptions in truck weights (assumed 35.7 tonnes in the initial report, this was changed to 25 tonnes load). The air quality report now reflects a higher truck traffic count and a lower daily maximum. This is currently not consistent with the Planning Report dated March	Editorial; assuming any approvals are granted on the updated numbers, not the original numbers.	No response provided or required.	Resolved. No response was anticipated.

Statement or Issue	Location in Air Quality Study (or Planning Study (PR))	Discussion	Significance	SENES Response/ Action	Resolution
		2009.			
5. Operations	Section 3.3	It is also not clear if there is a limit to how much material can be brought to site for processing.	Dust impacts will be greater if there is a significant amount of off-site materials brought to the site for crushing and processing. This should be addressed through controlling the amount of offsite materials coming to site and ensuring the air quality assessment includes these materials. (note: this might also impact the estimated truck traffic on site and on nearby roads)	SENES addendum clarified that recycling will not increase daily maximum crushing and screening and that truck traffic incorporates recycling activities.	Resolved. Confirmation that the maximum daily operations, including recycling is 2700 tonnes/day
6. Meteorological Data	Section 3.2	It is not clear if the meteorological data set has been “adjusted” to account for calm conditions as per current MOE requirements. Based on the wind rose showing 9.7% calms, it is likely that the	Results could be higher if calms have not been adjusted as per MOE guidance. Eliminating some of	Meteorological data was pre-processed to treat calms. Assessment was	Resolved. Appropriate meteorological data was used in the assessment.

Statement or Issue	Location in Air Quality Study (or Planning Study (PR))	Discussion	Significance	SENES Response/ Action	Resolution
		<p>assessment did not adjust for calms.</p> <p>MOE is requiring a very conservative adjustment to treat calm conditions. Though there is some controversy over this, it is being used by MOE to demonstrate compliance with standards.</p> <p>MOE also allows for discounting of the 8 highest hours and the highest 24-hour in each modelled year. This has not been done.</p>	<p>the highest modelled results (as per MOE guidance) would lower maximum impacts.</p>	<p>conservative in that met. Anomalies were not discarded (as allowed by MOE).</p>	
7. Operations	Section 3.3 PR page 36	<p>Winter operations. Modelling was done for the entire year to be conservative (though scaled for reduced winter activity). As such, maximums might be modelled when operations are not occurring.</p> <p>It should be noted this is inconsistent with the planning report which indicates the pit only operates for 220 days per year and is closed during the winter.</p>	<p>Not significant. Impacts are shown to be acceptable. This assumption would lead to potential over predicting impacts.</p>	<p>To be conservative a winter emission of 20% was assumed.</p>	<p>Resolved. Impacts are over predicted, since no winter activities will occur.</p>
8. Emissions	Section 3	<p>Control on crusher. It would appear that the extracted material is considered to have high moisture. As such, the emission</p>	<p>Could be significant. If dry material is crushed high dust emissions could</p>	<p>Assessment was done assuming no control. Water</p>	<p>Resolved. See comments on BMP below.</p>

Statement or Issue	Location in Air Quality Study (or Planning Study (PR))	Discussion	Significance	SENES Response/ Action	Resolution
		<p>factors for “controlled” (i.e. wet) material were applied. This is appropriate but further confirmation that the crushed material will always be sufficient to be considered controlled. Alternatively, provision should be made to allow for water spraying if materials are dry and dust emissions are noted. (emissions for dry crushing are about 5 times higher than wet crushing)</p> <p>This is also very important for crushing of off-site materials (e.g. concrete) and screening of soils. It is unlikely these will have sufficient moisture.</p>	<p>occur.</p> <p>Water suppression should be included on the crusher to ensure control.</p>	<p>sprays will be included to increase moisture if needed.</p>	
9. Emissions and control	Off-site roads; Section 3	<p>The is no discussion or mitigation proposed to ensure that if there is any tracking of material onto offsite roads (Katherine Street and Hunsberger) that Hunder will clean the road.</p> <p>We accept that by paving the access roads to the public roads, this will be minimized, off-site tracking of material could still occur. We would suggest the BMP include provisions for off-site road</p>	<p>Possibly significant.</p> <p>Provisions for cleaning the nearby roads should be developed and included in the BMP.</p>	<p>The BMP and Senes report only discusses control of on-site roads. The site plan notes added by IBI indicate that offsite roads will be monitored and dust mitigation taken if</p>	<p>Not resolved.</p> <p>The BMP should address off-site road dust suppression if needed.</p>

Statement or Issue	Location in Air Quality Study (or Planning Study (PR))	Discussion	Significance	SENES Response/ Action	Resolution
		<p>cleaning as well.</p> <p>We recognize that this is complicated by requiring agreement with the Region to allow road access for cleaning.</p> <p>As such, the off-site roads should be included in the BMP and if dust is noticed, further control should be undertaken.</p>		<p>needed, yet the water mitigation plan in the notes, does not mention off-site roads.</p>	
<p>10. Emission control – watering</p>	<p>Off-site Road; Site Entrance</p>	<p>Katherine Street has unpaved shoulders along the stretch of road where the site access occurs. The planning report states that no road changes will be necessary (we do not know if this has changed as a result of the increased truck estimates).</p> <p>Often trucks or other vehicles will use the shoulders to either pass stationary vehicles (e.g. trucks turning) or to accelerate (e.g. trucks leaving the site). Unpaved shoulders are not always well maintained and are usually not part of a dust mitigation plan. These unpaved surfaces can create significant dust emissions and impacts.</p>	<p>Recommend that the unpaved shoulders along Katherine Street either be paved (and maintained) or become part of the BMP with regular maintenance and watering as necessary. Agreement with the Region would be required to allow Hunder to undertake these activities.</p>	<p>Not mentioned.</p>	<p>Not resolved.</p>

Statement or Issue	Location in Air Quality Study (or Planning Study (PR))	Discussion	Significance	SENES Response/ Action	Resolution
11. Modelling	Section 3.5	Impacts can vary due to elevation differences. It is not clear why the report considers a flat terrain. Terrain data is readily available through MOE websites.	Recommend including terrain in the modelling assessment.	Sensitivity assessment was done and the dust concentrations were the same for both cases.	Resolved. No notable differences when assessment done with terrain variations.
12. Mitigation	AQ Section 4.4 PRT page 26, 30 Site Plans	The report indicates that trees and vegetation are relatively effective barriers to dust dispersion. Though this is not easy to quantify, studies have shown this can be significant in reducing ground level dispersion. We agree with this conclusion. The PR and site plans indicate that the berms will vegetated with legumes (grass type). The grasses would not be as effective in dust reduction as taller bushes.	We would recommend consideration of bushes or other vegetation that was taller than grass in strategic locations on the berms to minimize dust impacts at critical receptors.	Berms near sensitive receptors (homes) will include trees and shrubs to provide better dust control.	Resolved. Trees and shrubs have been added to reduce dust impacts.
13. BMP Plan.	Attachment E Air Quality Report.	The BMP plan provides an excellent framework for control of dust emissions. The plan does require the following additional details: <ul style="list-style-type: none">• A minimum daily	Significant. Dust can be well controlled, but requires a detailed plan for control triggers, initiation of mitigation and	Specific issues noted in review have been addressed.	Partially Resolved. Off-site road mitigation has not been included in BMP. As well the BMP does not provide for access to the

Statement or Issue	Location in Air Quality Study (or Planning Study (PR))	Discussion	Significance	SENES Response/ Action	Resolution
		<p>inspection to observe dust emissions from traffic and operations. Visible dust from any operation needs to trigger mitigation. Using visual triggers allows both the operator and other agencies to determine if dust control is adequate.</p> <ul style="list-style-type: none"> • Some actions are required based on temperature and wind speed. No details provided on how this will be managed? Record keeping should be included as well. (Note: commitment to “no visible” emissions overcomes some of the complexity of mitigation schemes based on meteorological observations). • BMP should also include off-site roads. There may be track out and this needs to be controlled. As well, unpaved shoulders near the site entrance could result in high dust emissions. 	record keeping.		<p>records by the Municipality.</p> <p>Other issues have been resolved, specifically:</p> <p>The updated BMP is more specific w.r.t. reporting and actions.</p> <p>Daily inspections reports will be maintained.</p> <p>Visible emissions are triggers for further mitigation on roads, stockpiles, crushing and screening. This will be easy to track and enforce (both for operator and as confirmation BMP is being followed for Township and others)</p> <p>The conditions for watering and control have been clarified (i.e. extent under different weather</p>

Statement or Issue	Location in Air Quality Study (or Planning Study (PR)	Discussion	Significance	SENES Response/ Action	Resolution
		<ul style="list-style-type: none"> • Complaint form should include description of meteorological conditions and operations at time of complaint. • Complaint form has a “none” for actions taken. If none is checked, explanation should be required as to why not. Too often these show complaint, and no action taken. • Records should be made available to the Municipality upon request 			<p>conditions), and then supported by visible dust cloud observations.</p> <p>Complaint form has been updated to cover relevant information and actions.</p> <p>The current plan is acceptable.</p>
14. Monitoring	Not discussed	We would not recommend actual long-term air quality monitoring for this site. Real time monitoring is very expensive and siting of the monitors to ensure maximum impacts are captured is always difficult. Integrating (i.e. standard hi-volume) monitors are not appropriate. They require days to obtain results and only provide a retrospective look at impacts and mitigation. Visual “monitoring” on an ongoing basis to ensure no	<p>Visual “monitoring” and reporting should be included in the BMP. This is the most appropriate mechanism to ensure appropriate mitigation.</p> <p>Visible monitoring also allows for others (inspectors, Town, Region, even nearby residents) to</p>	Visual monitoring and recording is now part of the BMP.	<p>Resolved.</p> <p>Visual monitoring and recording are now part of the BMP.</p>

Statement or Issue	Location in Air Quality Study (or Planning Study (PR))	Discussion	Significance	SENES Response/ Action	Resolution
		<p>visible plumes of dust come from operations and traffic is the most appropriate monitoring to ensure appropriate mitigation and minimize off-site impacts.</p>	<p>confirm that mitigation is occurring and is effective.</p> <p>We would recommend that specific "confirmation" sampling be done with appropriate equipment at times when there are significant changes at the site, or during extreme weather conditions. This would be used to calibrate the BMP to ensure that the plan is adequate.</p>		